

## Bank Marketing Data analysis

Financial organizations often struggle with differentiating themselves from competitors, who often use similar tactics, market to the same demographics, and offer similar or even the same rates and services. Using different marketing strategies for bank can help differentiate yourself from competitors and move past them by offering new technologies, offering the same services in different ways, or otherwise targeting new people in new ways.

Most bank marketing strategies target general audiences or wide audiences, it may have more success if target is local, specific and smaller demographics. For example, if you can identify that your bank offers services specifically valuable to students graduating high school and moving into university and college, you could create a strong marketing campaign geared at them. Similarly, if your services are better for middle-income baby boomers looking to start a savings program for retirement, you could create a strong marketing campaign.

There are several other factors which can yield more profits like push digital apps and services, advertise offers based on age/occupation, needs of customer and get smart offering loyalty programs.

Focus on customer outreach, connecting one-to-one basis would add real value. Modern marketing and consumerism are all about the experience. If you can't offer customers a quality experience, from your digital platform and app to your physical bank branches to calling customer service, you won't succeed.

Sales and marketing area of any business is responsible for finding clients, making sales and generating revenue. In this project we will analysis Marketing strategy with mentioned attributes from the available bank data for sales and marketing team.

Marketing campaigns are characterized by focusing on the customer needs and their overall satisfaction. Nevertheless, there are different variables that determine whether a marketing campaign will be successful or not. There are certain variables that we need to take into consideration when making a marketing campaign(Population, Place, Price and Promotion).

*Dataset taken from Kaggle.com (Bank Marketing Dataset)*

## DATA:

- 1 - **age**: (numeric)
  - 2 - **job**: type of job (categorical: 'admin.', 'blue-collar', 'entrepreneur', 'housemaid', 'management', 'retired', 'self-employed', 'services', 'student', 'technician', 'unemployed', 'unknown')
  - 3 - **marital**: marital status (categorical: 'divorced', 'married', 'single', 'unknown'; note: 'divorced' means divorced or widowed)
  - 4 - **education**:  
(categorical: "basic.4y", "basic.6y", "basic.9y", "high.school", "illiterate", "professional.course", "university.degree", "unknown")
  - 5 - **default**: has credit in default? (categorical: 'no', 'yes', 'unknown')
  - 6 - **housing**: has housing loan? (categorical: 'no', 'yes', 'unknown')
  - 7 - **loan**: has personal loan? (categorical: 'no', 'yes', 'unknown')
- # Related with the last contact of the current campaign
- 9 - **contact**: contact communication type (categorical: 'cellular', 'telephone')
  - 10 - **month**: last contact month of year (categorical: 'jan', 'feb', 'mar', ..., 'nov', 'dec')
  - 11 - **day\_of\_week**: last contact day of the week (categorical: 'mon', 'tue', 'wed', 'thu', 'fri')
  - 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; 999 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: 'failure', 'nonexistent', 'success')
  - 17 - **emp.var.rate**: employment variation rate - quarterly indicator (numeric)
  - 18 - **cons.price.idx**: consumer price index - monthly indicator (numeric)
  - 19 - **cons.conf.idx**: consumer confidence index - monthly indicator (numeric)
  - 20 - **euribor3m**: euribor 3 month rate - daily indicator (numeric)
  - 21 - **nr.employed**: number of employees - quarterly indicator (numeric)
  - 22 - **y** - has the client subscribed a term deposit? (binary: 'yes', 'no')

From the historical marketing campaign data set, we will identify the patterns that will help us find conclusions in order to develop future strategies and create intelligent targeting system :

- Find the best strategies to improve on next marketing campaign.  
(Predict **Y** based on the historical data, any correlation of **Y(term deposit)** with attributes like job/marital status/education/credit(housing,loan))
- Draw some insights on how financial institution have a greater effectiveness for future campaigns.  
(correlation of **poutcome** (success rate) on other attributes for historical data)
- Determine customer among the sample population that will most likely open term deposit accounts.  
(how **poutcome** and **y** relation if any based on what type of customers be targeted).
- The analysis on these data should suggests how the best strategies to improve next marketing campaign.