Fundraising Analytics

What Nonprofit Organizations Can Learn from the Private Sector

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Why Should Nonprofits Care about Data Mining?

Corporations have used data mining techniques for years to discover untapped potential in their data warehouses. From a collected wealth of transactions and customer information, the private sector has long recognized that the key to targeting the most profitable markets is kept right in their own internal databases. Until relatively recently, however, nonprofit organizations have assumed the field of "business" intelligence was for businesses alone. Nonprofits of all sizes and sectors are now realizing that not only have they collected their own valuable data, but that they share many of the same challenges that for-profit companies have already encountered. Similar issues such as effectively communicating analytical findings to managers, keeping sensitive data secure, and staffing a research department are just some of the areas that could benefit from collaboration. If the best practices of the private sector's existing analytical methods can be adopted by nonprofits and tailored to the unique issues they face, the potential increase in net donations could help many struggling organizations continue their charitable work despite a tumultuous economy.

So what exactly do we mean when we use terms like analytics, data mining, and business intelligence? Analytics attempts to make a predictive model for future behaviors of the variables in question by using observations of general trends, statistical computations on samples of existing data, and interpretations of findings. Sometimes this process is much more of an art than a science; as one author said, "Analytics is not a science of numbers; it is a science of 'why'. This is the method of soothing insane curiosity about our business processes and our constituencies. This is how we can look at what we do and change what we will do. Analytics uses our data to guide us down a path of optimized performance and increased productivity" (Birkholz, 2008 p. 10). Putting these models into action can help organizations of every type to make informed decisions on everything from setting realistic goals, measuring employee success, and allocating scarce resources.

These resources are usually scarcer for nonprofits than for private sector businesses, due the simple fact that funds are not raised by the sales of products or services but by the generosity of constituents. The current financial situation of many individuals and foundations caused charitable giving to fall 2% overall since 2007. Donations specifically to institutions of higher education dropped more than $2.25 billion in 2008 alone (Center on Philanthropy at Indiana, 2009). Unfortunately, charitable giving is one of the first things to be cut from personal budgets in difficult economic times, and both income and net worth are decreasing among the wealthiest donors (Leonhardt, 2009). Besides individual giving, corporations and foundations make up a large percentage of contributions that nonprofits receive each year in the forms of grants and sponsorships. However, foundation assets dropped an estimated 21.99% in 2008 as their endowments suffered stock market losses (Lawrence, 2009). Clearly the usual sources of funding are struggling, so it is even more critical that nonprofits find new prospects for small-to-moderate sized gifts and convert more of their existing prospects to major donors as efficiently as possible (Wylie, 2008).

Up until recently, finding quality prospects required in depth reactive research that was far from efficient. Obvious targets, such as famous alumni, high-profile CEOs, and wealthy associates of existing donors were compared to records compiled in extensive (and costly) databases such as those provided by Lexis Nexis, WealthEngines, and iWave. From this, a profile could be compiled to show a person's estimated capacity to make a major gift, his likelihood to make a contribution of any size to any organization, and his inclination to give to the particular nonprofit in question. As data sources became more accessible and the data itself grew in quantity and quality, a shift began to occur to more proactive strategies. Consulting services began to offer rudimentary data mining services that promised accurate ratings for the "capacity, likelihood, and inclination" variables using their proprietary formulas, but little emphasis was placed on the quality of the data to begin with, the proprietary formulas were inaccurate for nonprofits with unique constituents (such as faith-based universities and smaller community nonprofits), and there was little guidance on how to make meaningful decisions based on the ratings. The necessary data was becoming increasingly accessible, the modeling software to analyze this data was already being deployed by the private sector, and nonprofits were increasingly pressured to raise more money. Prospect researchers that had previously focused on preparing detailed profiles for each person of interest now wondered if they could use data mining to prioritize their work load, target only the prospects worth cultivating, and increase gift amounts while decreasing costs (Wylie, 2008).

The next hurdle was one shared by both corporations and nonprofits—the difficulty of getting management to fully appreciate the value of data mining projects. Development officers whose job it was to personally make contact with the prospects had always relied on networking abilities and other soft skills. As a result, any data mining findings were met with a lack of confidence and never put into action. Without real world feedback, it was impossible to tell if these projects had a positive ROI, and managers used this lack of tangible outcomes to deny further funding for analytics. Furthermore, development officers were concerned that new evaluations of their productivity would become based solely on hard data and gift quotas, without adequately giving them credit for their cultivation efforts leading up to that point. Even if managers were interested in fundraising analytics, many were unaware of its capabilities and frequently underestimated what the methods could return. Researchers needed better ways of communicating difficult technical concepts (such as the importance of reliable data, the need for certain software packages, and the value of predictive modeling) in ways that resonated with development officers and other managers in the fundraising department (Wylie, 2008).

What Data Can Be Gathered, What Can It Predict, and How Is It Protected?

Before a researcher can convince anyone of what a predictive model can achieve, it is helpful to explain the various pieces of information that can be gathered and what limitations exist. Virtually every development officer is aware of the information that can be gathered directly from the prospect. For instance, universities retain data about a student's major, their involvement in student organizations, and other activities pertaining to their experience while attending the school. Alumni class reunion surveys provide opportunities for the prospects themselves to volunteer information such as their current employer, family members, and primary contact information.

What researchers sometimes fail to adequately communicate with managers is that from these basic details, many more facts can be obtained about a prospect just by searching public records.

For instance, a person's capacity score is based on their estimated income and assets, but this is information rarely volunteered by the prospects themselves. However, preliminary suspects can be found in the wealthiest zip codes (according to census data), then specific real estate values can be found via the tax assessments. Proxy statements for publically traded companies can be accessed for mention of executive salaries and stock holdings. Other public records such as marriage and divorce filings, bankruptcy records, military service databases, and professional licenses can all give clues as to a person's wealth and ability to make a major gift. Likewise, a prospect's inclination to give to charities in general can be ascertained by examining their existing gift history. Donations greater than $500 made to political organizations and candidates are reported by law, and many foundations voluntarily provide more donor information than required by their annual Form 990s. Finally, a person's likelihood of making a donation to a particular organization provides the crucial link between their ability to make a sizeable gift and their interest in charitable giving in general. How well an organization's mission aligns with a prospect's personal interests can often be determined from Who's Who entries and archived news articles that frequently provide facts such as club memberships, important career advancements, and personal interests. All this data can be included in the nonprofit's database and factored into the modeling process, just as a business' intelligence is used to target the most interested and profitable customers.

This collection of data faces similar issues in both the nonprofits and businesses regarding security and ethical usage. Both sectors must comply with the Gramm-Leach-Bliley Act (GLBA) of 1999 regarding data protection, but nonprofits have additional restrictions. The Health Insurance Portability and Accountability Act (HIPAA) of 1996, for instance, prohibits hospitals from using a patient's medical records to target a person's giving interests. For universities, The Family Educational Rights and Privacy Act of 1974 (FERPA) set additional guidelines in 2008 to protect the privacy of student records at any school that receives governmental funding. Nonprofits, just like businesses, have had to implement strict security rules. Encryption technology for document transmissions and files has been deployed at many larger nonprofits, in addition to low-tech policies such as locking up printed documents, instructing employees on the responsible use of passwords, and only allowing authorized personnel to have access to sensitive information. Additionally, fundraisers often voluntarily abide by the ethical guidelines of governing bodies such as the Association of Fundraising Professionals (AFP)'s Code of Ethics and the Donor Bill of Rights (WealthEngines, 2009)(Appendix A-A). Whereas these strategies have become commonplace at most larger nonprofits, only 67% of smaller organizations have a data security policy in use (WealthEngines, 2009 p. vii).

What Methods and Tools are Involved?

Comparable to a company's build vs. buy decision, a nonprofit's first step is to decide if hiring a consultant to produce a predictive model is better than creating an in-house position. A one-time screening by a consulting firm can superficially seem the best option, since a quality screening can cost around $25,000 and retain value for 2-3 years. However, without a staff member trained to verify the scores calculated and put the findings into action, there is little value returned from the screening. Investing in a salaried employee, although more expensive initially, is usually worth the cost. This person can make ongoing revisions to the statistical model as its predictive capabilities are evaluated, enforce a data integrity policy, and enhance the use of future screenings. Furthermore, the accuracy of proprietary formulas used by consulting firms is often questionable and unavailable for examinations or adjustments. An in-house fundraising analyst would be substantially better able to create models tailored to the unique constituencies of their organization (Wylie, 2008).

Regardless of who performs the analysis, the same basic methods should apply. The most critical step in the process (and usually the most time consuming) is cleansing the data. Information fields may have been inconsistently entered into the database over the years by multiple people, and some fields may be blank entirely. Once the data is standardized, it is partitioned into test and validation sets. Various statistical methods (with multiple regression being the most preferred) can then explore the test data to form a preliminary formula based on which variables are found to be most statistically significant. The formula's accuracy is tested with the validation data, and further revised to decrease the margin of error. Some favorite modeling software packages include SAS, SPSS, and DataDesk; however, smaller nonprofits may find these cost prohibitive and prefer one of the many open source analytical CRMs (Wylie, 2004).

How Can We Put the Predictive Model to Work?

The completed analysis is only as useful as its deployment. Luckily, its positive effects on goal setting, target identification, and resource allocation can be assessed fairly quickly. In fact, the same methods used to form the predictive model can be used to measure its effectiveness and persuade managers to put the data in action. As one research analyst said, “We can dazzle our managers with an increased knowledge of our constituents, resulting in ever-greater gifts.” (Wylie, 2008 p. i)

Fundraisers have often used industry estimates to set campaign goals, such as the 80/20 Rule (which dictates that about 80% of all donations are given by just 20% of donors), and the rule of thumb that for every 9 people cultivated as donors, only 1 will ultimately make the gift (in other words, the target is a 11% “close” rate). However, many studies have shown that while actual close rates vary widely according to each organization and development officer making the ask, the 80/20 Rule is categorically inaccurate (and is closer to a ratio of 95/5) (Wylie, 2008). Flawed estimates can lead to unrealistic campaign goals overall; in the example given in Appendix C, the first table represents a typical campaign giving pyramid, based solely on industry averages. Appendix D, however, reflects a pyramid that has been tailored to the organization’s actual close rates as determined by looking at past trends (not taking the more accurate 95/5 Rate into account). After adjustment, it is clear that some levels of giving need more attention than previously estimated. Furthermore, if this organization simply doesn’t have the nearly 17,000 prospects that follow this basic distribution and have a total capacity of $50,000,000, a more reasonable target goal may be needed (Birkholz, 2008). It is crucial then that the analysis provides an accurate estimate of capacity of the individuals, since this will affect the potential yield of the overall campaign.

A good predictive model will demonstrate the difference between a prospect's capacity and their actual likelihood to make a major gift. Too often, organizations focus on a person's wealth and assume that this alone warrants great amounts of cultivation, without regard to how interested the person is in the organization's mission; this is often referred to as the "Bill Gates Syndrome." Just because a person has a high capacity score doesn't mean that their likelihood score will follow that same pattern, and it would be wasteful to expend too many resources on them without taking this into account. It is also wasteful to send a development officer to meet with a potential donor and only ask for a fraction of what the person is capable of giving; if fundraising staff have the analytical data in hand, trust in its accuracy, and know how to use it, they'll not only have higher close rates, but avoid the tendency to under-ask (Birkholz, 2008).

Clearly, more gifts overall and greater dollar amounts improve the total funds raised, but data mining can also help decrease associated costs and further increase the ROI. Travel expenses related to visiting "high-capacity but low-likelihood" donors can be greatly decreased. Direct mailings and call center lists can be targeted to only donors that are "high-likelihood but low-capacity". Time and money should be spent predominantly where the evidence shows it will have the most impact. (Birkholz, 2008)

Communicating this heightened efficiency to management uses the same hard data that the modeling process used initially, such as the "before and after" example in Appendix E.

However, the data-driven analysts must learn how to communicate these findings in non-technical terms for managers with a background in statistics. As one expert said, “Truth is, a lot of them tend to be number-phobic or impatient with numbers or both. And the vice president who’s going to look over your results wants to understand the point of what you’re trying to say, not the details of how you developed your point.” (Wylie, 2004). Many analytical software packages now include visualization tools that create clear and informative graphs, and taking advantages of these capabilities can make complicated concepts more accessible to people of all backgrounds. Appendix F shows an example of a cross tab model derived from multiple regression algorithms, compared to similar data presented in a visual format. When findings can be shared with all members of the development staff in understandable ways, it is much more likely that the predictive models will be used and trusted (Wylie, 2004).

Part of the distrust among development officers regarding analytics is its dependence on hard data. When success or failure is defined in black and white terms, fundraisers worry that their soft skills won’t receive proper credit. Especially when workplace incentives and advancements are tied to performance evaluations, it is critical to reassure them that the new models are there to enhance their already successful techniques. Predictive modeling can help a development officer build fair portfolios, target the most profitable constituents, and make sure that leads with great potential don’t fall through the cracks. Fundraising analytics should augment—not replace—already effective strategies (Birkholz, 2008).

What Will Data Mining Do Next?

While much of the data gathered has been available for years in hard copy formats, the Internet revolutionized its accessibility. We are already seeing more sophisticated algorithms in resource searches and screening services that provide more accurate and up-to-date facts. However, due to privacy concerns, sources are being more careful about what information is made available. In the future, data mining will turn to new sources of information to find predictive models with even lower margins of error.

Some of the more promising new data sources are social networking sites. Information volunteered by the constituents in status updates can give valuable clues, and the contacts they network with may also share similar interests and giving potential. The more technical aspects of the Internet are tackled in the field of web analytics, and can give insights into how online behaviors can predict a person's likelihood to make a donation. For instance, a person that signs up for an alumni email list shows a slightly higher inclination to give than a person that does not initiate contact with their alma mater; additionally, mailing list subscribers that click through from a link within a message are seen as even more interested in the university.

Finally, the exciting progress in text mining can transform the way data is manipulated. Today, much attention is given to the correct format of data fields and quantifiable variables. In the future, nonprofits can scour web pages for relevant information and do the work that currently takes many hours of manual searching by prospect researchers. Having this capability would also encourage development officers to maintain their soft skills by implementing free text “comment” fields on contact reports, which could then become much more useful than just a simple place to store notes. Nonprofits, like businesses, already collect vast amounts of data, but the information locked in simple text today may provide a wealth of new information (Wylie, 2008).

Summary

Fundraising analytics is definitely around to stay because of the valuable benefits it can provide. In a world of changing donor profiles and hard economic times, it becomes more important than ever to allocate resources in the most efficient manner possible. Donors, many of whom are businessmen themselves and well aware of the progress made in the private sector with regard to analytics, are insisting that their gifts be used in ways that create the most impact. It is the job of each nonprofit to be good stewards of these contributions.

Advances in the business world can guide nonprofits of all sizes in data mining best practices due to the various shared issues. Factors like ensuring data security, communicating technical issues to management, and using the models to their highest potential are topics that both sectors must deal with, and sharing their knowledge will benefit them both. It is important to keep in mind that even though technology today may not yet reap the full potential of all available sources, it is still important to collect this data in the meantime.

As data-driven models replace potentially inaccurate assumptions, nonprofits will be able to raise more funds, cut associated costs, and be able to show tangible proof to their constituents that they are responsible leaders in their mission field. Every nonprofit, regardless of size or area of expertise, can learn new tricks from fundraising analytics. With sufficient money in their pockets, these organizations can focus on the "worthy causes (they) represent (that) feed our world, educate our children, wipe out horrible diseases, and accomplish many good things" (Birkholz, 2008 p. 2).

Appendix

AFP Code of Ethical Principles and Standards

ETHICAL PRINCIPLES • Adopted 1964; amended Sept. 2007

The Association of Fundraising Professionals (AFP) exists to foster the development and growth of fundraising professionals and the profession, to promote high ethical behavior in the fundraising profession and to preserve and enhance philanthropy and volunteerism. Members of AFP are motivated by an inner drive to improve the quality of life through the causes they serve. They serve the ideal of philanthropy, are committed to the preservation and enhancement of volunteerism; and hold stewardship of these concepts as the overriding direction of their professional life. They recognize their responsibility to ensure that needed resources are vigorously and ethically sought and that the intent of the donor is honestly fulfilled. To these ends, AFP members, both individual and business, embrace certain values that they strive to uphold in performing their responsibilities for generating philanthropic support. AFP business members strive to promote and protect the work and mission of their client organizations.

AFP members both individual and business aspire to:

- practice their profession with integrity, honesty, truthfulness and adherence to the absolute obligation to safeguard the public trust
- act according to the highest goals and visions of their organizations, professions, clients and consciences
- put philanthropic mission above personal gain;
- inspire others through their own sense of dedication and high purpose
- improve their professional knowledge and skills, so that their performance will better serve others
- demonstrate concern for the interests and well-being of individuals affected by their actions
- value the privacy, freedom of choice and interests of all those affected by their actions
- foster cultural diversity and pluralistic values and treat all people with dignity and respect
- affirm, through personal giving, a commitment to philanthropy and its role in society
- adhere to the spirit as well as the letter of all applicable laws and regulations
- advocate within their organizations adherence to all applicable laws and regulations
- avoid even the appearance of any criminal offense or professional misconduct
- bring credit to the fundraising profession by their public demeanor
- encourage colleagues to embrace and practice these ethical principles and standards
- be aware of the codes of ethics promulgated by other professional organizations that serve philanthropy

ETHICAL STANDARDS

Furthermore, while striving to act according to the above values, AFP members, both individual and business, agree to abide (and to ensure, to the best of their ability, that all members of their staff abide) by the AFP standards. Violation of the standards may subject the member to disciplinary sanctions, including expulsion, as provided in the AFP Ethics Enforcement Procedures.

MEMBER OBLIGATIONS

1. Members shall not engage in activities that harm the members' organizations, clients or profession.
2. Members shall not engage in activities that conflict with their fiduciary, ethical and legal obligations to their organizations, clients or profession.
3. Members shall effectively disclose all potential and actual conflicts of interest; such disclosure does not preclude or imply ethical impropriety.
4. Members shall not exploit any relationship with a donor, prospect, volunteer, client or employee for the benefit of the members or the members' organizations.
5. Members shall comply with all applicable local, state, provincial and federal civil and criminal laws.
6. Members recognize their individual boundaries of competence and are forthcoming and truthful about their professional experience and qualifications and will represent their achievements accurately and without exaggeration.
7. Members shall present and supply products and/or services honestly and without misrepresentation and will clearly identify the details of those products, such as availability of the products and/or services and other factors that may affect the suitability of the products and/or services for donors, clients or nonprofit organizations.
8. Members shall establish the nature and purpose of any contractual relationship at the outset and will be responsive and available to organizations and their employing organizations before, during and after any sale of materials and/or services. Members will comply with all fair and reasonable obligations created by the contract.
9. Members shall refrain from knowingly infringing the intellectual property rights of other parties at all times. Members shall address and rectify any inadvertent infringement that may occur.
10. Members shall protect the confidentiality of all privileged information relating to the provider/client relationships.
11. Members shall refrain from any activity designed to disparage competitors untruthfully.

SOLICITATION AND USE OF PHILANTHROPIC FUNDS

12. Members shall take care to ensure that all solicitation and communication materials are accurate and correctly reflect their organizations' mission and use of solicited funds.
13. Members shall take care to ensure that donors receive informed, accurate and ethical advice about the value and tax implications of contributions.
14. Members shall take care to ensure that contributions are used in accordance with donors' intentions.
15. Members shall take care to ensure proper stewardship of all revenue sources, including timely reports on the use and management of such funds.
16. Members shall obtain explicit consent by donors before altering the conditions of financial transactions.

PRESENTATION OF INFORMATION

17. Members shall not disclose privileged or confidential information to unauthorized parties.
18. Members shall adhere to the principle that all donor and prospect information created by, or on behalf of, an organization or a client is the property of that organization or client and shall not be transferred or utilized except on behalf of that organization or client.
19. Members shall give donors and clients the opportunity to have their names removed from lists that are sold to, rented to or exchanged with other organizations.
20. Members shall, when stating fundraising results, use accurate and consistent accounting methods that conform to the appropriate guidelines adopted by the American Institute of Certified Public Accountants (AICPA)* for the type of organization involved. (* In countries outside of the United States, comparable authority should be utilized.)

COMPENSATION AND CONTRACTS

21. Members shall not accept compensation or enter into a contract that is based on a percentage of contributions; nor shall members accept finder's fees or contingent fees. Business members must refrain from receiving compensation from third parties derived from products or services for a client without disclosing that third-party compensation to the client (for example, volume rebates from vendors to business members).
22. Members may accept performance-based compensation, such as bonuses, provided such bonuses are in accord with prevailing practices within the members' own organizations and are not based on a percentage of contributions.
23. Members shall neither offer nor accept payments or special considerations for the purpose of influencing the selection of products or services.
24. Members shall not pay finder's fees, commissions or percentage compensation based on contributions, and shall take care to discourage their organizations from making such payments.
25. Any member receiving funds on behalf of a donor or client must meet the legal requirements for the disbursement of those funds. Any interest or income earned on the funds should be fully disclosed.

A Donor Bill of Rights

PHILANTHROPY is based on voluntary action for the common good. It is a tradition of giving and sharing that is primary to the quality of life. To ensure that philanthropy merits the respect and trust of the general public, and that donors and prospective donors can have full confidence in the not-for-profit organizations and causes they are asked to support, we declare that all donors have these rights:

I.

To be informed of the organization's mission, of the way the organization intends to use donated resources, and of its capacity to use donations effectively for their intended purposes.

II.

To be informed of the identity of those serving on the organization's governing board, and to expect the board to exercise prudent judgement in its stewardship responsibilities.

III.

To have access to the organization's most recent financial statements.

IV.

To be assured their gifts will be used for the purposes for which they were given.

V.

To receive appropriate acknowledgement and recognition.

VI.

To be assured that information about their donations is handled with respect and with confidentiality to the extent provided by law.

VII.

To expect that all relationships with individuals representing organizations of interest to the donor will be professional in nature.

VIII.

To be informed whether those seeking donations are volunteers, employees of the organization or hired solicitors.

IX.

To have the opportunity for their names to be deleted from mailing lists that an organization may intend to share.

X.

To feel free to ask questions when making a donation and to receive prompt, truthful and forthright answers.

D E V E L O P E D B Y

Association of Fundraising Professionals (AFP)
Association for Healthcare Philanthropy (AHP)
Council for Advancement and Support of Education (CASE)
Giving Institute: Leading Consultants to Non-Profits

E N D O R S E D B Y
(in formation)
Independent Sector
National Catholic Development Conference (NCDC)
National Committee on Planned Giving (NCPG)
Council for Resource Development (CRD)
United Way of America

	Giving levels (arbitrary)	(general rule of thumb)	Total needed from each giving level	Number of donations at this level to meet the goal	Number of prospects needed at this level (Using rule of thumb of 1 gift per 9 prospects)
1	$5,000,000	10%	$5,000,000	1	9
2	$2,500,000	10%	$5,000,000	2	18
3	$1,000,000	10%	$5,000,000	5	45
4	$500,000	10%	$5,000,000	10	90
5	$250,000	10%	$5,000,000	20	180
6	$100,000	10%	$5,000,000	50	450
7	$50,000	10%	$5,000,000	100	900
8	$25,000	10%	$5,000,000	200	1800
9	$10,000	10%	$5,000,000	500	4500
10	$5,000	10%	$5,000,000	1000	9000
		Total:	**$50,000,000**	**Total # Prospects for Campaign:**	**16992**

	Giving levels (arbitrary)	(based on database)	Total needed from each giving level	Number of donations at this level to meet the goal	Actual gift/prospect ratio	Number of prospects needed at this level (Using rule of thumb of 1 gift per 9 prospects)	Additional prospects needed (as opposed to general model)
1	$5,000,000	10%	$5,000,000	1	5.0%	20	11
2	$2,500,000	10%	$5,000,000	2	11.0%	18	0
3	$1,000,000	10%	$5,000,000	5	10.0%	50	5
4	$500,000	10%	$5,000,000	10	9.0%	111	21
5	$250,000	10%	$5,000,000	20	11.5%	174	-6
6	$100,000	10%	$5,000,000	50	10.0%	500	50
7	$50,000	10%	$5,000,000	100	11.0%	909	9
8	$25,000	10%	$5,000,000	200	7.0%	2857	1057
9	$10,000	10%	$5,000,000	500	12.0%	4167	-333
10	$5,000	10%	$5,000,000	1000	12.5%	8000	-1000
		Total:	**$50,000,000**		**Total # Prospects for Campaign:**	**16806**	

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Table 1.1. Mailing to 100,000 prospects without statistical modeling

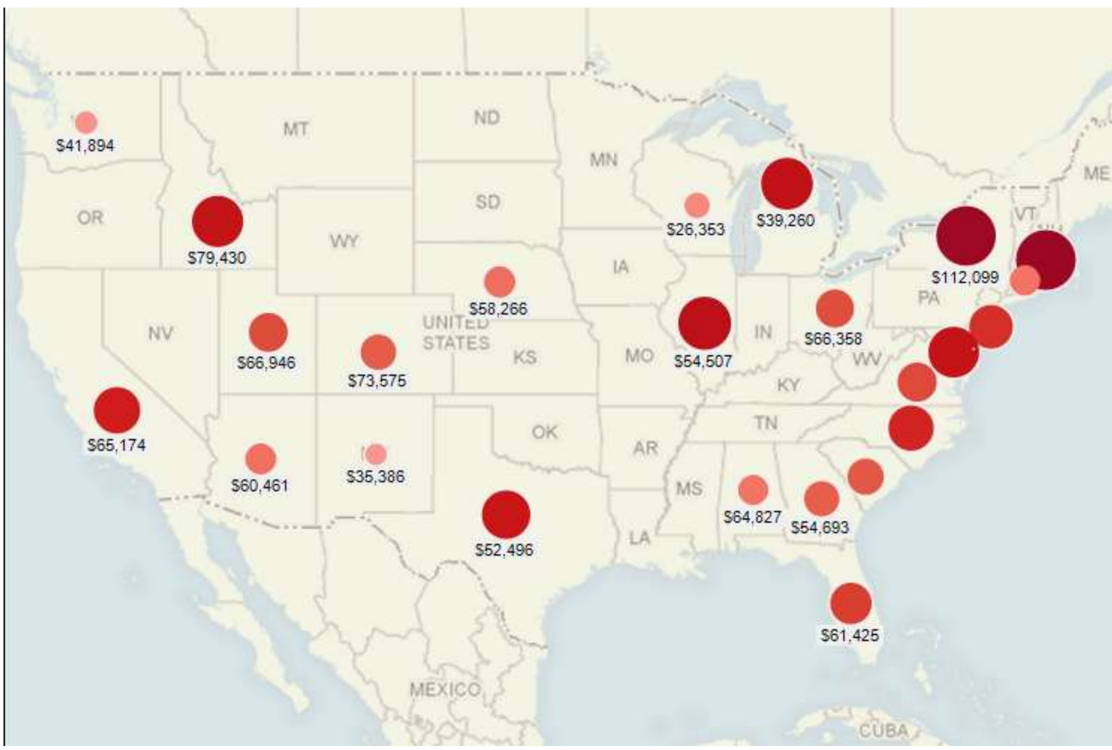
	Response rate	Responses	Gross revenue (Responses x $40 average gift)	Mailing cost ($1 per piece)	Net revenue (gross revenue – mailing cost)	Revenue per piece mailed (net revenue/ number mailed)
First appeal: 100,000	100,000 @ 5.5%	5,500	$220,000	$100,000	$120,000	$1.20
Second appeal: 100,000	100,000 @ 2.75%	2,750	$110,000	$100,000	$10,000	$0.10
Total		8,250	$330,000	$200,000	$130,000	$0.65

Table 1.2. Mailing to 100,000 prospects with statistical modeling

	Response rate	Responses	Gross revenue (Responses x $40 average gift)	Mailing cost ($1 per piece)	Net revenue (gross revenue – mailing cost)	Revenue per piece mailed (net revenue/ number mailed)
First appeal: 80,000	10,000 @ 10%	1,000	$208,000	$80,000	$128,000	$1.60
	10,000 @ 9%	900				
	10,000 @ 8%	800				
	10,000 @ 7%	700				
	10,000 @ 6%	600				
	10,000 @ 5%	500				
	10,000 @ 4%	400				
	10,000 @ 3%	300				
Second appeal: 50,000	10,000 @ 5%	500	$80,000	$50,000	$30,000	$0.60
	10,000 @ 4.5%	450				
	10,000 @ 4%	400				
	10,000 @ 3.5%	350				
	10,000 @ 3%	300				
Total		7,200	$288,000	$130,000	$158,000	$1.21

(Wylie, 2008 p. 9)

Input variables	Coefficient	Std. Error	p-value	Odds	95% Confidence Interval	
Constant term	0	2.16737223	0	2.75551E-06	2.6569E-06	2.85411E-06
Age	-0.04461157	0.08051153	0.57950926	0.95636886	0.81675893	1.11984253
Experience	0.05816582	0.07969882	0.46549997	1.05989075	0.90661174	1.23908424
Income	0.05698515	0.00351325	0	1.05864012	1.05137551	1.06595492
Family	0.62984651	0.09647165	0	1.87732232	1.55389631	2.26806593
CCAvg	0.11668219	0.05372836	0.02987786	1.12376225	1.01144147	1.24855614
Education	1.80500054	0.15606253	0	6.07997465	4.4777627	8.25548172
Mortgage	0.00141519	0.0007293	0.05232161	1.00141621	0.99998581	1.00284863
Securities Account	-0.8171795	0.37658975	0.03001092	0.44167566	0.21112987	0.92396867
CD Account	3.56768751	0.41729182	0	35.43455887	15.63967037	80.28353119
Online	-0.70467436	0.21116103	0.00084645	0.49426949	0.32675573	0.74766046
CreditCard	-1.10061717	0.26931652	0.00004375	0.33266568	0.19622998	0.56396306



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