EQUITY DECISION SYSTEMS

Using Donor IQ® to Improve Net Donations

Improve Direct Mail Fundraising Campaigns with Advanced Predictive Models

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Introduction

Direct mail fundraising involves making millions of decisions annually to raise the most money. If a fundraiser makes those decisions correctly, it can greatly improve net donations. If a fundraiser makes those decisions incorrectly, net donations will suffer. The key to making these decisions intelligently requires tapping into the massive amount of data that a fundraiser collects and applying advanced analytical techniques to predict who will respond favorably to a mailing. DonorIQ brings fundraising analytics to a new level by making the most of each decision using proprietary predictive modeling techniques to provide the best results for each direct mail fundraising campaign.

DonorIQ's foundation is data; fortunately every direct mail fundraiser has a massive amount of data. Every time a person is sent a piece of mail, information is gained. If the individual responds or does not respond, information is gained. The detailed contents of the mail and the type of mailing are both pieces of information that can be used to give a fundraiser an edge. Some individuals are sent many pieces of mail over a period of time while others are sent relatively few pieces of mail. The speed in which a person responds or chooses not to respond also allows the fundraiser to learn more about its prospective pool of donors. Learning an individual's response to a mailing, lack of response to a mailing, the pattern of mailings, the source of the name, and other factors about the mailing can help predict a person's future behavior.

Many fundraisers currently use simple criteria to determine who to solicit, such as

- all individuals who donated in the previous 12 months or
- individuals who are demographically similar to other donors

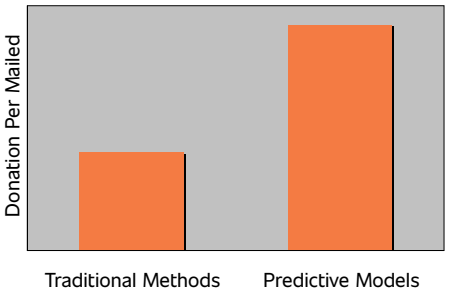
While such information may be weakly associated with identifying the right individuals, the fundraiser is selling itself short by not tapping into the full potential of its data. DonorIQ raises the bar of a fundraisers potential by making full use of its data.

Traditional Methods in Choosing House Mail

Donated more than $25 in the last 6 months

Advantage of Predictive Models

Patterns from millions of records and donation histories used to optimally choose those likely and with the highest capacity to donate



Predictive Models use data about the past to make predictions about the future. Using full solicitation and donation histories predict future outcomes better than demographic based approaches.

Predictive Models in DonorIQ

The goal of predictive modeling is simple: given all of the information available, predict with as much accuracy as possible a future outcome. Many companies claim to use fundraising analytics, but using predictive models on all available data raises the bar on simple analytics. There are a variety of statistical modeling techniques that can be used to predict the future outcome and the choice of one over the other depends of the type of outcome one is trying to predict and the data available. The science behind predictive models has been successfully applied in many industries such as marketing, financial, insurance, retail, telecommunications, internet, advertising, pharmaceutical, and many others. DonorIQ utilizes cutting edge methodology that has proven to work in such industries and is now showing a clear advantage over traditional methods used in direct mail fundraising.

Predictive models utilize information about the past to predict future events. For fundraising, this information can include a wide range of characteristics about the individuals who are being considered for a mailing. Variables derived from their solicitation and donation history, as well as information such as census data and demographic factors. Putting all of this information together using advanced statistical techniques forms the foundation of DonorIQ.

DonorIQ identifies the best candidates for a mailing campaign by answering the following questions:

- How likely is this person to donate to the current campaign?
- If he/she donates, how much money is he/she likely to donate?
- If he/she donates, how much in net donations is he/she going to contribute over his/her lifetime?

By considering these three factors, a fundraiser can insure the three major goals of fundraising. One, that their prospecting campaigns are profitable; Two, that profitable individuals flow through to their house files; Three, that the individuals being added to their house files will produce a positive lifetime value once the cost to mail is considered.

The proprietary predictive models used in DonorIQ have the power to process and detect patterns in hundreds of millions of solicitations and donations. The statistical models are built to analyze the behavior of each unique individual and his/hers propensity to donate. Because the models use a unique set of profiles for every individual, the models are not specific to the type of fundraiser. For example, non-profit, for-profit, and advocacy-based fundraisers will all benefit from DonorIQ.

Most fundraisers maintain data on donors, but little attention is paid to keeping a history of solicitations. Donor IQ uses full solicitation and donation history to determine an individual•s patterns of response to all mailings.

Tapping Fundraising Data

Many fundraisers are organized to send mail and receive donations, but not to maintain a database of all solicitations and donations. Most keep an up-to-date donations database which they utilize in selecting future donors, but many simply archive their solicitation files and make no further use of this data. Additionally, most apply the national change of address database (NCOA), but may neglect to track address histories which are important in constructing predictive models.

Utilizing all of this data can help differentiate between two individuals that may otherwise seem similar. For example, consider the following two individuals:

- **Person 1**: Donated once in the past 12 months for $45 total.
- **Person 2**: Donated once in the past 12 months for $45 total.

Using traditional approaches, both individuals are identical. However, when additional information is added from the solicitation files, these two individuals will quickly be differentiated.

- **Person 1**: Donated once in the past 12 months for $45 total and has been sent mail 2 times in the last 12 months.
- **Person 2**: Donated once in the past 12 months for $45 total and has been sent mail 100 times in the past 12 months.

Using the additional data, person 1 now has a higher rate of donation and is likely to be a better candidate. This example shows a simple illustration of how additional information can be used to improve decisions; DonorIQ goes far beyond this simple example by evaluating hundreds of potential pieces of information to determine an individual•s likelihood of response to a mailing.

The foundation of DonorIQ is the full solicitation and donation history. The full history is used to build a complex and complete profile on every donor and solicited individual in the database. Putting the data together and organizing it into a form which can be utilized is no small feat. While address standardization software and the national change of address (NCOA) can help organize and send out the latest mailing list for a campaign, they are not designed to support a database with hundreds of millions of mailings which span multiple years. For example, if you sent a solicitation to Mark C. Smith at 123 Main Street, Irvine, CA 92603 and received mail from M.C Smith and 124 Main St., Irvine, CA 92902

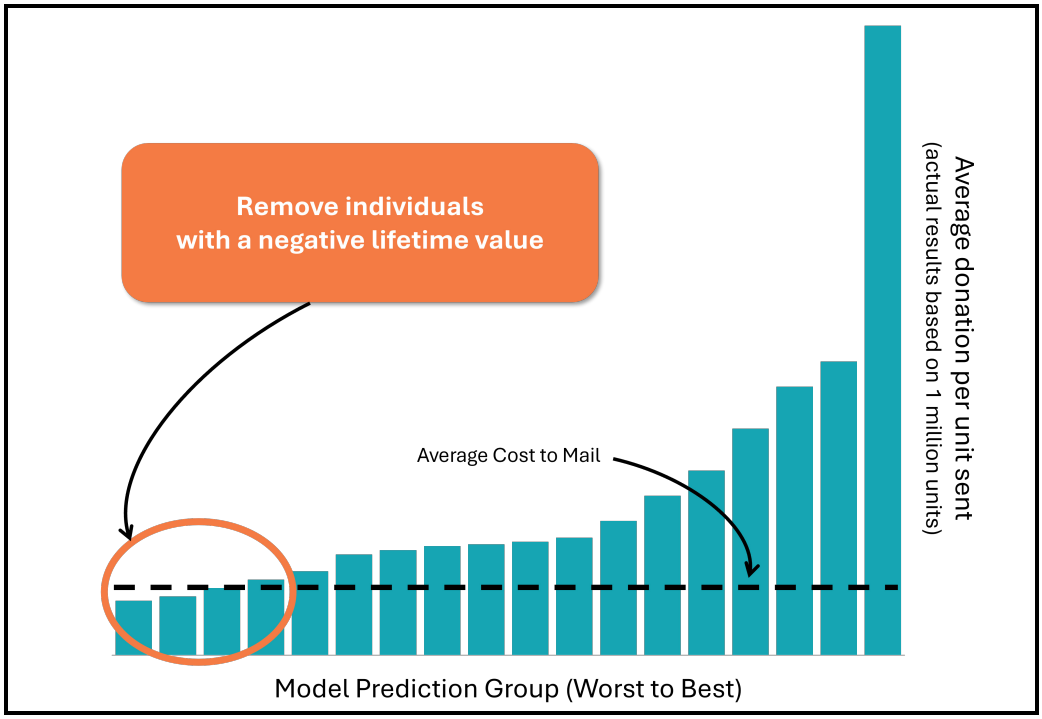
The value in any system which selects individuals can only be determined through testing. During the setup of Donor IQ, tests of house mailing and prospect mailing campaigns are used to evaluate the improvements in net donations.

address standardization may not be able to tie the two together due to the differing zip code, name, and street address. DonorIQ uses proprietary algorithms to tie together solicitations and donations by creating a unique ID to identify an individual. The algorithms have the capability of finding "like" names and "like" addresses and creating a list of all known aliases and addresses tied to a single individual. By overcoming this obstacle and organizing the fundraising data into a sequential and complete history of all solicitations and donations, DonorIQ overcomes the problem of disjoined data/information facing most fundraisers and is able to process the complete and full profile of a prospective donor.

Determining the Value of DonorIQ

There are many companies and products that claim to improve donations. However, the true value of a system like DonorIQ is determine through carefully controlled tests which measure how it compares to a traditional or currently used approach.

Chart 1: Donor IQ Impact on Prospect List



The value of DonorIQ comes from few sources. On a prospect mailing, DonorIQ can recommend a portion of the list to which the fundraiser should not mail. This portion of names has been indicated by DonorIQ to have a negative impact on net donations. Removing these names

Assuming a fundraiser sends 50 Million pieces of prospect mail annually, a 5 cent increase in net donations per piece of mail sent translates into $2.5 Million in annual increase to net donations.

from the mailing saves the fundraiser mailing costs thereby increasing the overall net donations of the remaining mailed list.

Chart 1 illustrates this concept well. It is based on real data from an anonymous client using DonorIQ. In this case, a list of 1 Million names was processed through DonorIQ and all individuals were placed into one of twenty groups, ranging from the worst to best DonorIQ ranking. As noted in the chart, the bottom four groups, 20% of the one million names, would negatively impact net donations and should not be sent mail.

For prospect mailings the value of DonorIQ is not only reducing costs and improving net donations, but also ensuring that the individuals who donate and flow through to the house list are actually profitable. The prospects identified by DonorIQ are more likely to have improved life time value for the client.

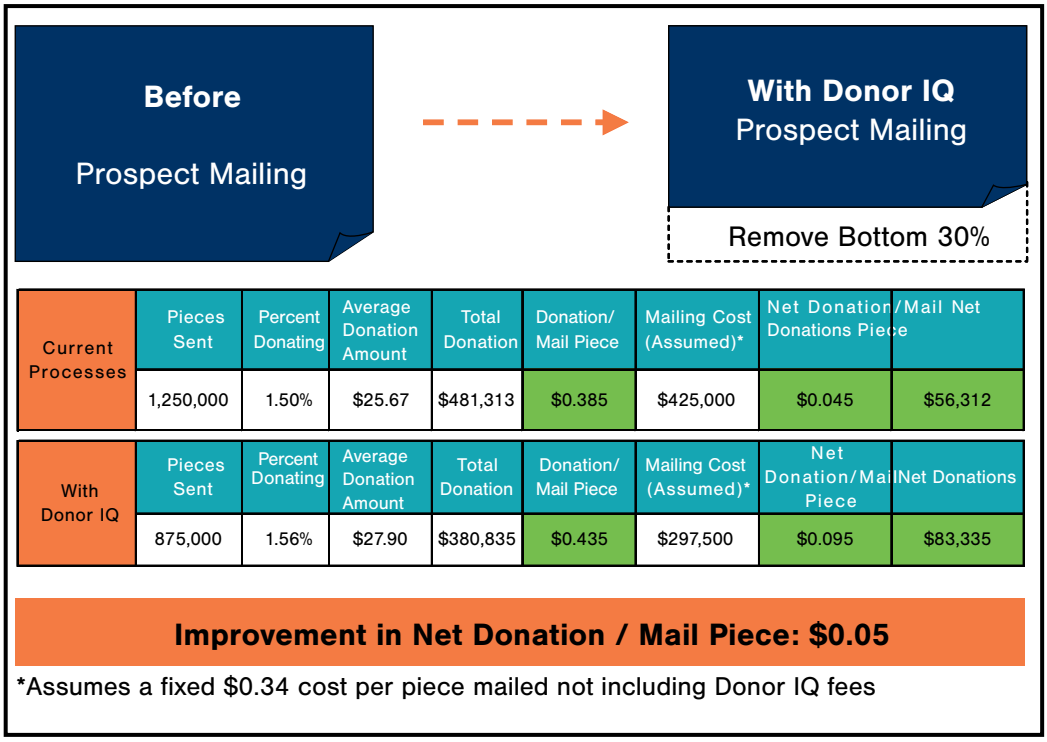
The value of DonorIQ on house mailings is very clear. DonorIQ selects from the entire house list those individuals who have the highest likelihood and capacity to donate. DonorIQ retains those individuals who have already donated, finds those individuals who are most likely to upgrade their donation amount, and re-engages those donors who have donated in the past. DonorIQ also determines the optimal spacing between mailings to an individual in order to maximize response.

The value attributed to DonorIQ can be determined on a prospect mailing and a house mailing. On both types of mailings, the value determination is based on the concept of comparing DonorIQ selection process to current processes used by the fundraiser. Many tests of value can be conducted; described below are the two most basic and direct ways of assessing value.

Prospect Mailing Value Determination

To determine the value of DonorIQ on a prospecting campaign, the fundraiser acquires, exchanges, or rents a list of names to be mailed. These individuals are processed through DonorIQ and receive a rank which represents the prospects likelihood to donate. The list is then delivered back to the fundraiser marking the top 70% and bottom 30%, (or other suitable mixture of individuals in terms of their donation propensity and capability). For the test, both the top 70% and the bottom 30% are mailed. In the weeks that follow, the donations, costs, and net donations of the two groups are compared (see Figure 1).

Figure 1: Prospect Value Measurement



	Pieces Sent	Percent Donating	Average Donation Amount	Total Donation	Donation/ Mail Piece	Mailing Cost (Assumed)*	Net Donation/Mail Net Donations Piece	
Current Processes	1,250,000	1.50%	$25.67	$481,313	$0.385	$425,000	$0.045	$56,312

	Pieces Sent	Percent Donating	Average Donation Amount	Total Donation	Donation/ Mail Piece	Mailing Cost (Assumed)*	Net Donation/Mail Piece	Net Donations
With Donor IQ	875,000	1.56%	$27.90	$380,835	$0.435	$297,500	$0.095	$83,335

Improvement in Net Donation / Mail Piece: $0.05

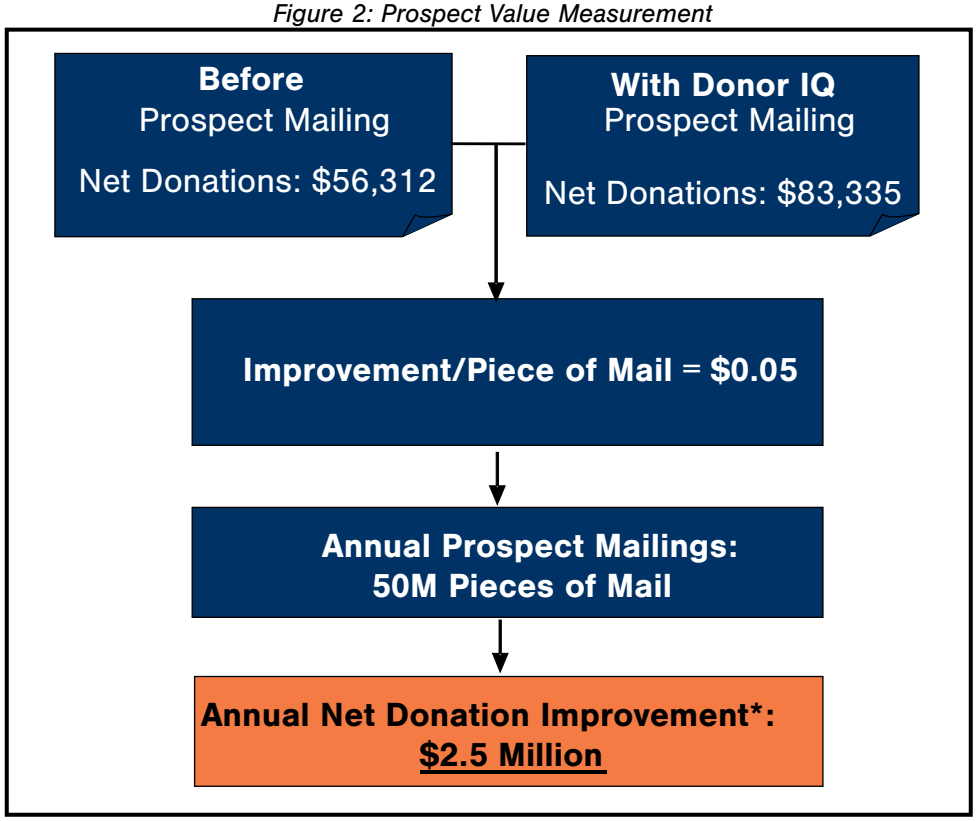
*Assumes a fixed $0.34 cost per piece mailed not including Donor IQ fees

The top table in Figure 1, with 1,250,000 pieces sent, represents the combination of the top 70% and the bottom 30% of individuals evaluated. This group represents the mail that would have been sent had DonorIQ not been used to evaluate the solicitation list. The original list had net donations of $0.045 (4.5 cents) for each piece of mail sent.

The lower table in Figure 1, with 875,000 pieces sent, represents the top 70% of individuals that DonorIQ evaluated and recommended for mailing. The reduced list had net donations of $0.095 (9.5 cents).

A comparison between the two groups shows an increase to net donations of 5 cents per piece of mail sent. While 5 cents may seem like a small gain, this amount adds up quickly over the millions of pieces of mail most fundraisers send. Figure 2 illustrates the annualized impact of this improvement.

Figure 2: Prospect Value Measurement



* Before Donor IQ fees Considered

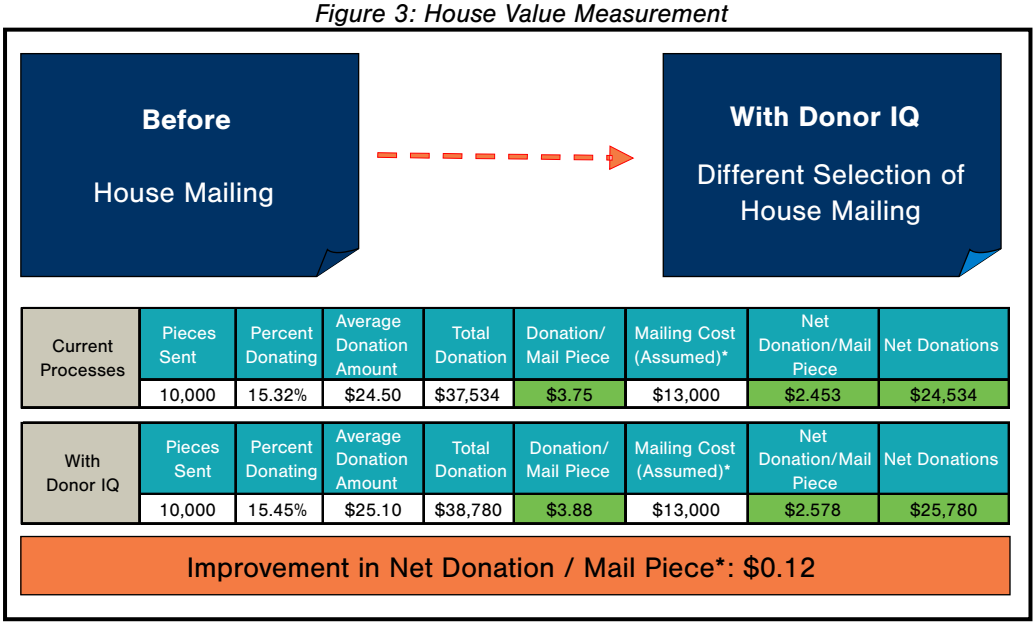
Assuming the fundraiser mails 50 Million pieces of prospect mail annually, a $0.05 increase in net donations per mail sent translates into nearly $2.5 Million in annual increase to net donations before DonorIQ fees are factored in. DonorIQ fees are always a fraction of any gain which can be demonstrated.

House Mailing Value Determination

For a house mailing, a similar test is conducted to determine the value of DonorIQ. The fundraiser determines the number of pieces of mail desired for the specific house mailing. The fundraiser then selects individuals from the house list to mail to using their current processes. At the same time, DonorIQ selects the same number of individuals from the house list. The two groups are compared as illustrated in Figure 3.

Assuming a fundraiser sends 10 Million pieces of house mail annually, a 12 cent increase in net donations per piece of mail sent translates into $1.2 Million in annual increase to net donations.

Figure 3: House Value Measurement



Current Processes	Pieces Sent	Percent Donating	Average Donation Amount	Total Donation	Donation/ Mail Piece	Mailing Cost (Assumed)*	Net Donation/Mail Piece	Net Donations
	10,000	15.32%	$24.50	$37,534	$3.75	$13,000	$2.453	$24,534

With Donor IQ	Pieces Sent	Percent Donating	Average Donation Amount	Total Donation	Donation/ Mail Piece	Mailing Cost (Assumed)*	Net Donation/Mail Piece	Net Donations
	10,000	15.45%	$25.10	$38,780	$3.88	$13,000	$2.578	$25,780

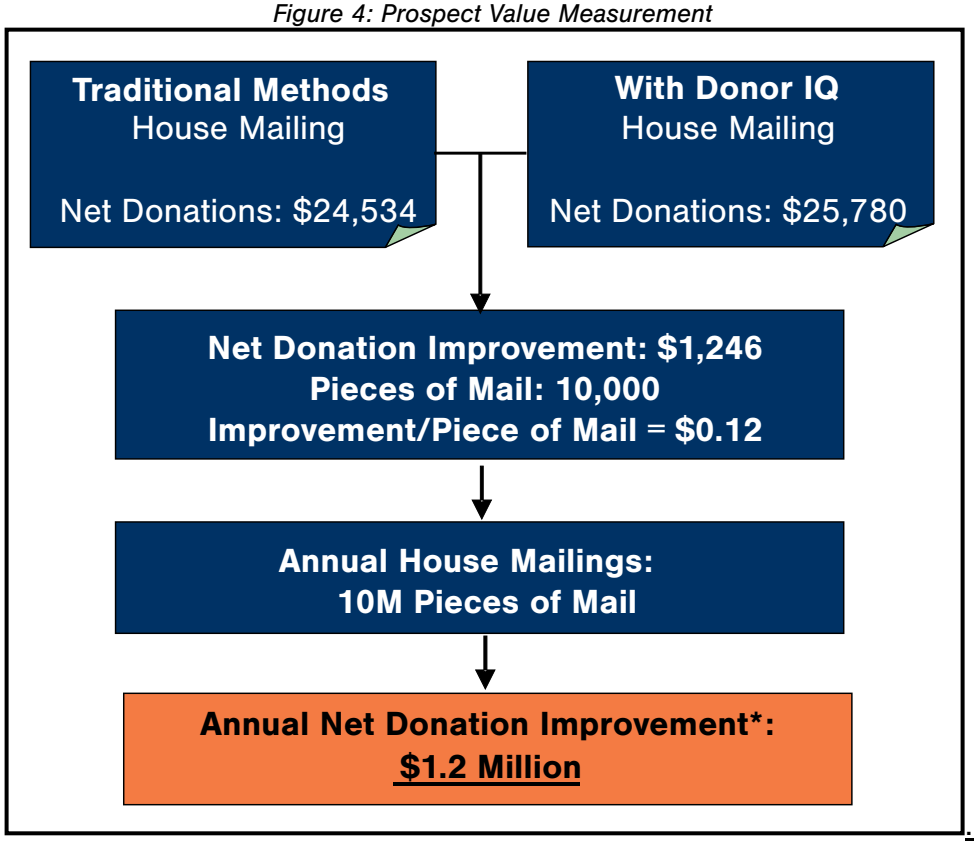
Improvement in Net Donation / Mail Piece*: $0.12

* Before Donor IQ fees are considered

The top table in Figure 3 represents the 10,000 records chosen using typical methods currently used by the fundraiser to select individuals for a house mailing. The traditional method, in this example, shows a net donation amount of $2.453 per piece of mail sent.

The bottom table in Figure 3 represents the 10,000 records chosen using DonorIQ. The individuals selected by DonorIQ, in this example, show a net donation amount of $2.587 per piece of mail sent.

Figure 4: Prospect Value Measurement



* Before Donor IQ fees are considered

DonorIQ Setup

The setup process of Donor IQ is as follows:

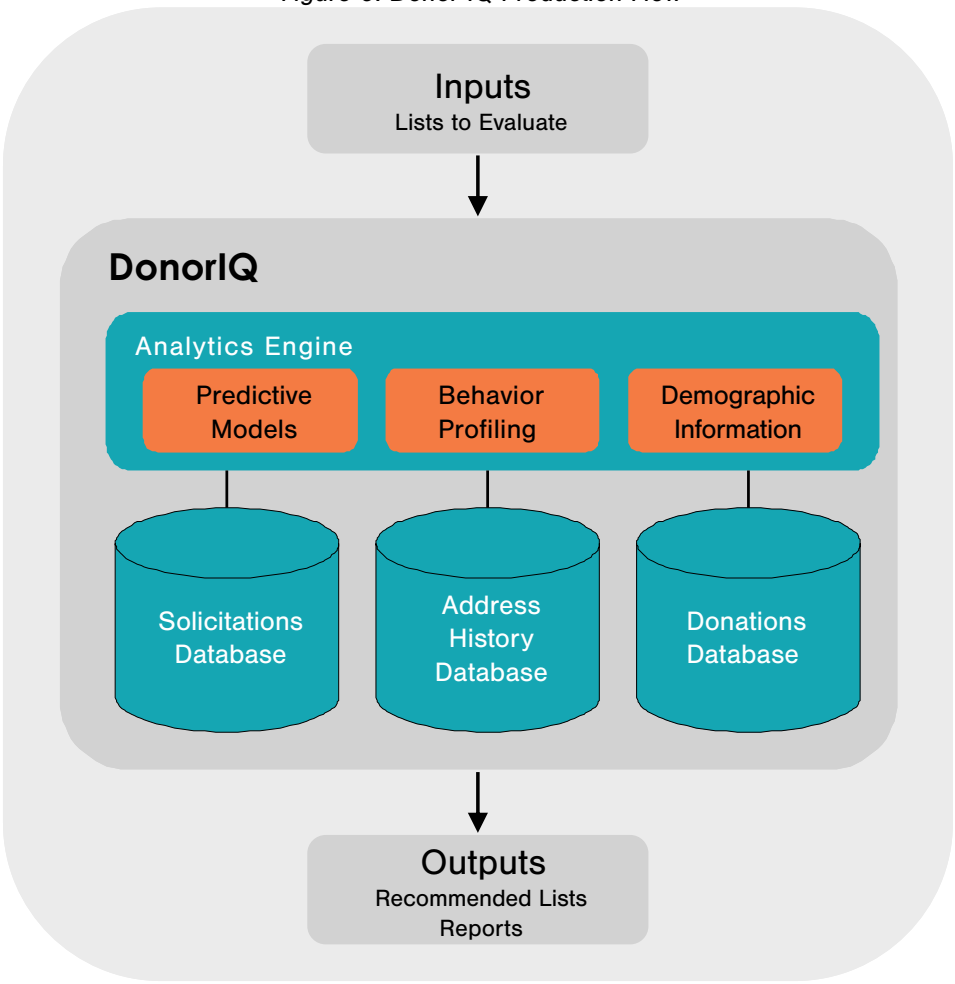
- **Data Collection** • Fundraiser provides historical solicitation and donation files. 2 years of historical data or more is ideal to customize the models to the fundraiser.
- **Model Building** • predictive models are constructed from an in depth analysis of the solicitations, donations, demographic data, and other available data sources. The models are customized for each fundraiser.
- **Live Testing** • Using the customized predictive models, tests are run to determine the value of the predictive models on house and prospect mailing campaigns.
- **Integration** • Donor IQ is integrated into the current processes as a stand-alone system that resides at the fundraiser•s headquarters, or is hosted by EQDS. In both cases the

Setting up and using DonorIQ is simple. EQDS will either install a workstation on site or host it for you. You provide files for evaluation and DonorIQ provides back recommendations and reports.

maintenance and update of the product is taken care of by EQDS and will not require additional resources from the client.

Once DonorIQ has been deployed, current processes need to change minimally to accommodate DonorIQ; lists are simply sent through DonorIQ prior to mailing (see Figure 5).

Figure 5: Donor IQ Production Flow



There are a number of standard reports that are generated from the system and custom reports can be added as well. For a prospect mailing, the proposed list is sent to DonorIQ for evaluation and recommendations; removal of names with low probability of donation or selection of names with high probability of donation. For a house mailing, the number of pieces of mail desired is passed to DonorIQ along with the Client/Cause and DonorIQ selects the appropriate individuals that should be mailed.

About Us

Equity Decision Systems is headquartered in Orange County, CA and specializes in designing, building, implementing, and monitoring machine learning and artificial intelligence models for companies of all sizes.

We are experts in handling complex data, building machine learning and artificial intelligence systems, and integrating the solution and analytics into your organization. Our data scientists have experience working with more than 100 Fortune 1000 companies and government agencies in various industries, including: retail, criminal justice, healthcare, fundraising, insurance, mortgage, financial services, and marketing.

We work closely with our customers to create end-to-end solutions which produce a positive return on investment.

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