

# Leveraging Data Mining Strategies

to  
Identify High Value Donors  
for a  
Non-Profit Organization

October 18, 2004

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Note the following presentation is a preliminary version provided in advance of the SAS Datamining Conference. For a final version visit our website: [www.drakedirect.com](http://www.drakedirect.com)

# Discussion overview

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- I. Speaker Introduction
- II. Situation Analysis
- III. Methodology
  - a. Approach—Cohort Analysis
  - b. Sample Selection
- IV. Analytical Results
  - a. Cohort Analysis
  - b. Factor Analysis
  - c. Predictive Methods in targeting High Value Donors
- V. Implications and Summary

# Speaker Biographies

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## Rhonda Knehans Drake

### ▲ Current Responsibilities:

- ▲ Founder and President, Drake Direct, New York, NY
- ▲ Assistant Professor in the NYU School of Continuing Professional Studies Master's program for Direct and Interactive Marketing..

### ▲ Prior Responsibilities:

- ▲ Database and List Director, Reader's Digest Young Families, Westport, CT
- ▲ Account Director, Client Services, Information Resources, Inc., Darien, CT
- ▲ Manager Market Planning and Analysis, Columbia House Video Club, New York, NY

### ▲ Publications and Presentations:

- ▲ A complete listing of Rhonda's publications and industry presentations can be found at [www.DrakeDirect.com](http://www.DrakeDirect.com).

### ▲ Education

- ▲ Master of Science, Applied Statistics, University of Iowa
- ▲ Bachelor of Science, Economics (Minors: Mathematics, Statistics), University of Missouri

# Speaker Biographies

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## Perry D. Drake

### ▲ Current Responsibilities:

- ▲ Vice President and General Manager, Drake Direct, New York, NY
- ▲ Associate Professor in the NYU School of Continuing Professional Studies Master's program for Direct and Interactive Marketing. Perry teaches Database Marketing and Advanced Database Marketing and is the Recipient of the 1999 "*Outstanding Master's Faculty Award*."

### ▲ Prior Responsibilities:

- ▲ Director, Marketing Services, The Reader's Digest Association, Pleasantville, NY
- ▲ Associate Director, Magazine Marketing, The Reader's Digest Association, Pleasantville, NY
- ▲ Statistician, Quantitative Analysis, The Reader's Digest Association, Pleasantville, NY

### ▲ Education:

- ▲ Master of Science, Applied Statistics, University of Iowa
- ▲ Bachelor of Science, Economics (Minors: Computer Science, Mathematics, Statistics), University of Missouri

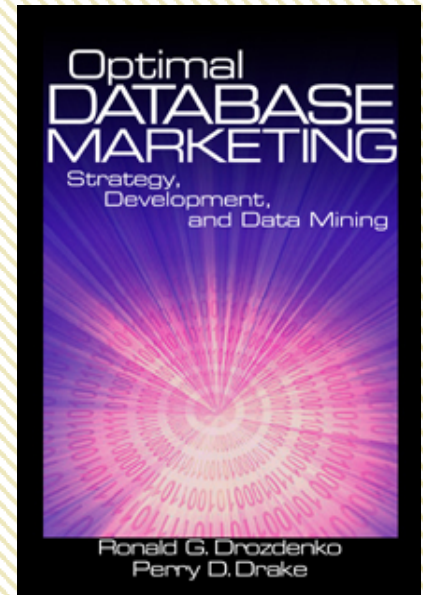
# Speaker Biographies

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## Perry D. Drake (Continued)

### ▲ Publications and Presentations:

- ▲ “*Optimal Database Marketing*,” a new industry book by Perry, delves into database marketing concepts, principles and applications written with the marketer in mind. It covers such topics as the process to evaluate database needs and then select a database vendor, analyzing and manipulating the customer data, segmenting the customer file, response modeling, strategic reporting including lifetime value calculations, and test design and analysis to name a few.
- ▲ Jointly with other faculty from Western Connecticut State University, he collaborated with the Direct Marketing Educational Foundation to develop a model curriculum for universities pursuing the area of interactive and direct marketing.
- ▲ A complete listing of Perry’s publications and industry presentations can be found at [www.DrakeDirect.com](http://www.DrakeDirect.com).



# Situation Analysis

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- A Non Profit Organization was interested in the study of High Value Donors due to their importance to the donor base.
- Specifically, there was interest in the identification of High Value Donors early in their tenure as donors.
- If High Value Donors could be identified within the first 3-6 months of their relationship with the Non Profit special communications could be tailored to initiate them on the path of budgeted donations.

# Situation Analysis

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- Definition of High Value Donors—
  - High Value Donors do not give on impulse, rather they budget and plan their charitable gifts.
  
  - High Value Donors are defined as those who have done one or more of the following:
    - » Given a large gift (\$500 or more)
    - » Made a bequest
    - » Have requested information about making a bequest
    - » Are currently donating through an annuity

# Situation Analysis

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## ■ About the Non Profit Organization

### Acquisition Strategies

- Acquisition appeals are conducted through the mail and space ads
- New donors are sourced from other donor lists
- Most acquisition appeals include the offer of a premium with donation

### Retention Strategies

- Following initial donation, donors receive appeals based on a recency/monetary ranking.
- Retention appeals may be cause driven or premium driven.
- The Non Profit ran three different continuity donation appeals. These donation “clubs” did not utilize a premium with the appeal.
- Appeals throughout the year contained appeal messaging consistent with various relevant holidays.

# Objective

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- Define a strategy which will allow the identification of High Value Donors as early as possible in their tenure as a donor to the Non Profit Organization.

# Key Challenges

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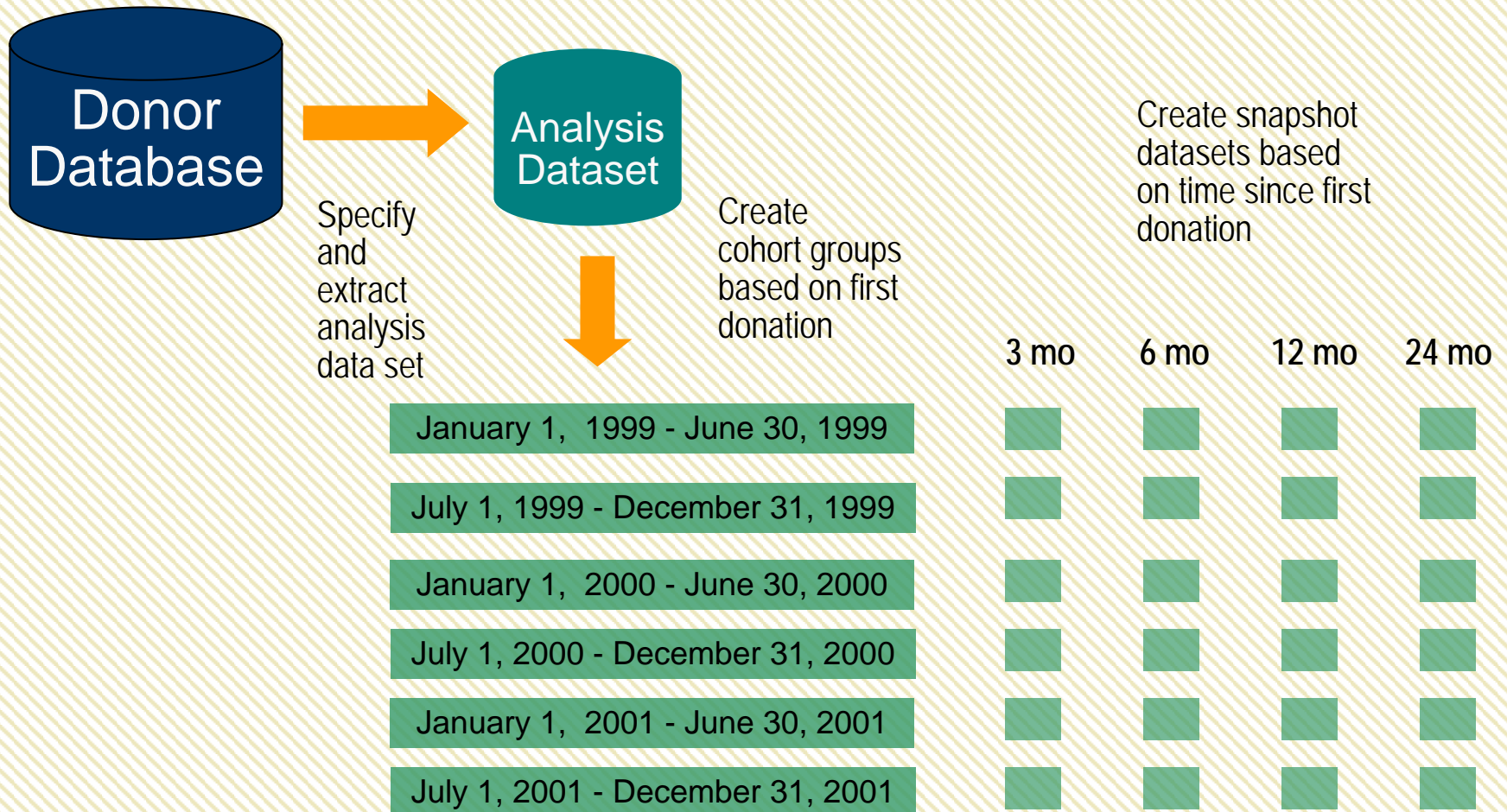
- Varying donor profiles requiring investigation
  - Premium driven vs. cause driven
  - Holiday donors vs. ongoing donations via continuities
  - One time annual gifts vs. small gifts throughout the year
- Declining response rates due to a shrinking universe of donors and a practice of Non-Profit organizations trading donor lists.
- Controlling for seasonality among donor populations.

# Hypotheses requiring investigation

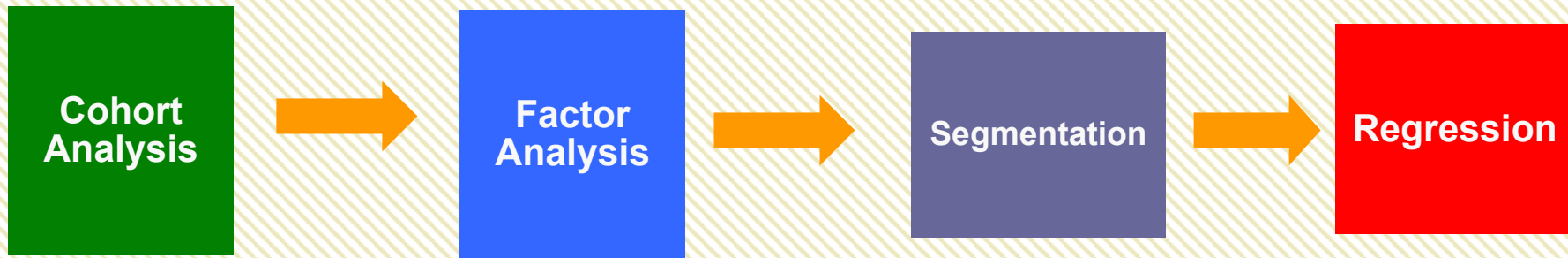
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- Were some donors driven by premium offers?
  - If so, were these donors necessarily of a lower value?
- Did seasonality play a role in the timing of the source of High Value Donors?
  - Were High Value Donors more likely to make an initial donation in Q4 associated with a tax strategy, or charitable feelings of the holiday season?
- Is there a single profile defining a High Value Donor?
  - The assumption was that there was a profile for a HVD and through segmentation and modeling this homogeneous universe would be identified.
- Do high donations at the time of acquisition predict a high propensity to be a High Value Donor?

# Analytic process overview— Dataset creation



# Analytic process overview— Analytic Steps



- Provided view of changes in donor behavior over time
- Revealed relationship of broad segments
- Provided some information regarding appeal tactics

- Data investigation
- Indicated multiple profiles for HVD existed
- Directed analysis toward segmentation

- Created homogeneous segments based on donor behavior
- Assisted in the creation of powerful regression models

- Dependent variable was HVD
- Utilized the six month dataset
- Modeled individual segments to provide optimal targeting of donors likely to become HVD

# Methodology—First Step

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## Cohort Analysis

- To gain the required insights about High Value Donors early in their tenure as donors, a cohort analysis was conducted.
- A cohort analysis requires organizing multiple datasets of cohorts, donors of the same age, and analyzing behavior at specific lifestages.

# Cohort Analysis Specifics

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- Cohorts from January 1, 1999 through December 31, 2002 were examined.
- Data was extracted from the donor database as of March 19, 2003.
- Cohort groups were organized into six month intervals.
- Active and inactive donors were included in the analysis.
- Names were classified into cohort groups based on the initial donation.

# Cohort Analysis Specifics

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- The cohort groups used to conduct the analysis are as shown below:

January 1, 1999 - June 30, 1999

July 1, 1999 - December 31, 1999

January 1, 2000 - June 30, 2000

July 1, 2000 - December 31, 2000

January 1, 2001 - June 30, 2001

July 1, 2001 - December 31, 2001

# Cohort Analysis Specifics

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All groups have at least 12 months of data for analysis.

Analyzing the first 3-6 months of behavior across all cohort groups eliminates biases in seasonality or year to year response variations.

<b>Cohort Group</b>	<b>History Available</b>	<b>Months analyzed</b>
January 1, 1999 - June 30, 1999	44 months	36
July 1, 1999 - December 31, 1999	39 months	36
January 1, 2000 - June 30, 2000	32 months	24
July 1, 2000 - December 31, 2000	27 months	24
January 1, 2001 - June 30, 2001	20 months	12
July 1, 2001 - December 31, 2001	15 months	12

# Cohort Analysis data set creation

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For each cohort group, snapshots of donor behavior were compiled based on a donor's tenure. The tenure snapshot was created based on all donation appeals and activity relative to the date of donor's initial donation.

These snapshot datasets were created at the following intervals:

- Three month

- Six month

- Twelve month

- Twenty-four month

- Thirty-six month

# Cohort Analysis data set creation

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Data was compiled to study various measures of donor behavior:

- Average donation size

- Total donation in dollars in the time period

- Acquisition dollars donated with premium

- Acquisition dollars donated without premium

- Non acquisition dollars donated on premium

- Non acquisition dollars donated without a premium

- Response rate

# Cohort Analysis data set creation

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The resulting datasets could be studied to understand changes in donor behavior over time.

Combining the datasets by donor allows for a view of typical donor behavior at a particular age (three month, six month, etc.)

The combined datasets were used to analyze dimensions of donor behavior and to develop predictive models.

The results of the analysis follow.

# Cohort Analysis Results

# Cohort Analysis—key findings

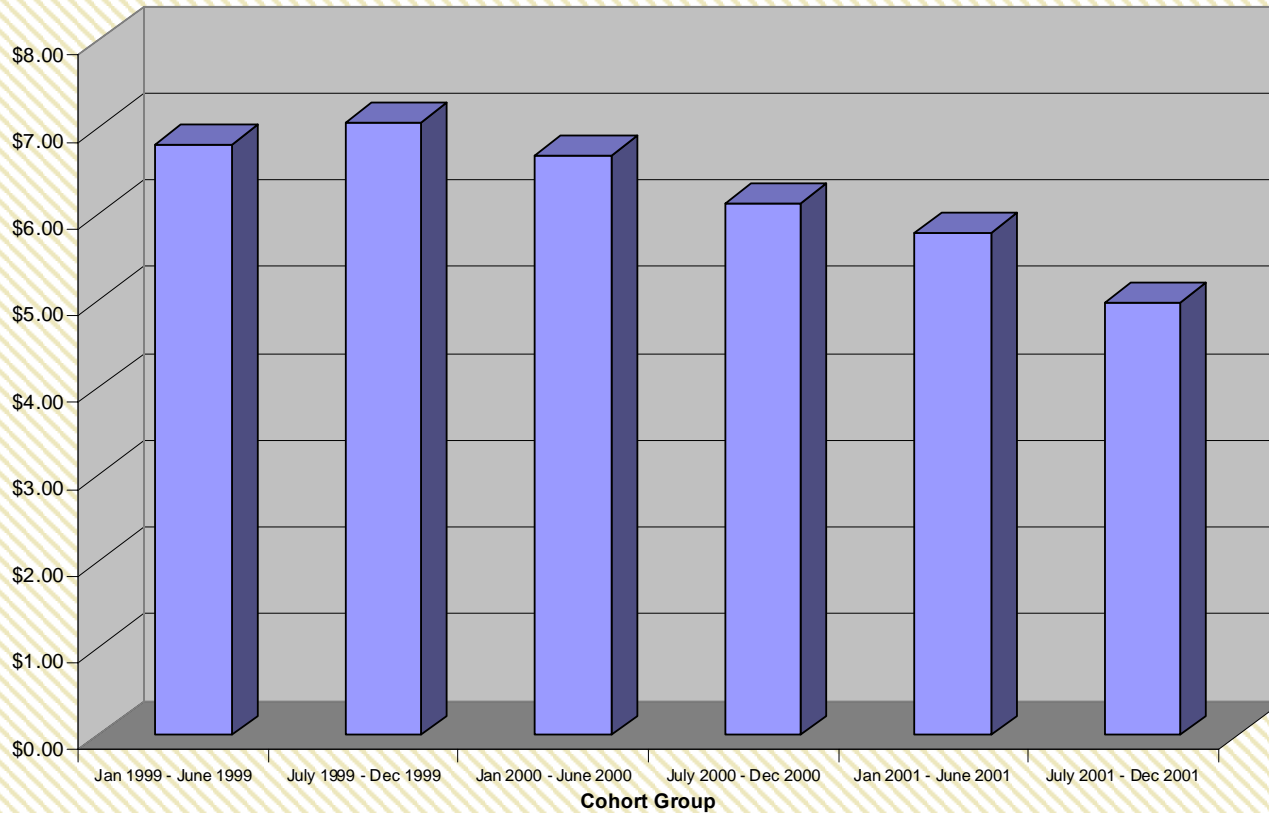
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## Acquisition trends

- Average acquisition dollars are declining.
- Although average acquisition dollars donated by High Value Donors is higher than the average among non-acquisition dollars among non-High Value Donors, the difference is not statistically significant.

- Average acquisition dollars are declining. Viewing average acquisition dollars by cohort group, since July-December 1999 average dollars donated at acquisition has been declining.

Acquisition dollar averaged by effort at Month 3



- **Although the average acquisition donation from High Value Donors is higher than the average acquisition donation from non-High Value Donors the difference is not statistically significant.** The dollars donated by High Value Donors at the time of acquisition are highly variable and therefore at a 95% level of confidence, the two groups cannot be considered statistically distinct based solely on the dollar amount of the acquisition donation.

Month 3	Acquisition dollar averaged by effort						Confidence interval for the difference between HVD and non-HVD ( $\alpha=.05$ )	
Cohort Group	Planned Givers			Non-Planned Givers			Upper bound	Lower bound
	Mean	Std Dev	n	Mean	Std Dev	n		
Jan 1999 - June 1999	\$9.33	19.6174	143	\$6.78	12.3913	15,009	\$5.77	-\$0.67
July 1999 - Dec 1999	\$9.77	27.0811	133	\$7.02	18.2419	8,308	\$7.37	-\$1.87
Jan 2000 - June 2000	\$9.57	29.4829	156	\$6.65	15.1681	17,557	\$7.55	-\$1.71
July 2000 - Dec 2000	\$10.46	25.3638	126	\$6.11	14.4432	20,938	\$8.78	-\$0.08
Jan 2001 - June 2001	\$8.07	27.2790	157	\$5.78	10.9200	24,705	\$6.56	-\$1.98
July 2001 - Dec 2001	\$7.21	20.0873	127	\$4.98	13.4400	19,535	\$5.73	-\$1.27

# Cohort Analysis—key findings

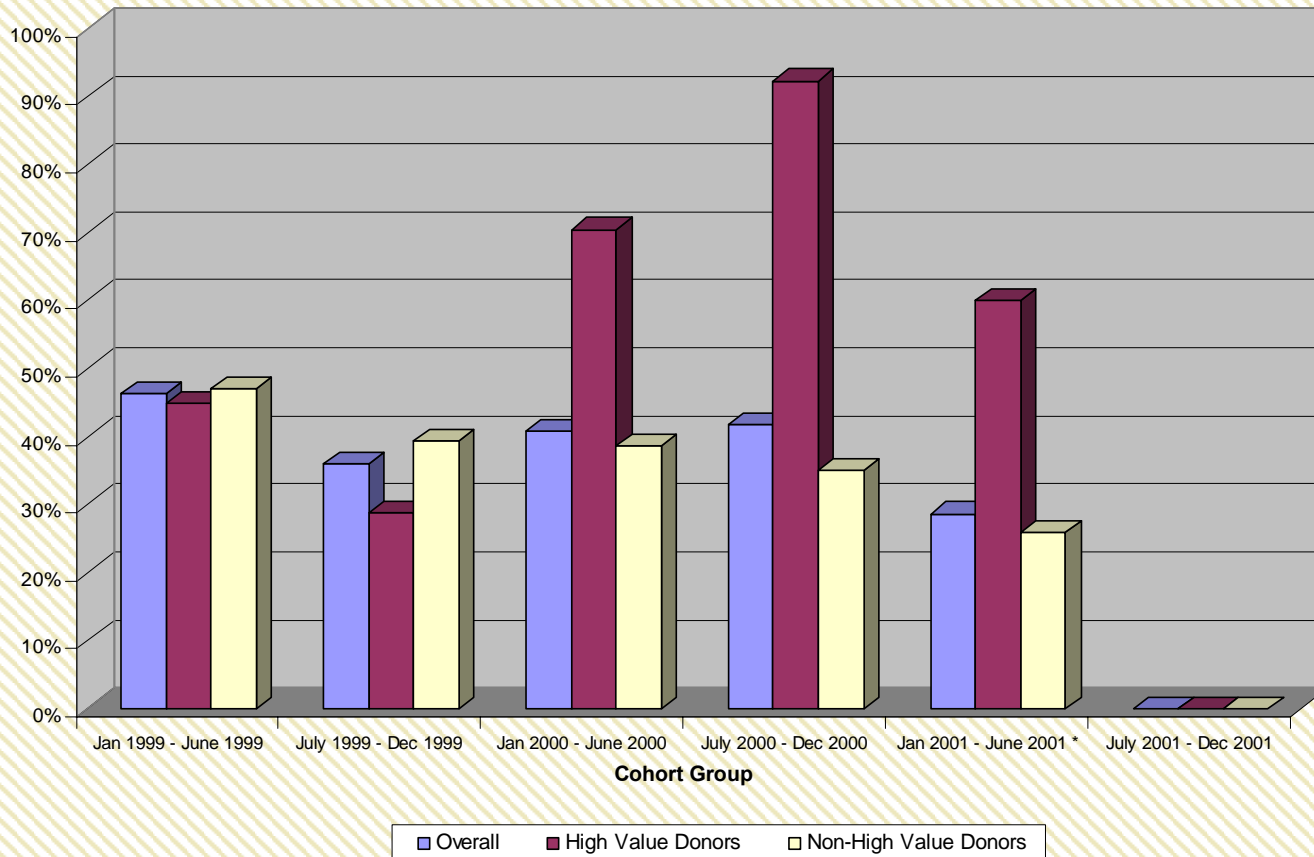
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## Year to year donation trends

- Relative to year one, donations for all cohort groups and all segments were lower in year two.
- Considering Non-High Value Donors only, the second year donations as measured as a percent of year one donations has been declining for each subsequent cohort group since January-June 1999 group.
- Club Members maintain a relatively high level of donation in year two. Relative to first year's donations, Club Members donate approximately 80%-90% of year one dollars in year two.

- **Donations in year two lag behind donations in year one.** For all cohort groups and all segments donations in year two were below donations made in year one.
- **For recent cohort groups, High Value Donors have been successful at sustaining donation levels set in year one.** High Value Donors of the cohort groups of Jan – June 2000 and July 2000 – Dec 2000 have donated 70% and 92% of their first year’s contributions in year two.

Year 2 Donations as a Percent of Year 1



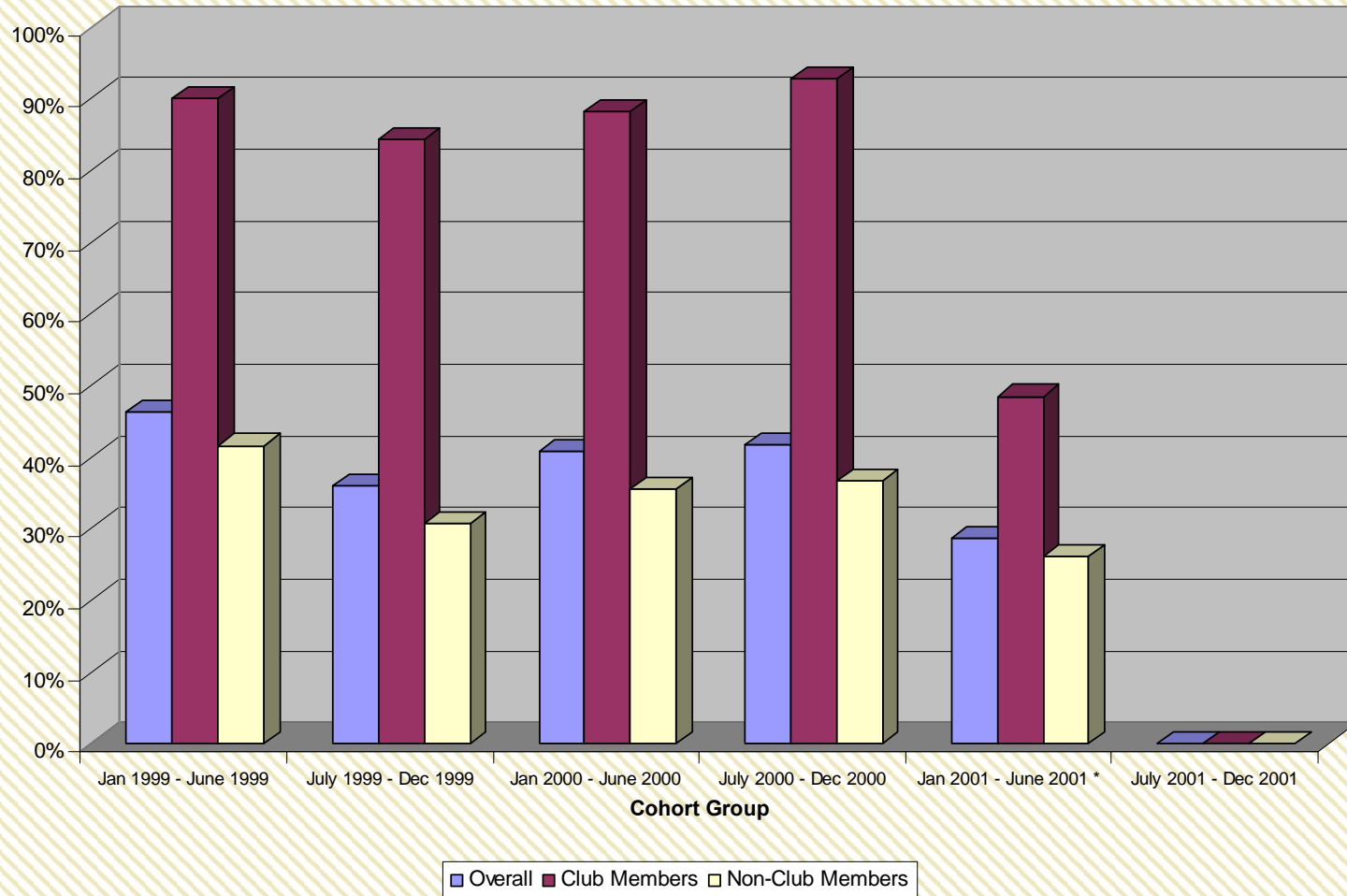
- **Year two donations are decreasing over time for non-High Value Donors.** As measured by the percent of year one donations, year two donations are decreasing over time for Non-High Value Donors. For the January-June 1999 cohort group, year 2 donations represented 47% of dollars donated in year 1, by January-June 2001 year 2 donations represented 26% of dollars donated in year 1.

#### Year 2 as a Percent of Year 1

Cohort Group	Overall	High Value Donors	Non-High Value Donors
Jan 1999 - June 1999	46.25%	44.91%	46.97%
July 1999 - Dec 1999	35.87%	28.70%	39.41%
Jan 2000 - June 2000	40.78%	70.42%	38.56%
July 2000 - Dec 2000	41.68%	92.30%	35.08%
Jan 2001 - June 2001 *	28.63%	59.87%	25.94%
July 2001 - Dec 2001	--	--	--

- **Club members sustain a high level of donation in year two.** While all groups and segments display a decline in donations from year one to year two, the Club Members provide the most constant level of support. Year two donations represent 80% to 90% of the levels provided in year one.
- **Non-club members provide year two donations at one third the level of year one.** For Non-club Members, donations decline by 60% from year one levels.

Year 2 as a Percent of Year 1 Club Members



# Cohort Analysis—key findings

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## Donations with premium trends

- Among segments studied, Club Members donate the highest proportion of dollars with a premium request followed by High Value Donors. This relationship is seen in acquisition donations and in donations following acquisition.

- **Club members donate a statistically significantly higher proportion of dollars with a premium at the time of acquisition than the over all donor base.**

Proportions of dollars donated with a premium was compared across segments within cohort groups. Significance levels are shown in the table below. All cohort groups show club members significantly different to all donors at a 95% level of confidence or higher. (95% level of confidence corresponds to  $\alpha = .05$ ).

Ratio of acquisition dollar with premium at Month 3

	Cohort Group					
	Jan 1999 - June 1999	July 1999 - Dec 1999	Jan 2000 - June 2000	July 2000 - Dec 2000	Jan 2001 - June 2001	July 2001 - Dec 2001
<b>All donors</b>	0.23	0.14	0.29	0.21	0.19	0.15
<b>High Value Donors</b>	0.17	0.22	0.25	0.22	0.27	0.16
<b>Club Members</b>	0.27	0.21	0.37	0.31	0.29	0.24

Ratio of acquisition dollar with premium at Month 3

Hypothesis Testing: p-value

	Jan 1999 - June 1999	July 1999 - Dec 1999	Jan 2000 - June 2000	July 2000 - Dec 2000	Jan 2001 - June 2001	July 2001 - Dec 2001
Club members vs non club members	0.0046	0.0006	0.0001	0.0001	0.0001	0.0001
High Value Donors vs non High Value Donors	0.0901	0.0088	0.2758	0.7872	0.011	0.7566
Club members vs High Value Donors	0.0136	0.818	0.005	0.0614	0.6384	0.091

■ **Club Members donate a statistically significantly higher proportion of dollars with a premium following acquisition than the over all donor base.** At the 12 month point in a donor's lifetime, proportions of non-acquisition dollars donated with a premium was compared across segments within cohort groups. Significance levels are shown in the table below. All cohort groups show club members significantly different to all donors at a 95% level of confidence or higher. (95% level of confidence corresponds to  $\alpha = .05$ ).

Ratio of non-acquisition dollar with premium at Month 12

	Cohort Group					
	Jan 1999 - June 1999	July 1999 - Dec 1999	Jan 2000 - June 2000	July 2000 - Dec 2000	Jan 2001 - June 2001	July 2001 - Dec 2001
<b>All donors</b>	0.24	0.24	0.25	0.19	0.29	0.23
<b>High Value Donors</b>	0.29	0.31	0.32	0.37	0.37	0.27
<b>Club Members</b>	0.41	0.44	0.44	0.40	0.42	0.40

Ratio of non-acquisition dollar with premium at Month 12

Hypothesis Testing: p-value

	Jan 1999 - June 1999	July 1999 - Dec 1999	Jan 2000 - June 2000	July 2000 - Dec 2000	Jan 2001 - June 2001	July 2001 - Dec 2001
Club members vs Non Club members	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
High Value Donors vs. Non High Value Donors	0.0892	0.0614	0.0456	0.0001	0.0278	0.2892
Club members vs High Value Donors	0.0082	0.0108	0.0068	0.5686	0.2802	0.0192

- ***In general Club Members are more premium driven following acquisition than High Value Donors.*** For most cohort groups examined Club Members donated higher proportions dollars with premium in acquisition appeals than High Value Donors. (See the table below where the p-value is less than .10)

Ratio of non-acquisition dollar with premium at Month 12

	<b>Cohort Group</b>					
	Jan 1999 - June 1999	July 1999 - Dec 1999	Jan 2000 - June 2000	July 2000 - Dec 2000	Jan 2001 - June 2001	July 2001 - Dec 2001
<b>All donors</b>	0.24	0.24	0.25	0.19	0.29	0.23
<b>High Value Donors</b>	0.29	0.31	0.32	0.37	0.37	0.27
<b>Club Members</b>	0.41	0.44	0.44	0.40	0.42	0.40

Ratio of non-acquisition dollar with premium at Month 12

Hypothesis Testing: p-value

	Jan 1999 - June 1999	July 1999 - Dec 1999	Jan 2000 - June 2000	July 2000 - Dec 2000	Jan 2001 - June 2001	July 2001 - Dec 2001
Club members vs Non Club members	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
High Value Donors vs. Non High Value Donors	0.0892	0.0614	0.0456	0.0001	0.0278	0.2892
Club members vs High Value Donors	0.0082	0.0108	0.0068	0.5686	0.2802	0.0192

# Factor Analysis

# Factor Analysis--Overview

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- Factor analysis is a multivariate interdependence technique.
- Factor analysis takes multi-dimensional inter-correlated data and defines a finite number of dimensions from the data.
- Factor analysis was employed on the donation data supplied by the Non Profit Organization since initial attempts to model the data revealed the correlations in the data.

# What Factor Analysis Does

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- Factor analysis takes large data sets of correlated variables and reduces the data into dimensions that are uncorrelated.
- Each dimension represents a linear combination of the data from the base dataset.
- Since the data is multidimensional in nature, there is not one “correct” result of a factor analysis. The data can be viewed from various angles or rotations to calculate the factors, until a meaningful, or useful result is observed.

# Why a factor analysis was conducted

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- Factor analysis can be utilized as an investigative technique as it provides information about variables that are correlated with one another.
- Factor analysis was used to confirm the dimensions of behavior hypothesized about the the Non-Profit organization's donor base.
- Factor analysis prioritizes the behavioral dimensions based on each dimensions ability to explain the variation in the data.
- Finally once defined, dimensions were analyzed versus HVD status to identify and understand relationships that exist.

# Methodology

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- Factor analysis was conducted on those donors whose activity was of primary interest to understand-- donors who had made a second donation within six months of acquisition.
- Data was analyzed iteratively using various factor selection techniques and rotations.
- A four factor solution was chosen based on the significant variation explained in the first four factors as shown by the eigenvalues of these factors.

# Dimensions of donor behavior

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Acquisition behavior relative to premium acceptance

Frequency of donations and acquisition donations relative to total donations

Frequency of donations and non-acquisition donations relative to total donations

Total dollar amount of donations, average non acquisition gift size

# Overview of Factors with statistics on donors at opposite extremes of factor scores

Factor Description	Segment Score	Ratio of acquisition dollars donated with premium	Ratio of acquisition dollars to total donations	Total Number of Donations	Total Donation Dollars	Total Premium Dollars	Proportion High Value Donor	Proportion Club member	Average non-acquisition donation value
Average for all cohorts making a post acquisition donation	Average of total	26.8%	33.1%	2.18	\$40.80	\$19.38	1.4%	0.3%	\$13.45
Acquisition behavior relative to premium acceptance	Top 10%	38.7%	29.0%	1.85	\$79.33	\$58.14	2.7%	7.4%	\$32.54
	Bottom 10%	0.0%	21.6%	1.97	\$35.49	\$0.00	2.6%	0.9%	\$10.05
Frequency of donations and acquisition donations relative to total donations	Top 10%	12.0%	17.0%	1.00	\$22.88	\$2.01	0.7%	0.0%	\$12.97
	Bottom 10%	27.9%	18.4%	4.73	\$99.57	\$60.67	4.8%	24.1%	\$17.93
Frequency of donations and non-acquisition donations relative to total donations	Top 10%	98.3%	99.9%	1.06	\$39.09	\$27.96	0.1%	0.3%	\$9.65
	Bottom 10%	0.0%	0.0%	1.37	\$25.39	\$20.85	0.1%	1.2%	\$15.87
Total dollar amount of donations, average non-acquisition gift size	Top 10%	21.7%	29.8%	3.96	\$187.37	\$56.65	7.0%	7.0%	\$67.52
	Bottom 10%	30.9%	22.5%	1.85	\$19.14	\$15.15	1.1%	0.0%	\$5.40

# Factor analysis conclusion

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- While dimensions of donor behavior exist and can be identified, High Value Donors are not strictly associated with any of the various dimensions.
- That is, High Value Donors can be premium driven or not, they can give frequent small donations or fewer large donations, they may or may not be club members.
- The factor analysis indicated the next step in predicting High Value Donors was to decompose the donor base into homogeneous segments.

# Predicting High Value Donors

# Methodology

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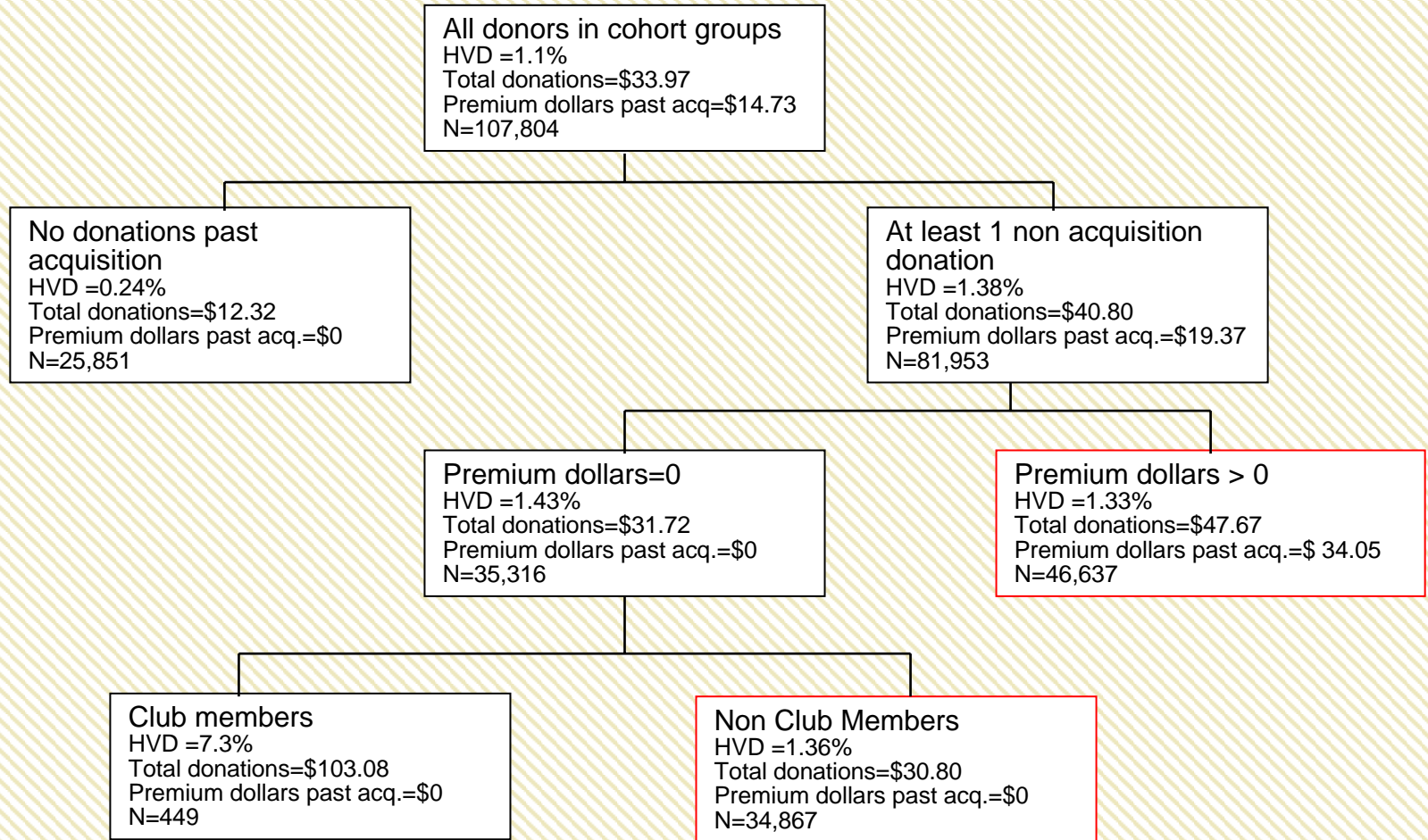
- After studying the results of the factor analysis, donors were segmented based on behaviors that were determined to represent important differences to define subgroups.
- These subgroups were then studied to define the best means of identifying High Value Donors within each group.
- This resulted in a combined approach of segmentation and regression modeling to predict High Value Donors.
- The snapshot used was the six month dataset. Preliminary analysis showed that the data at this stage was adequate to predict High Value Donors.

# Methodology

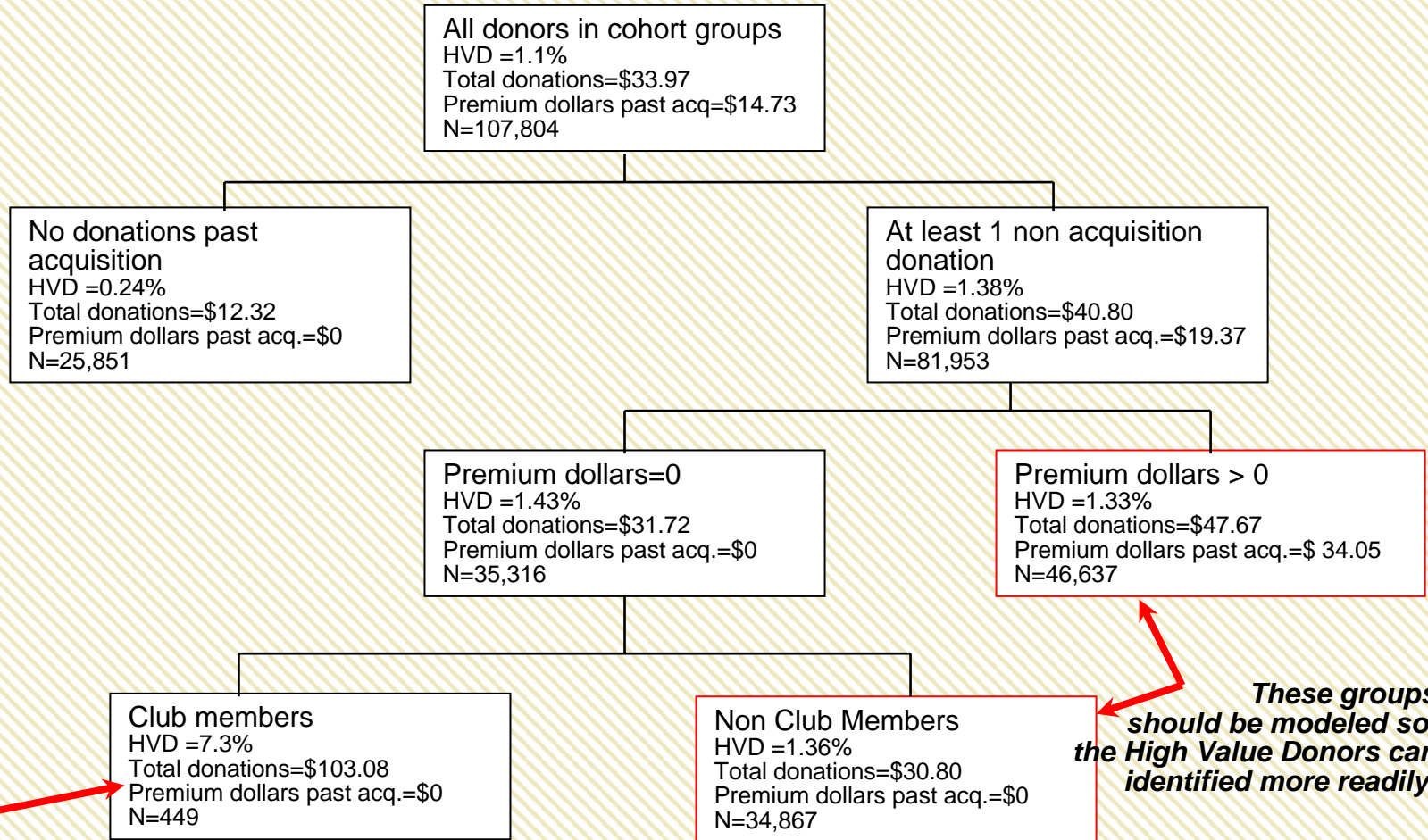
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- For each segment defined, models were developed using multiple regression techniques.
- Then each modeled segment was first split into an analysis and hold out group, with the hold out serving as a validation of the regression model.

# Decomposition of Cohort Donors into Segments at six months



# Decomposition of Cohort Donors into Segments at six months



**No model necessary—  
This group can receive HVD information as part of their ongoing communication.**

**These groups should be modeled so the High Value Donors can be identified more readily.**

# Regression model on Premium Segment

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- Most important variables:
  - Average dollars donated in non acquisition appeals
  - Indicator variable of club membership
  - Average acquisition donation
  - Indicator variable of four plus donations
- A total of twenty two variables entered into the model.
- Gain in the top decile was 513.
- Model was highly discriminating.

# Gains for Premium Segment

Decile	<u>Incremental Gains on Analysis</u>					<u>Incremental Gains on Holdout</u>					<u>Cumulative Gains on Holdout</u>				
	Sample %	Names	Matches	Match Rate	Gain over total	Sample %	Names	Matches	Match Rate	Gain over total	Sample %	Names	Matches	Match Rate	Gain over total
1	10.35%	3,198	297	9.29%	535	10.00%	1,464	103	7.04%	513	10.00%	1,464	103	7.04%	513
2	10.36%	3,199	44	1.38%	-6	10.00%	1,465	15	1.02%	-11	20.00%	2,929	118	4.03%	251
3	10.36%	3,201	27	0.84%	-42	10.00%	1,465	9	0.61%	-46	30.00%	4,394	127	2.89%	152
4	10.36%	3,199	22	0.69%	-53	10.00%	1,464	6	0.41%	-64	40.00%	5,858	133	2.27%	98
5	6.82%	2,106	13	0.62%	-58	10.00%	1,465	11	0.75%	-35	50.00%	7,323	144	1.97%	71
6	10.66%	3,292	16	0.49%	-67	10.19%	1,492	12	0.80%	-30	60.19%	8,815	156	1.77%	54
7	10.03%	3,097	9	0.29%	-80	9.81%	1,437	2	0.14%	-88	70.00%	10,252	158	1.54%	34
8	10.38%	3,207	5	0.16%	-89	10.00%	1,465	3	0.20%	-82	80.00%	11,717	161	1.37%	20
9	10.63%	3,284	8	0.24%	-83	9.78%	1,433	4	0.28%	-76	89.79%	13,150	165	1.25%	9
10	10.06%	3,106	11	0.35%	-76	10.21%	1,496	3	0.20%	-83	100.00%	14,646	168	1.15%	0
<b>TOTAL</b>	<b>100.00%</b>	<b>30,889</b>	<b>452</b>	<b>1.46%</b>	<b>0</b>	<b>100.00%</b>	<b>14,646</b>	<b>168</b>	<b>1.15%</b>	<b>0</b>	<b>100.00%</b>	<b>14,646</b>	<b>168</b>	<b>1.15%</b>	<b>0</b>

# Regression model on Non-Premium Segment

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- Most important variables:
  - Total Donation dollars
  - Average days between donations
  - Indicator variable for exactly one post acquisition donation
  - Average donation size in dollars after acquisition
- A total of twelve variables entered into the model.
- Gain in the top decile was 484.
- Model was highly discriminating.

# Gains for Non-Premium Segment

Decile	<u>Incremental Gains on Analysis</u>					<u>Incremental Gains on Holdout</u>					<u>Cumulative Gains on Holdout</u>				
	Sample %	Names	Matches	Match Rate	Gain over total	Sample %	Names	Matches	Match Rate	Gain over total	Sample %	Names	Matches	Match Rate	Gain over total
1	10.00%	2,447	214	8.75%	533	10.18%	1,050	79	7.52%	484	10.18%	1,050	79	7.52%	484
2	10.00%	2,447	44	1.80%	30	9.82%	1,013	14	1.38%	7	20.00%	2,063	93	4.51%	250
3	9.96%	2,438	25	1.03%	-26	10.00%	1,032	12	1.16%	-10	30.00%	3,095	105	3.39%	163
4	9.32%	2,280	19	0.83%	-40	10.01%	1,033	12	1.16%	-10	40.01%	4,128	117	2.83%	120
5	10.73%	2,626	4	0.15%	-89	9.98%	1,030	5	0.49%	-62	50.00%	5,158	122	2.37%	83
6	9.99%	2,444	14	0.57%	-59	10.12%	1,044	4	0.38%	-70	60.11%	6,202	126	2.03%	58
7	9.88%	2,419	9	0.37%	-73	9.88%	1,019	5	0.49%	-62	69.99%	7,221	131	1.81%	41
8	10.12%	2,478	3	0.12%	-91	9.96%	1,028	0	0.00%	-100	79.96%	8,249	131	1.59%	23
9	10.01%	2,449	5	0.20%	-85	10.03%	1,035	2	0.19%	-85	89.99%	9,284	133	1.43%	11
10	10.00%	2,447	1	0.04%	-97	10.01%	1,033	0	0.00%	-100	100.00%	10,317	133	1.29%	0
<b>TOTAL</b>	<b>100.00%</b>	<b>24,475</b>	<b>338</b>	<b>1.38%</b>	<b>0</b>	<b>100.00%</b>	<b>10,317</b>	<b>133</b>	<b>1.29%</b>	<b>0</b>	<b>100.00%</b>	<b>10,317</b>	<b>133</b>	<b>1.29%</b>	<b>0</b>

# Implications and Summary

# Implications

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- Using a combined approach of segmentation and regression, it is possible to vastly improve the targeting of High Value Donors.
- This technique is highly predictive and requires only six months of data on donors.
- The donation behaviors defining the segments suggest different communication strategies to each would be appropriate.
- This technique is applicable to For-Profit enterprises as well, and can be leveraged for any business to target the elite or top customers.

# Summary

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- Utilizing an approach of Cohort Data construction, Cohort Analysis, Factor Analysis, Segmentation, and Regression, Drake Direct developed a means to target HVD for a non profit with only six months of customer history.
- This technique can identify concentrated pools of HVD with gain index of 501 in the top deciles.
- For this highly important group, random targeting would not be feasible, and allowed a Non-Profit organization the ability to develop relationships earlier in the lifecycle of this important segment.

# Feel free to contact us!

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