**Bank Term Deposit Classification problem**

**Problem Statement:**

After investigating a revenue decline for the bank, it was found that the root cause is that their clients are not depositing as frequently as before. Term deposits allow

banks to hold onto a deposit for a specific amount of time, so banks can lend more and thus make more profits. In addition, banks also hold a better chance to

persuade term deposit clients into buying other products such as funds or insurance to further increase their revenues. Predict accurately whether the customer will

subscribe to the focus product for the campaign - Term Deposit after the campaign?

**Data:**

We have 31647 observation 18 features in this dataset, out of which our target variable term\_deposit\_subscribed is very imbalanced. Only about 10 % of the examples are positive.

**Hypothesis:**

Are younger customers more likely to subscribe to a term deposit as compared to old customers?

Are people with a higher bank balance more likely subscribe to term deposit than people with low balance

Does a married person have higher chances to subscribe to a term deposit compared to a single or divorced person?

Does the length of the call made to the customers tell us anything about their chances of subscribing? (One may think that if the call length is longer, the customer executive has spent a longer time, discussing details with customer, hence the customer is more likely to subscribe).

**EDA:**

Checked null values - 81 % values were null in the variable days\_since\_prev\_campaign\_contact which indicates they have not been contacted.The data tells us quite a different story than our initial thought process, single people are the more likely to subscribe to a term deposit.

Median balance of customers not subscribing to a term deposit is around 400 whereas median balance of customers subscribing to a term deposit is 800. This definitely supports our initial hypothesis i.ehigher bank balance more likely subscribe to term deposit than people with low balance.

Median last\_call\_duration made to the customers not subscribing to a term deposit is around 150 seconds. Median last\_call\_duration made to the customers subscribing to a term deposit is around 450 seconds.So yes our hypothesis the length of the call made to the customers tell us anything about their chances of subscribing seems true.

Looks like old age customers are definitely more likely to subscribe to a term deposit compared to younger age customers.

**Data Preparation:**

**Conclusion:**