***Reflection***

We have done an analysis of client data from a Bank based in Portugal. Our main aim is to identify potential prospects for term deposits and create effective marketing strategies. Our business problem is that making a call is very expensive and we want to identify the potential clients so that by making a minimum number of calls, we can optimize our results. The dataset is of 45,211 clients and has a key variable of age, balance, duration of last contact, and previous campaign interactions. By analyzing the dataset, we aim to optimize marketing strategies and improve term deposit subscription.

We are hypothesizing that a client's probability of subscribing to a term deposit is significantly influenced by the following three factors: The number of contacts made previously, the balance currently carried by that client, and the duration of the last contact. We also expect that the higher the level of all these three variables (balance, duration, and previous calls), the higher the chances of subscription to term deposit.

Our analysis has encountered many challenges, such as extreme variation in the balance of clients and duration of contacts. Most of the clients also didn't have past interactions with any campaigns; therefore, this wasn't helpful in returning good predictions for a "previous contact" variable. These discrepancies needed to be balanced out carefully through model refinement and interpretation of results for correct outcomes.

Ultimately, this analysis provided insightful views regarding the factors that influence the subscription to term deposits. This prioritization of clients for marketing efforts would be effective by leveraging client balance, contact duration, and previous interactions; thus, it shall optimize resource utilization and improve the success rates of the campaigns.