



BRUSSEL MUSCLE ANALYTICA

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OVERVIEW

Overview

Background

Objectives

Data
Preparation

Application

Insights

The background is a deep blue with various light effects. On the left, there are several out-of-focus circular light spots in shades of yellow, orange, and blue. In the center, a vertical column of bright blue light points is visible. On the right side, a digital display shows the number '2450' in a bright blue, pixelated font. At the top, there are three horizontal bars of varying lengths and shades of blue and grey.

BACKGROUND

COMPANY AND OBJECTIVE



Direct Social Communications

your partner in fundraising

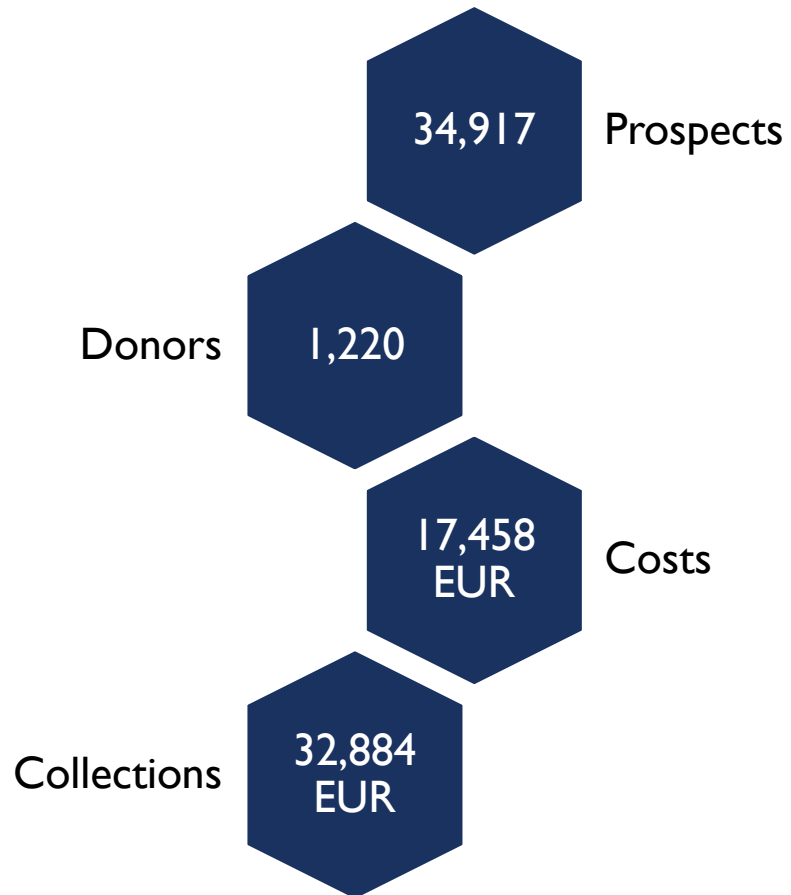
We must find a method to
re-activate donors in cost-efficient way
for future campaigns.

Who are these prospects?:

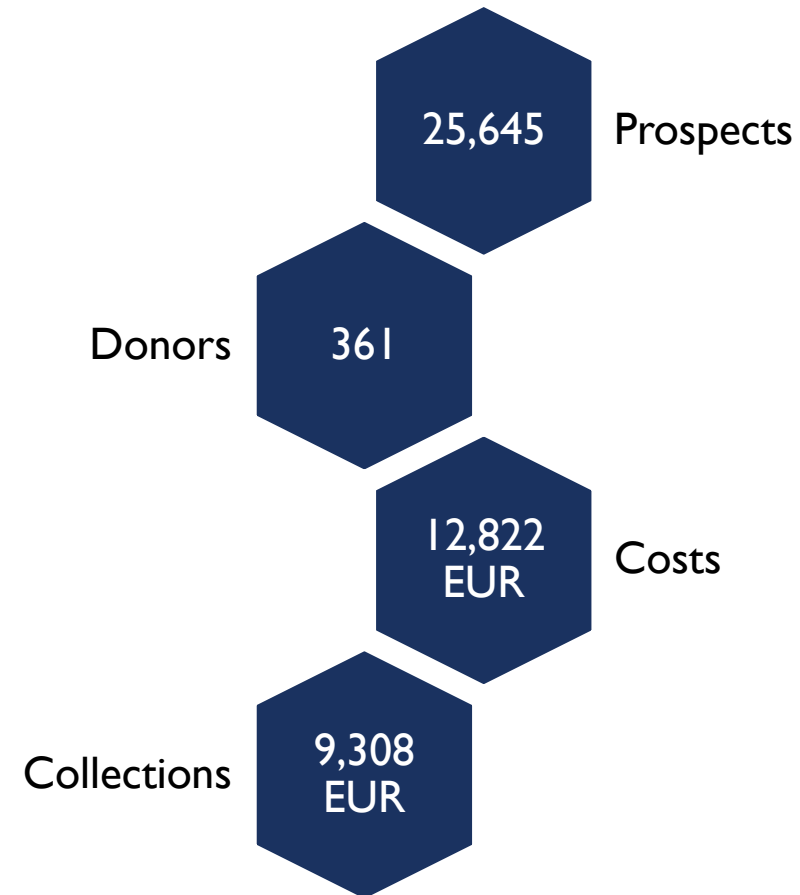
- Past-donors that did not participate in the previous campaign AND those that could donate more than 35 EUR.

WHERE IS OUR STARTING POINT?

Campaign 2013



Campaign 2014



$\Delta\%$ vs LY:

-27%

-70%

-27%

-72%

WHAT ARE OUR TOOLS?

Donors



Donor ID, gender, language, zipcode, region

Gifts



Campaign ID, donor ID, amount, date

Campaign historical information
2013 and 2014

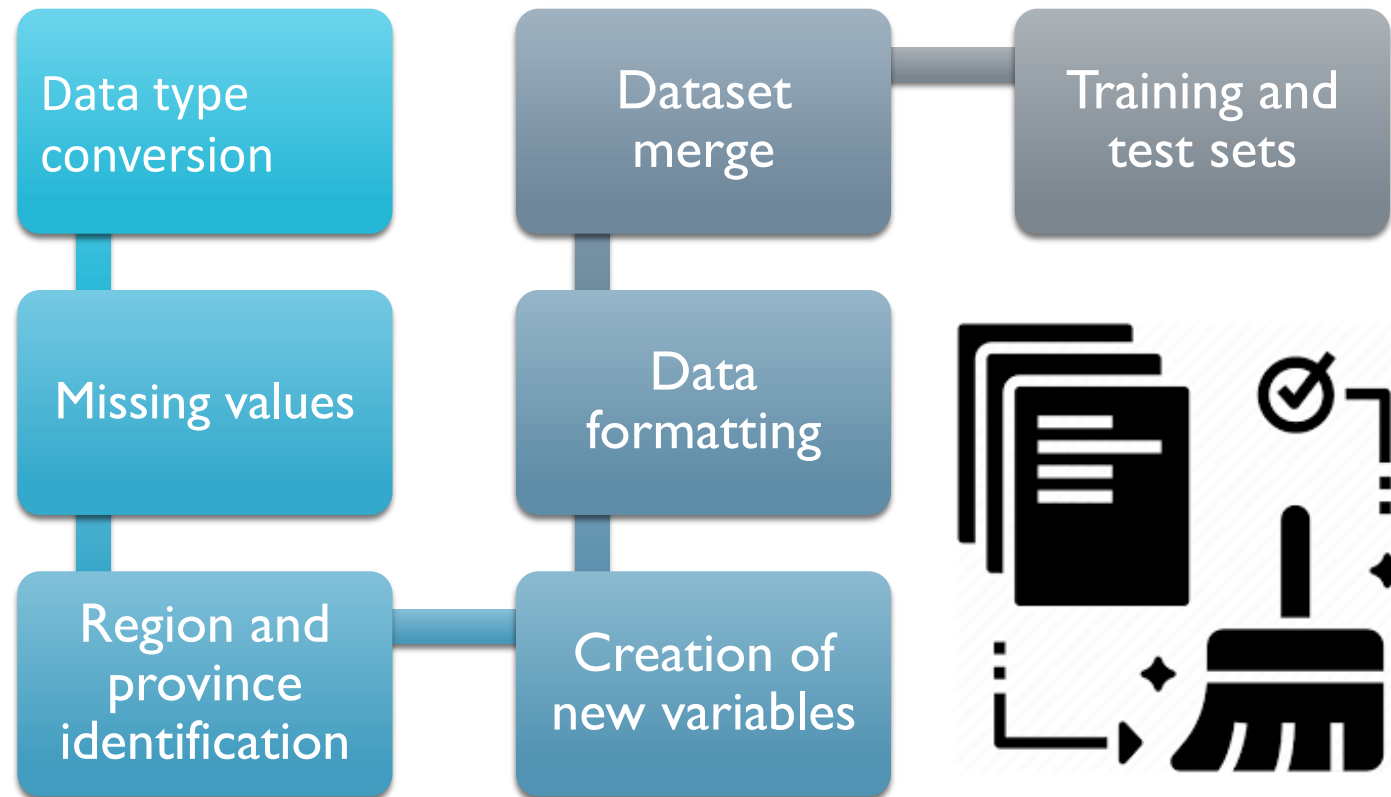


Donor ID, amount

The background is a deep blue with out-of-focus light sources creating a bokeh effect. On the right side, a digital display shows the number '2450' in a bright, pixelated font. A dark blue horizontal bar is positioned at the top of the image.

DATA PREPARATION

CLEANING PROCESS

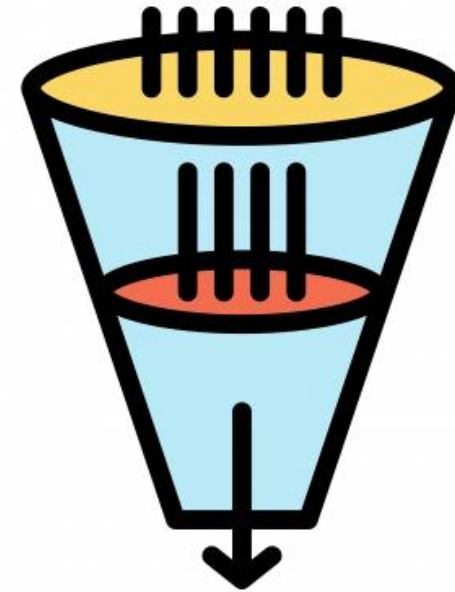


SELECTING A FEATURE SELECTION METHOD

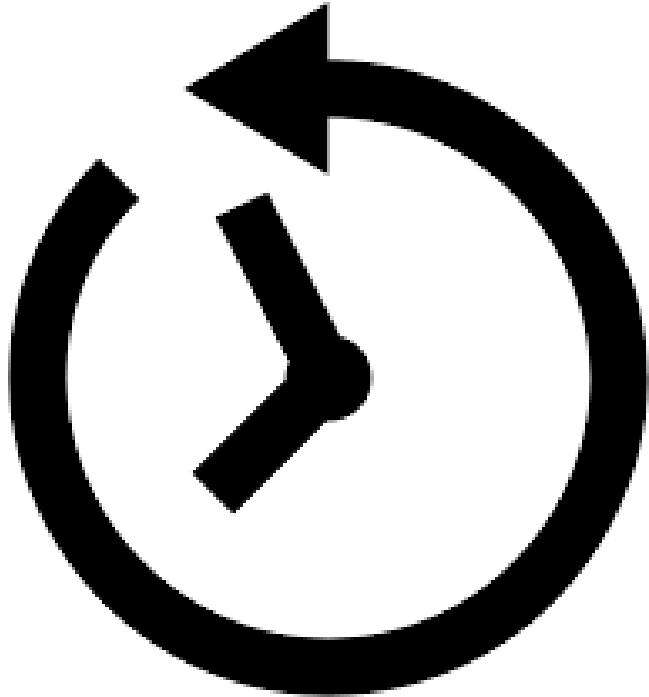
In order to create an algorithm, we created and processed more than 30 variables.

How did we select out features?:

- **Step Wise** (selected due to **AUC** scores)
 - Principal Component Analysis
 - Fisher Score



FEATURE SELECTION – PAST-BEHAVIOR MATTERS



However, after some feature selection we found out that these are the most important ones:

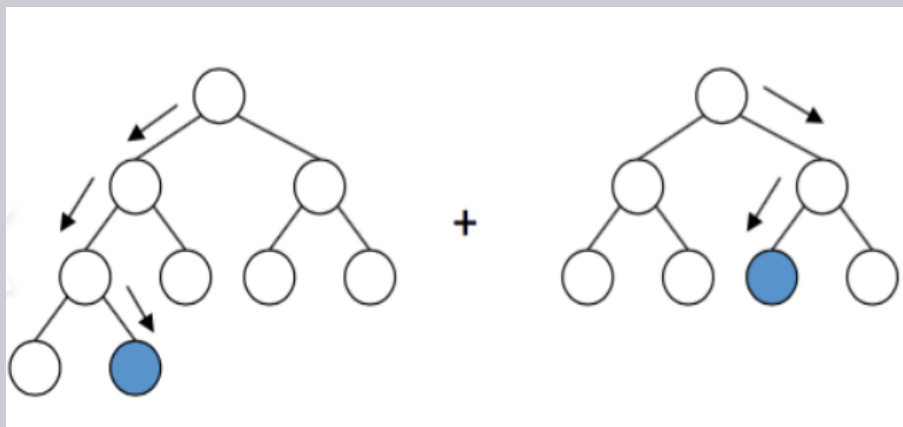
- ☐ **Max gift**
- ☐ **Avg amount last 10 years**
- ☐ **Count gifts previous last 2 years**
 - ☐ **Count gifts last year**
 - ☐ **Avg amount gift last year**

The background features a dark blue field with out-of-focus bokeh lights in shades of blue, green, and yellow. On the right side, a digital display shows the number '2450' in a bright blue, pixelated font. A dark blue horizontal bar is positioned at the top of the image.

APPLICATION

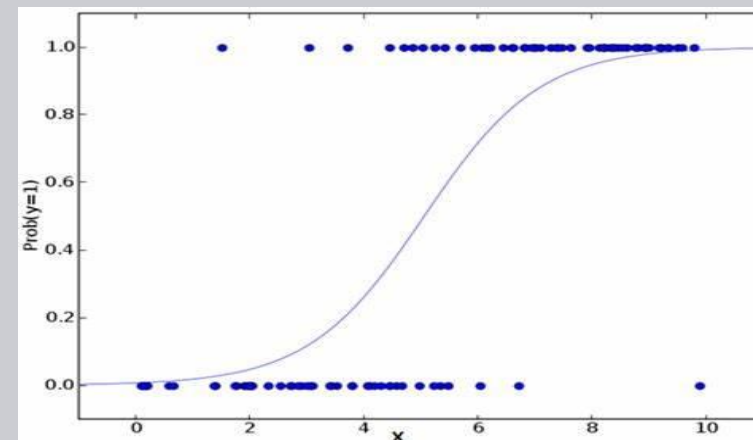
WHAT MODELS DID WE RUN?

Gradient Boosting Classifier



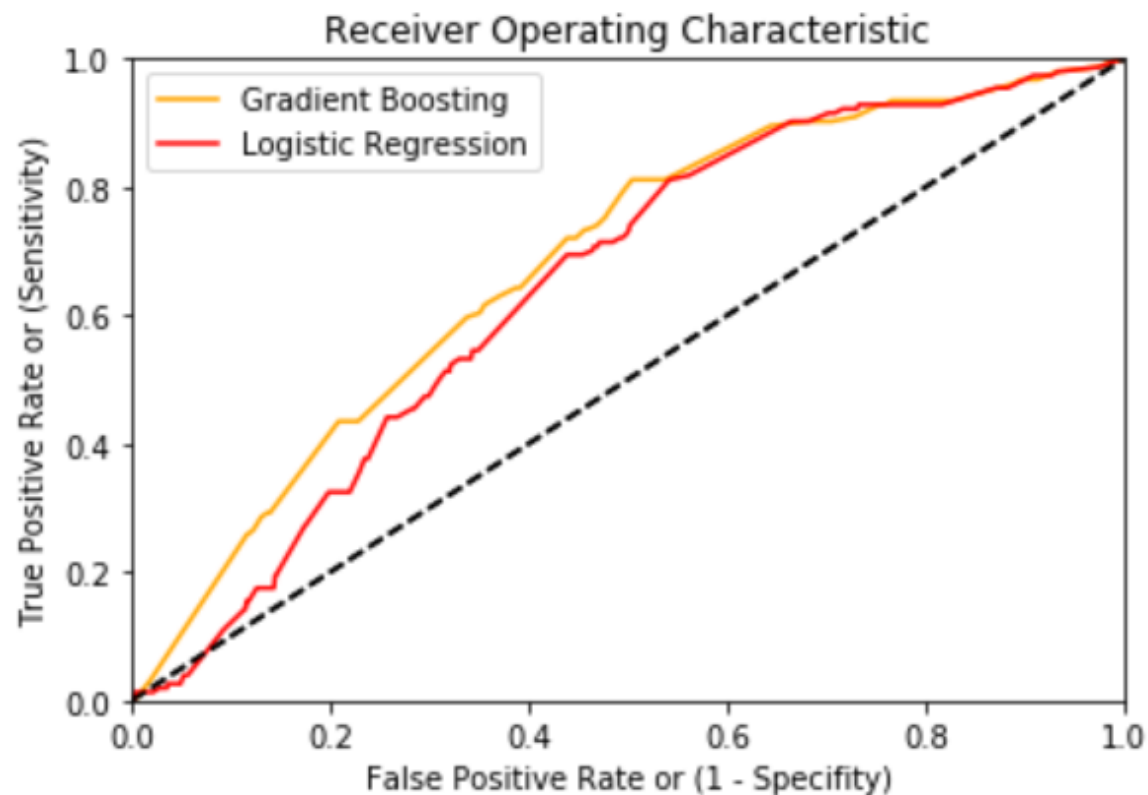
AUC Train: 68.1%
AUC Test: 67.9%

Logistic Regression



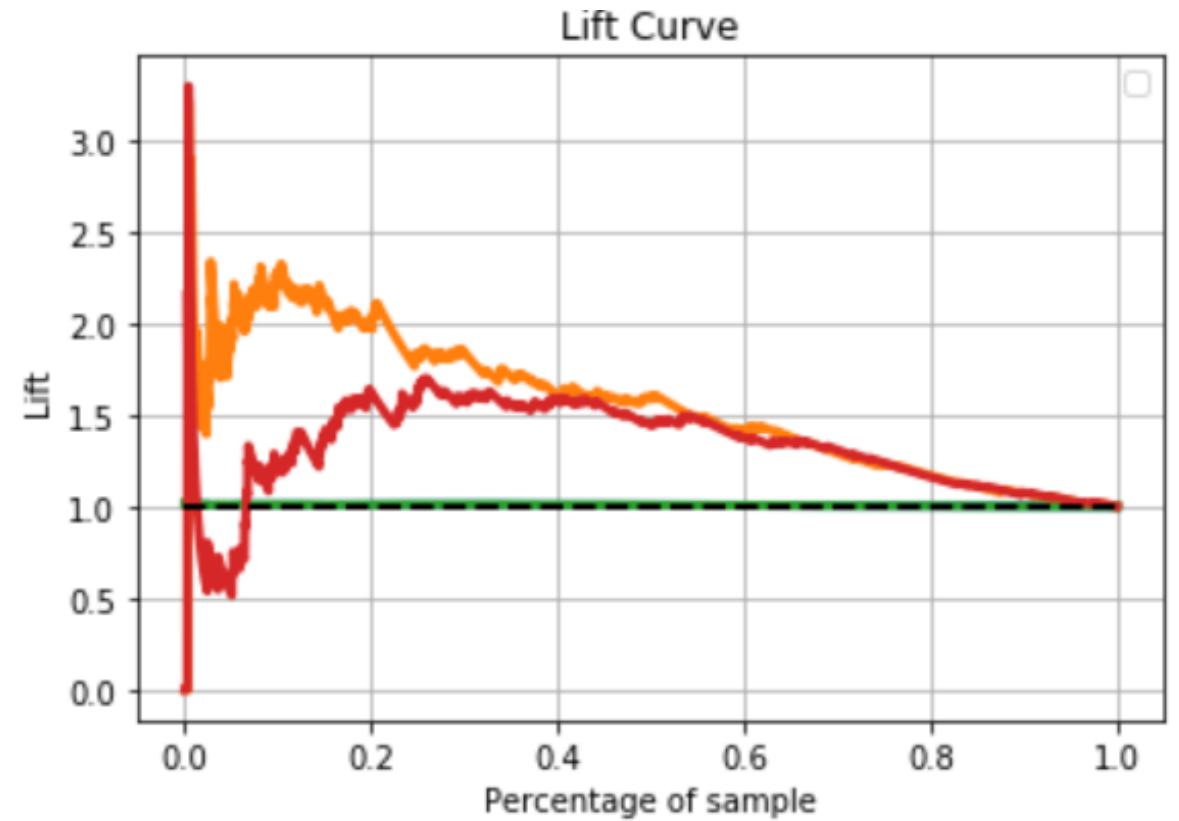
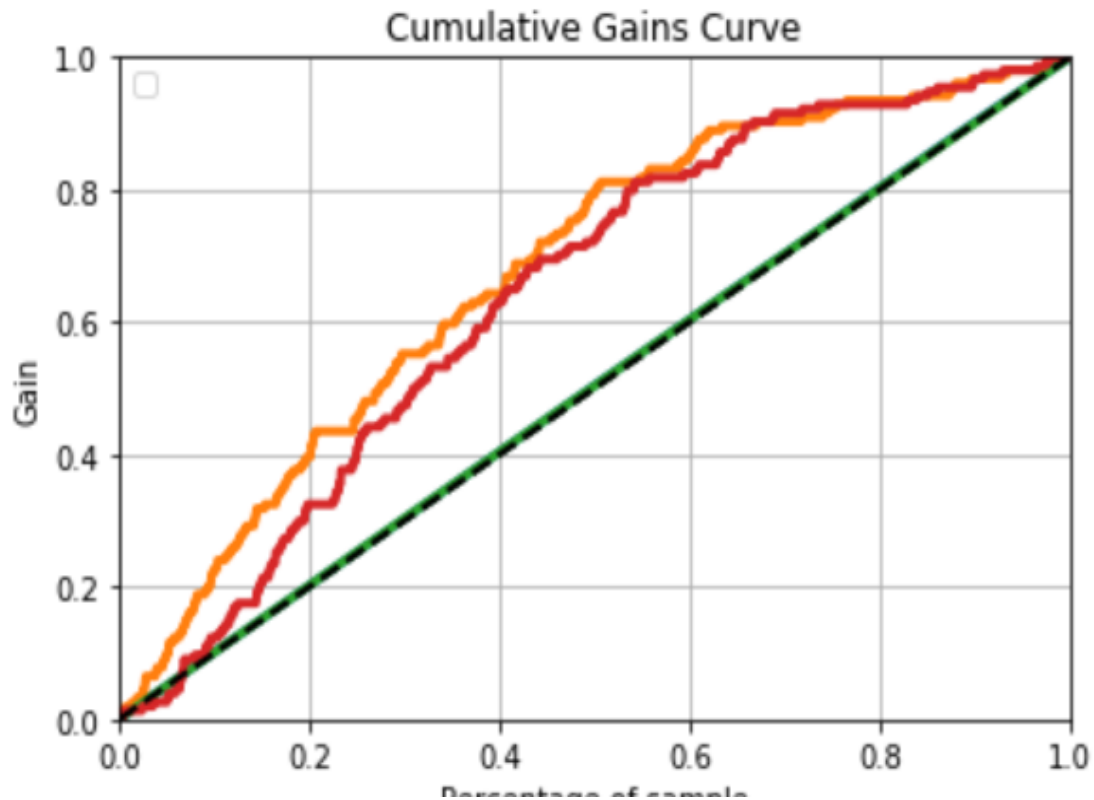
AUC Train: 62.4%
AUC Test: 64.5%

ROC CURVES



Comparing the models, both presented a similar performance. However, **Gradient Boosting models achieved a better performance** vs Logistic (AUC Test: 67.9% > 64.5%).

CUMULATIVE GAINS / LIFT CURVE



Gradient Boosting models achieved a higher target reach performance than Logistic.

The background of the slide features a bokeh effect with out-of-focus blue and yellow lights. On the right side, there is a digital display showing the number '2450' in a bright blue, pixelated font. At the top, there are three horizontal bars in dark blue, light blue, and grey. A large dark blue rectangle at the bottom contains the word 'INSIGHTS' in white.

INSIGHTS

TARGET INCIDENCE:

1.04%

POPULATION SIZE:

44,691

REWARD PER TARGET:

\$ 46.81

COST PER PERSON:

\$ 0.50

POPULATION SELECTED:

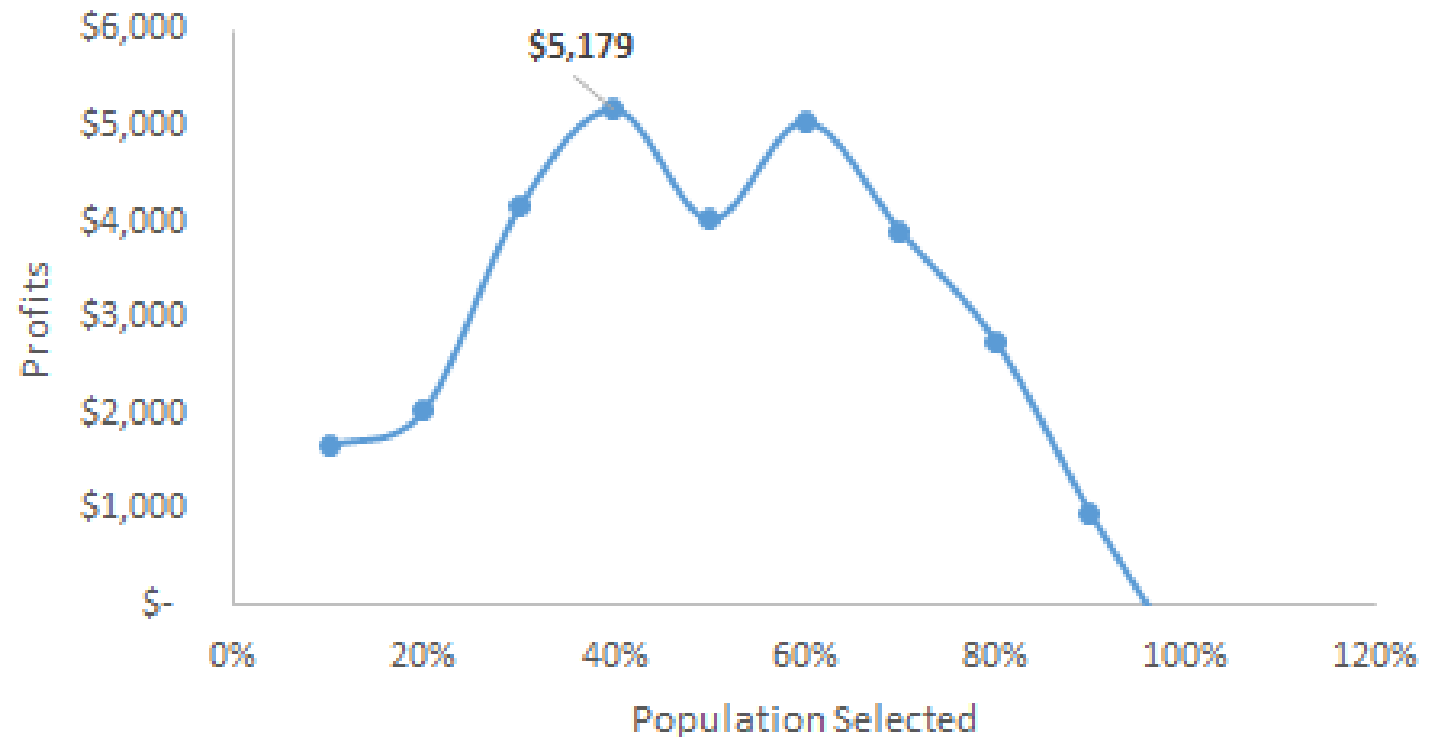
40%

TARGET REACHED:

65%

MAILS:

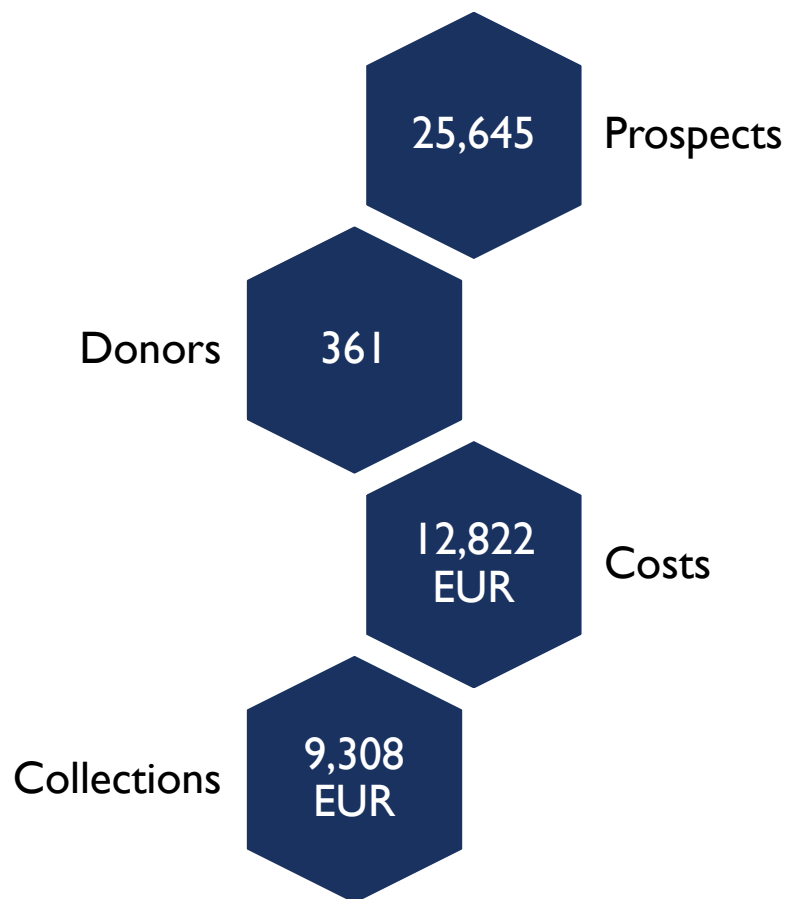
17,876

COST: $\$8.938 = 17,876 * 0.5$ **REVENUES:** $\$14.117 = 46.81 * 301$ **PROFITS : 5,179 EUR**

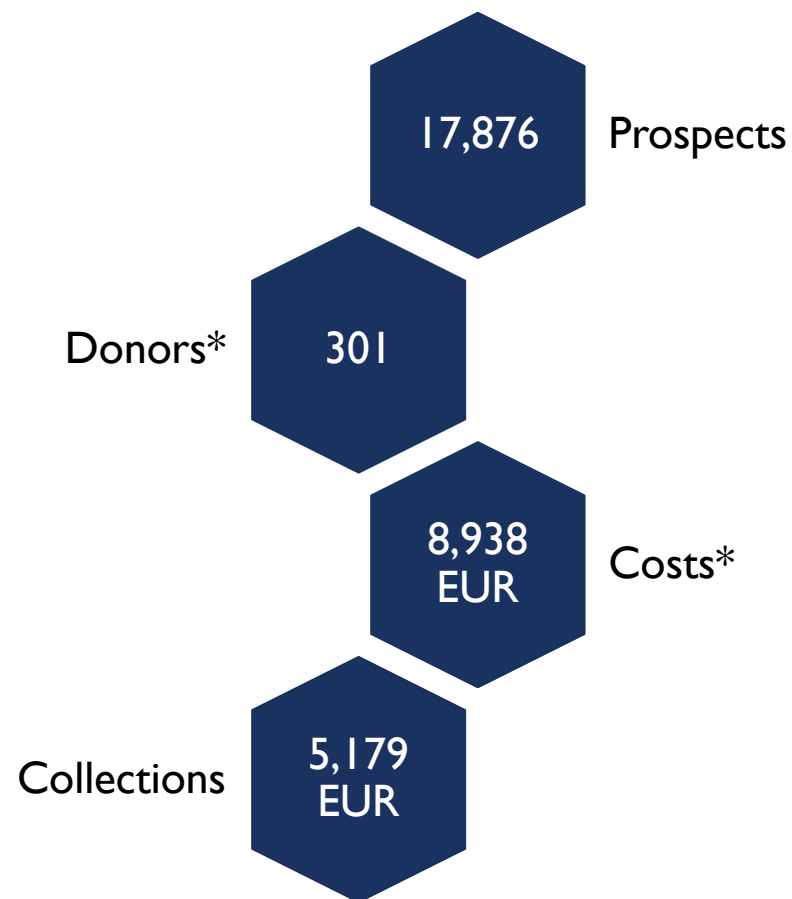
The campaign can be profitable selecting the 10% of the donors. However, the most profitable point is around 40%

HOW THINGS WOULD BE DIFFERENT WITH OUR MODEL?

Campaign 2014



Model 2014



Δ% vs LY:

-30%

-17%

-30%

-44%

*Forecast

RESULTS OF THE MODEL

According to our predictions, using our classification model, we can expect a increase in Profits* of 7%.

Campaign 2014: 3.514 EUR

Model: 3.759 EUR

Profits* = Revenues – Variable Costs



CONTACTS

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