PREDICTING RESPONSE OF COLD CALLS FOR A BANK'S SALES TEAM

CAPSTONE TWO: PROJECT PROPOSAL
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Problem Statement Formation

We plan to predict with an accuracy of 75% or more whether or not a person will accept the offer being extended to them by our bank's sales team.

Context

If you ask most sales professionals, they don't begin their sales career enjoying cold calls. Although these tactics have proven effective, time is wasted on the sea of "no's" these sales teams receive.

What if, from easily accessible information, we are able to accurately predict whether or not the prospect was going to say yes? This could **save time and money** by prioritizing these calls first. This information could also **increase the overall morale** of this organization's sales teams.

Criteria for Success

This project will be successful if:

1. We are able to predict a "Yes" with 75% accuracy.

This number is somewhat arbitrary. This case study doesn't necessitate an accuracy of 90% or higher, but we want our results to be significantly helpful to demand additional filtering of future data.

Scope of Solution Space

This business initiative is focused specifically on:

- A telemarketing marketing campaign
- Campaign was performed by a Portugese bank
- The same offer is being sold to this target audience

- Multiple people are on this sales team, introducing multiple personalities that are not accounted for
- These calls were made over a specific, campaign-bound period of time but can be applied to future campaigns (assuming these characteristics are similar to the test set)

Constraints

- Potential for too few variables
- Potential that key variables are not present
    - We may not have access to variables that will have the greatest impact on our predictions.
- Counting phone calls that went to voicemail as a 'No'
    - The call must result in a conversation in order to be considered a 'No' or else our predictions will be skewed
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Stakeholders

1. The Bank's Board of Directors
2. The Bank's CEO
3. The Director of Marketing & Sales

Data Sources

1. Data set link: http://archive.ics.uci.edu/ml/datasets/Bank+Marketing
    a. Technique: Classification
    b. Number of instances: 40,000
    c. Number of Attributes: 20