

A Simulation Game to Learn Predictive Analytics

Game's scenario

You will be working on a fundraising campaign for a 12-year old, not-for-profit charitable organization (foundation) with a million members. The foundation has decided to add a direct contact campaign to its list of marketing activities. You will be using predictive modeling to predict how many and which individuals to target in the campaign. The objective is to fundraise the most in donation amount given the costs of calling members (sum of predicted amount given minus costs).

You will be provided with a dataset of potential donors and use it to fit models based on previous donor behavior (if they gave or not or how much they gave). You will then score donors to predict this year's donations. The list of scored donors will be exported to an Excel file.

Using this Excel file, you will have to decide how many potential donors to target and will have to create a list of IDs of those potential donors. You will have to upload/submit the created list to the platform which will rank the submissions based on operating surplus – i.e. sum of donations minus the total cost of calling.

Available information

In order to play the game and make decisions, you will have access to a dataset of 1 million potential donors (see *Table 2*) as well as the costs associated with calling them (see *Table 1*).

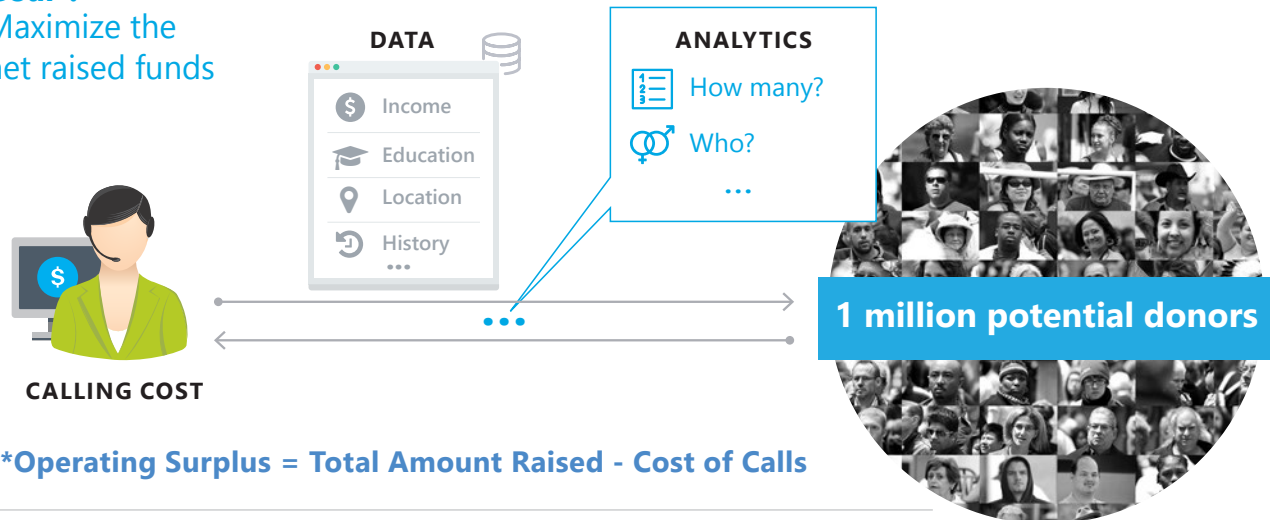
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Know the Game

Figure 1. Fundraising Game Scenario

Goal*:

Maximize the net raised funds



*Operating Surplus = Total Amount Raised - Cost of Calls

Table 1. Cost Structure

Number of contacted members	Cost per member
0 - 60,000	5\$/person
> 60,000	25\$/person

Table 2. List of variables

Variable Name	Description	
ID	Member number (unique ID)	ID data
LastName	Last Name	
FirstName	First Name	
Woman	Sex (1=woman, 0=man)	Socio-demographic
Age	Age (years)	
Salary	Annual salary in USD	
Education	Highest education level	
City	Type of neighborhood	History
SeniorList	Seniority for being on the VIP list	
NbActivities	Number of participations to annual meeting	
Referrals	Number of referrals	
Recency	Number of years since last gift	Target
Frequency	Number of donations	
Seniority	Number of years since first donation	
TotalGift	Total Donation since a member	
MinGift	Minimum Donation since a member	
MaxGift	Maximum Donation since on the VIP list	
Contact	Direct solicitation this year (Only applicable to Round 2)	
GaveLastYear	Whether or not the individual give last year	
AmtLastYear	Amount given last year	
GaveThisYear	Whether or not the individual give this year	
AmtThisYear	Amount given this year	

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How to upload your decision on the game leaderboard?

