



Lifetime Value and Customer Equity Modeling Competition

Sponsored by:

Direct Marketing Educational Foundation

A Nonprofit Affiliate of the Direct Marketing Association Inc.
and Founder of the *Journal of Interactive Marketing*®

and

The DMEF Don Kuhn Fund for Research and Education

Over the past 15 years, lifetime value and customer equity have attracted widespread attention from marketing researchers and practitioners. The purpose of this contest is to compare and improve the estimation methods and applications for these concepts.

A leading US nonprofit organization has agreed to release detailed transaction and contact history of the 21,166 donors it acquired during the first half of 2002. The transaction and contact history extend through August 31, 2006.

There are two phases in the Lifetime Value and Customer Equity Modeling Competition.

PHASE 1:

Participants will use the data to predict the behavior of donors during the two-year “target period” from September 1, 2006 – August 31, 2008. Three tasks are outlined below. Contestants may submit entries for one, two, or all three tasks; winners of each task will be awarded \$500.

Task 1: Closestⁱ aggregate estimate of total donations from the donors provided during the two-year “target” period. This evaluates different estimates of the “customer equity” of the nonprofit organization.

Task 2: Best estimates of individual-level donations, as measured by the mean squared error of the logged donations.ⁱⁱ This is meant to test how well models can predict the future behavior of individual donors.

Task 3: Best predictions, as measured by the highest classification rate,ⁱⁱⁱ of which 2-year lapsed donors (i.e., those who donated most recently before September 1, 2004) will make at least one donation during the target period.

TO PARTICIPATE AND ACQUIRE THE DATA, CONTACT MARIE ADOLPHE: <mailto:madolphe@the-dma.org>

Information on Data

Participants will be provided the following tables, either as SAS data sets or comma-delimited text files, for 21,166 donors:

1. Donor table: donor id, date of first gift
2. Transaction table: donor id, date of gift, amount, and source (code for the solicitation generating donation).
3. Contact table: donor id, mailing date of solicitation, source.

Important Dates:

- **September 15:**
 - Modeling competition entries due:
 - All should be emailed by midnight (EDT) to: DMEFContest@the-dma.org

- Instructions for submission for specific tasks:
 - **Task 1:** Submit a single number within the email estimating the total donations from the donors during the two-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,ltv,active” where id is the customer id, ltv is the estimate of the long-term value over the target period, and active equals 1 if the contestant thinks the customer will make at least one donation in the target period and 0 otherwise.
 - **For Tasks 1, 2 and 3:** Submit a brief summary describing the model used to make the estimate. Entries will not be evaluated unless this description is included.
- The nonprofit will give the DMEF an updated file with the donation history of customers from 9/1/06-8/31/08. The Organizing Committee will determine the winner(s) by evaluating which models performed best based on this actual data. (It is possible that different participants may win in any or all of the three different tasks.)
- The full data set, including 1 million customers, 17 years of transaction and contact history, and contact costs, will be released for general research purposes.
- **October 12:** Winners, to be announced at the DMEF’s Direct / Interactive Marketing Research Summit in Las Vegas (<http://www.researchsummit.org>), will be invited to write a short note describing the winning model and discussing the key considerations, which will undergo a friendly review and be published in the *Journal of Interactive Marketing*®.

PHASE 2:

- **October 31:** Don Kuhn Award proposals to be submitted by email to DMEF@the-dma.org. Contestants are invited:
 - (1) To summarize managerial recommendations for this nonprofit, showing how to use the research from this contest to become more profitable, and
 - (2) Propose additional research, perhaps involving an additional data request.
- The recommendations and proposal that are most actionable, feasible and important – as judged by a panel of industry experts – will be awarded the Don Kuhn Award, a \$1,000 cash prize and coach travel and two nights lodging for the award presentation, to include a presentation at the 2009 Washington Nonprofit Conference, sponsored by DMA’s Nonprofit Federation (<http://www.the-dma.org/nonprofitfederation/index.shtml>). Researchers may enter Phase 2 without having participated in any of the Phase 1 tasks, but proposals incorporate findings from the previously released data are especially encouraged.

Contest Organizing Committee

- Larry May, CEO, Direct Media
- Don Austin, Vice President Client Strategy, Direct Media
- Terri L. Bartlett, President, Direct Marketing Educational Foundation
- Edward Malthouse, Northwestern University
- Pete Fader, University of Pennsylvania

ⁱ Closeness measured by the absolute value of the difference.

ⁱⁱ If y_i is the true future value for customer i and \hat{y}_i is the contestant’s prediction, then the mean squared error of the logged values is $MSE = \sum_i (\log(y_i + 1) - \log(\hat{y}_i + 1))^2 / 21,166$, with the 1 added to avoid taking the log of 0.

ⁱⁱⁱ Percentage of correctly classified cases.