# Final Project

# Due date: TBA

**Background:**

Over the past 15 years, lifetime value and customer equity have attracted widespread attention from marketing researchers and practitioners. The purpose of this competition is to determine the ‘best’ method for predicting donation likelihood, donation amount, and total donations.

A US NGO has agreed to release detailed transaction and contact history of its donors during the first month (January) of 2000. Therefore, all the donors in the data set had made a gift in Jan of 2000, and then the NGO tried to appeal more from them. The transaction and contact history extend through the end of 2004.

You will use the data to predict the behavior of donors during the one-year “target period” from January 1, 2004 – December 31, 2004. Three tasks are outlined below. You may work as a group or individually. The group size should be less than 2.

**Task 1**:

Closest aggregate estimate of total donations from the donors provided during the one‐year “target” period. This evaluates different estimates of the “customer equity” of the nonprofit organization. Closeness measured by the absolute value of the difference.

**Task 2**:

Best estimates of individual-level donations, as measured by the mean squared error (MSE) of the logged donations (see definition of MSE given below). This is meant to test how well you can predict the future behavior of individual donors.

**Task 3**:

Best predictions, as measured by the highest classification rate (percentage of correctly classified cases), of which donors will make at least one donation during the target period.

The data are provided in three excel spreadsheet. Variables are listed below.

Donor: n=11,876

|  |  |
| --- | --- |
| Variable name | Label |
| id | Individual identification number |
| firstgift | Time that the first donation was made. |

Trans: n=31,203

|  |  |
| --- | --- |
| Variable name | Label |
| ID | Individual identification number |
| giftdate | Date of gift |
| Amt | Total amount of donation in $. |

Appeal: n=317,515

|  |  |
| --- | --- |
| Variable name | Label |
| ID | Individual identification number |
| appdate | Date of mailing appeal |
| cost | Cost of appeal for the NGO via mail |

**Submission Rules:**

Task 1: Submit a single number estimating the total donations from the donors during the one year target period.

Tasks 2 and 3: Submit a single comma‐delimited text file with three columns. The first row of the file should give the variable names “id, amount, donate” where id is the donor id, amount is the estimate of the expected donation amount during the one-year target period, and donate equals 1 if the you think the donor will make at least one donation in the one-year target period and 0 otherwise.

For Tasks 1, 2 and 3: Submit a brief summary describing the model used to make the estimate(s). Entries will not be evaluated unless this description is included.