CHAPTER 1

Overview of Fundraising Analytics

There is a fundamental change emerging in 21st-century fundraising. This change is not driven by increasingly sophisticated nonprofit organizations; nor is it propelled primarily by the integration of MBAs or other smart people into the sector. Not even the compelling need for support of worthy causes produced this evolutionary leap. In fact, it is the most important component of the philanthropic partnership that is moving us forward: We are changing because of our donors.

Donors approach philanthropy in a completely different way. They make decisions more thoughtfully. Their gifts follow their own intended purposes. Donors seek a return on their philanthropic investments. And they desire an increased level of personalization.

Organizations embracing this change are climbing a mountain of success without zenith, while others, forcing their own models onto their donors, are fighting in the foothills. In this time of great wealth and generosity, I wish the mountain of success for you. But more importantly, I wish to see the worthy causes you represent feed our world, educate our children, wipe out horrible diseases, and accomplish many good things. That is why I wrote this book.

As a fundraising strategist and student of philanthropy, I see tools and techniques consistently produce wonderful results. I have seen these same tools and techniques fail. When we put our hope in devices and skills without an appropriate focus on donors, we rarely succeed. As I present an approach to using *data* to guide strategy, I hope you realize that I really intend for you to use *people* to guide strategy. But these are not just

any people. These are the people who care passionately for what you do. Likely, you share this passion, or you would not be where you are.

Every person has a thing, a person, or an idea they cherish. For most people, there are many things, people, and ideas. Things might include home, community, or an heirloom. People might include significant other, children, all children, or the poor. Ideas might include peace, education, religion, artistic expression, and health. This treasured grouping of things, people, and ideas might be called a person's *value portfolio*.

Everything a person does in life in guided by his or her value portfolio. It is the reason people work. It is the object of their leisure. It is what they pass on to their children. And, most importantly for this book, it is the beneficiary of their philanthropy. Donors do not give to you; they give to their value portfolios.

Every nonprofit organization also has a value portfolio. This is the purpose of what they do. This is the reason they exist. This is where they spend the gifts they are given. When the value portfolios of a donor and an organization align, an interchange of investment and impact is the result. This is the key to successful, major gift fundraising.

Obviously, using this key requires something of us. First of all, we need to understand the value portfolios of our donors. Next, we need to understand the value portfolio of our organization. Then, we need to bring them together.

Analytics is a suite of metrical tools and techniques for understanding the past and projecting the future. For analytics to be effective, we must use it in the context of our work. Most importantly, it must be used in the context of our donors.

We can use analytics to understand the value portfolios of our donors. Why do they give to us? Who is most aligned to our value portfolio and warranting attention? Which field officers most effectively position which portions of the value portfolio? Which prospects have other or even contrasting values? Are we spending the right time with the right prospects using the right field officers?

We can use analytics to understand our fundraising programs. How do we spend our time? Which of these tasks contribute to increased giving? Which tasks detract from fundraising success? Are we subject to the right metrics? Are we using metrics at all?

We can use analytics to pave our road for the future. Which prospects will be our top donors 10 years from now? How many new field officers should

we hire? Will our infrastructure support this growth? What should our campaign goal be? Is it attainable? What are the factors for our success?

Using data to guide strategy is more than just database technology. It is the core of what we do. Essentially, we are using people to guide strategy. We are using our values to guide strategy. We are using the values of our people to guide strategy. And, most importantly, our strategy is grounded in facts, not assumptions.

Defining Analytics

In the fundraising industry, many diverse definitions of *analytics* can be found. Largely, this is because many vendors doing business in the nonprofit market describe their product offerings as analytics. Often, each vendor offers a portion of the broader services generally associated with the term. Some vendors provide predictive modeling in combination with database screening services. Others may conduct market research studies to determine attitudes and giving motivations. And still others provide metrical assessments of annual giving or membership programs. All of these services are analytics, but rarely do you see all of these services in one place.

I would describe analytics as a suite of statistical tools and techniques used to:

- Analyze constituencies
- Build models to predict constituent behaviors
- Make organizational decisions by:
  - Evaluating program performance
  - Projecting future program performance

It is likely you have heard many accounts of corporations analyzing their customer base. Corporations such as Best Buy, J.P. Morgan, and Volkswagen have conducted thorough analyses of who purchases their products and services and why they make these purchases. These descriptive analytics studies generally focus on demographics, geography, behaviors, transactional history, and interests. The goals of these projects are to produce a taxonomy of key groups. Then they market and engineer their products and services with these taxonomies in mind.

When a higher education development office develops custom strategies for alumni, young alumni, community members, and faculty, they

are using similar customization. When a health care organization approaches patients differently than community donors, they also use similar customization. However, these are natural organizational segments. There may be many other derived segments informed by demographic characteristics, entry points, giving motivations, occupation, industry, and affinities. These characteristics may warrant revised segmentation strategies.

Many of us most often interact with a predictive model when we seek financial services. The credit score or FICO score, named for the Fair Isaac Corporation, is an everyday example of a predictive model. These scores predict a statistical likelihood of loan repayment. As a result of analysis of the characteristics of those who do and do not pay back loans, the credit score statistically predicts how likely you are to pay back your loan. When a lender chooses to give you a loan, they made the decision based on your financial ability and likelihood to pay.

In fundraising, major gift officers assess their portfolios according to financial ability, or *capacity,* and the likelihood of making a major gift. This likelihood is informed by the prospect's connection to the organization and/or an alignment of interests between the organization and prospect (matching value portfolios). This assessment is made through interpersonal interaction. Prospect researchers will also seek out capacity and likelihood information in their data gathering and interpretation. Also, at the individual level, prospect research informs the capacity to give and the likelihood of making a major gift. However, unlike the financial services industry, most organizations filter their base using transactional history (previous giving) and/or capacity information alone. The concept of likelihood is rarely used to prequalify potential donors in advance of prospect research or even roll-out to the frontline gift officers.

Not long ago, large banking corporations needed ways to assess the performance of many branches using simple yet very relevant reports. The result of this need was the emergence of scorecards. These one-page reports highlighted the key areas of performance as they related either directly or indirectly to branch success. An executive could quickly compare branches using these documents.

If you are a baseball fan, you can quickly determine how teams and specific players are performing by reviewing statistics in the newspaper.

These similar analytics strategies may also be used to gauge the effectiveness of your fundraising program. If you monitor your acquisition, renewal, and reactivation rates, you are using statistics as a performance monitor. Are you also considering the yield rates of your gift officers, the ratio of ask amounts to capacity ratings, the production efficiency of your prospect researchers, or the diversification of your prospect portfolios? Some sophisticated fundraising organizations are developing scorecards of their own to monitor gift officer and program performance. These scorecards, more commonly known as *dashboards* in this industry, can be very effective if the metrics truly indicate performance.

When very large and complex corporations make budgetary decisions, they need to account for knowns and unknowns. For example, they must consider employee turnover rates, changes in market demand, variation in the stock market, shifting energy prices, competitor penetration, and so on. To prepare for the possibilities, they will incorporate simulation models. These techniques will project what is expected and what might happen, accounting for numerous parameters. Based on these models, they will determine the most likely results based on the scenarios and impact of potential shifts in the parameters.

In determining comprehensive campaign totals, you should consider your knowns and your unknowns. You should consider current production, yields in relation to capacity, the impact of staff turnover, steady income streams (annual giving and membership), variable income streams (major giving), the stock market, giving likelihoods of key constituents, aggregate affinities of the base, and so on.

A substantial difference between the for-profit and the nonprofit use of analytics is who conducts the analysis. Is it in-house or outsourced? Up until about 25 years ago, most campaign management was outsourced to residential consultants. They would come in, manage the campaign, and leave upon its conclusion. Rarely would the campaign management skills develop in-house. Nowadays, consultants, similar to for-profit business consultants, will still typically conduct studies and program audits but will also build internal capacity to manage the campaigns. In analytics, the business world is building this capacity in-house. However, most nonprofits continue to outsource this work. This shift to building internal analytics and data mining programs in-house is very much in its infancy for the nonprofit world.

The Mind of an Analyst

To set the stage for a conversation about analytics, I want to let you into my world. I might think of myself first as a fundraising consultant. Certainly, this is true. I am a consultant with the well-respected national fundraising consulting firm, Bentz Whaley Flessner (BWF). BWF has been behind some of the largest and most influential fundraising campaigns of our era. The thought leadership of this firm has contributed volumes of strategic literature and methodologies for major gift fundraising, prospecting, and relationship management.

I might also call myself a data miner. Certainly, this is true, too. I built predictive models as an analytics professional for the University of Minnesota. I continue to engineer data mining programs throughout the United States. And, I am invited to speak about integrating data mining into the fundraising process throughout the year.

However, I consider myself a student of fundraising. Specifically, I study the economics of fundraising. I have great curiosity in the matters of consequence for the development industry. How do things work? Why do we do what we do? How can we do it better? How can this world be better?

I might be a bit curious about inconsequential things as well. My mother reminds me that as a young child I was very curious. When I was in my primary years of school, I enjoyed overhauling household appliances. In the first grade, I was able to fix our troublesome vacuum cleaner on several occasions. In the fourth grade, I made a radio out of the parts of an old electric organ in my grandfather's garage. In high school, I would create musical instruments out of our household items. I wanted to know how these things worked.

This did not stop as an adult. When I discovered they were making a movie out of a favorite childhood book, *The Lord of the Rings,* I was quite enthused. I requested a vacation day from work for the release date. And, I began to think about the factors for enjoying a film. In fact, I decided to learn about the metrics and build a model to optimize my experience.

I began my "*Lord of the Rings* model" by thinking about the movie-going experience. Often, when I know a lot about the backstory or the history of a movie, I enjoy it more than when I know nothing about it. The atmosphere produced by the people in the room can contribute to the experience. The movie itself needs to have a strong story, convincing

production quality, effective acting, and well-composed music. The setting must provide superior delivery of the audio and visual elements. And the logistics of purchasing tickets, driving to the theater, and waiting in line also can contribute positively or negatively to the experience.

After understanding the movie experience, I needed to determine the data elements related to these various factors. Some of the data elements could not be measured. I needed to make decisions about them based on my personal experience. Other elements were measurable and could be researched. The following table compares the factors to the data elements.

Moviegoing Experience Factors	**Related Data Elements**
The backstory or history	• Quality of initial book • Fan blogs and discussion forums
The people in the room	• Favorite theaters of hard-core movie fans (measurable) • Times different types of moviegoers attend (measurable)
Strong story	• Writers • Source material
Production quality	• Film budget (measurable) • Reports from production magazines • Crew members
Effective acting	• Actors involved • Director
Well-composed music	• Composer
Setting: Audio	• Theater sound system (measurable) • Number of speakers (measurable) • Size of speakers (measurable) • Purchase date of speakers (measurable)
Setting: Visual	• Digital versus film projection (measurable) • Lumen readings on the screen (measurable) • Frequency of changing the projector bulbs (measurable) • Recency of changing the projector bulbs (measurable)

(*Continued*)

Logistics	• Online versus in-person ticket purchasing (measurable) • Estimated wait times for other blockbuster premieres (measurable) • Proximity from home (measurable)

At this point, I felt I had a solid understanding of the moviegoing experience and the related data elements, but I had not yet set the stage for my model. To do this, I had to determine specifically what I wanted to accomplish and how I would prepare the data to do this. Since I had already decided to select this particular movie, my question was about optimizing the experience for a movie I had already selected. This reduced my data elements to items that were neutral as to the selection.

After understanding the movie experience and the data involved, I needed to gather and prepare the data for modeling. I created a spreadsheet and began filling the cells with information. The technology specialists from the various theater chains had never received phone calls of this type. In fact, one specialist told me he would change the bulbs in the Minneapolis-area theaters the week of the release date because I asked!

I combined the data and evaluated my model. I went to the field and tested some theaters on other movies. Some theaters had strong sound systems but small, dark screens. Others had older sound systems with crackling speakers but beautiful visual presentations. A few wonderful theaters were too far for driving home from a midnight showing. This testing helped me narrow in on my ultimate choice. I chose a theater with new bulbs, optimal lumen readings, a new sound system, 12-mile proximity from my house, and an estimated wait time of two and one-half hours (the average for theaters of this caliber was closer to six hours).

Finally, I deployed my model. First, I communicated the results to the various online message boards and blogs to share my success with other Minneapolis-area *Lord of the Rings* fans. Then, I purchased my tickets and waited for about three and one-half hours to see the 12:01 showing. When I watched the movie, I had a wonderful time and left the theater smiling.

Perhaps this level of attention to a movie is overkill and ultimately unnecessary. However, this was a valuable exercise in learning the steps of the Cross Industry Standard Process for Data Mining, or CRISP-DM

(Exhibit 1.1). This process, which I reference several times throughout the book, has six primary steps.

Step 1. *Business Understanding:* Defining the context of the analysis
Step 2. *Data Understanding:* Aligning data elements to the context
Step 3. *Data Preparation:* Gathering and priming the data for analysis
Step 4. *Modeling:* Conducting the analysis
Step 5. *Evaluation:* Determining whether the analysis supports the goal of the business understanding
Step 6. *Deployment:* Implementing the analysis

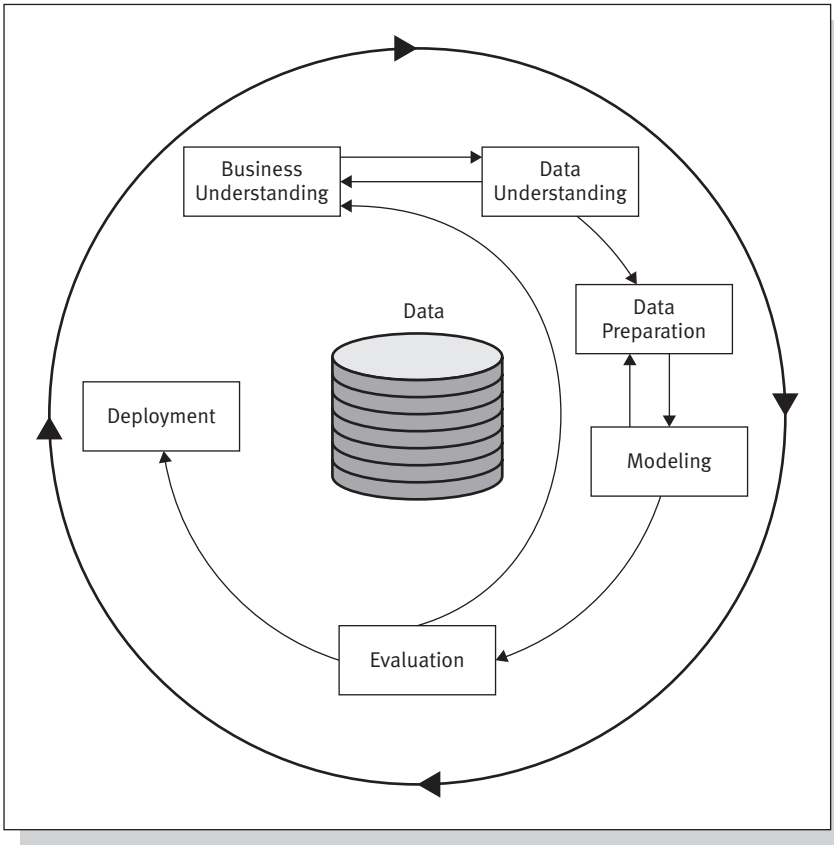

EXHIBIT 1.1 **CROSS INDUSTRY STANDARD PROCESS FOR DATA MINING (CRISP-DM)**

Here is a comparison of the CRISP-DM steps to the *Lord of the Rings* model.

CRISP-DM	Lord of the Rings Model
Business Understanding	Understanding the moviegoing experience
Data Understanding	Understanding the data elements that contribute to this experience
Data Preparation	Refining the data pool and gathering elements
Modeling	Computing the scores
Evaluation	Testing the model by attending various theaters
Deployment	Showtime

This methodology of predictive modeling will become so natural to an analytics professional that projects like the *Lord of the Rings* model will be common. This is the mind of the analyst. Much like how artists use form and function to communicate an idea, analysts use form and function to understand a concept. The best of us are both insanely curious and remarkably methodical. These qualities led J.S. Bach to equal temperament. They instilled the composer, Charles Ives, with an exceptional business mind. They moved Seurat to foreshadow the concept of the pixel. Even video game makers like Valve sought to understand the physics of gravity to make a more realistic game out of *Half Life 2*. These are the same qualities that lead people like Steven Levitt to analyze sumo wrestling, Daniel Pink to study the new conceptual age, and for me to model the *Lord of the Rings*.

Now, take this seemingly inconsequential curiosity and move it into the realm of the consequential. Arguably, among such pursuits, charity is perhaps of the greatest consequence. Human generosity has healed diseases, fed millions of people, and contributed to a better life for all of us. Why do people give? Why do they give to us? Who will never give to us? Why are some charities more successful than others? What can we do differently?

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.

My goal in this book is to advance a deep respect for your donors by incorporating the techniques of analytics and the perspective of a fundraising economist. To accomplish this, I have structured the text in a way that enables specific applications to various programs and strategies within most fundraising departments.

What to Expect

Over the next eight chapters, I hope to address all the primary audiences of a book on fundraising analytics. Some of you are fundraising executives and managers. You will have questions about how analytics will make your organizations better: Will it increase production? Will it help us be more efficient and thus better stewards of the budgets entrusted to us for fundraising? Some of you are field fundraisers interested in better connecting and engaging with your portfolios of prospects. Some of you are prospect researchers. Analytics has become part of the skill set in your world. You may have concerns about staying competitive in the job market or managing new analytics professionals reporting to you. Some of you might be annual giving professionals trying one more technique to boost your participation rate. And some of you might be career statisticians learning about the fundraising industry. I hope I can say to all of you, "This book is for you."

I have designed it to cover the primary applications of analytics in Chapters 2 through 6. This is a combination of big-picture context, application, cases, and implementation suggestions. Chapters 7 through 9 are designed to be "how-to" chapters for the practitioners. An executive can read through Chapter 6 and be confident in the concepts. Staff analysts or professionals looking to learn analytics skills will benefit from the step-by-step instructions in the final chapters. Here is a summary of what you will read.

Chapter 2: Understanding your Constituents

A primary component of analytics in fundraising is understanding who gives to you, why they give to you, and what you are doing about it. The corporate world has a detailed understanding of the primary customer groups that purchase their products. Most executives can rattle off

their primary markets and their levels of penetration. Most fundraising executives know several members from the top of their pyramid and their board, but they struggle to categorize their base for support. They know the people who make their presence known at the personal level, but do they know the full story? Why would a person give to your organization? Do you really know?

This chapter explores the concepts of descriptive analytics to understand your constituency. It discusses everything from demographics to giving motivations to help you ask the right questions. And those right questions concern your donors.

Chapter 3: Analytics and Prospecting

Analytics has seen the most growth in recent years among the prospect development function of sophisticated fundraising organizations. It is a very effective means of identifying potential prospects for major and planned giving. Many directors of prospect research are urged to build this capacity in their organizations. Sometimes, this push is driven by board members seeing the success of incorporating analytics into their companies. For many prospect researchers, this may seem threatening; it does not need to be.

In this chapter, I discuss the concepts of prospecting and fit analytics into that context. If you are completely unfamiliar with prospecting as a discipline, this chapter should be informative to you. If you are a seasoned prospecting professional, you will understand why analytics is growing up all around you.

Chapter 4: Analytics and Campaign Planning

The comprehensive campaign has taken on a life of its own in the fundraising world. For many of us, planning and executing a campaign will be among the biggest stretches in our careers. As your need to execute challenging campaign strategies increases, your need for strategic allies increases. There is no better ally than your data. When it is on your side, you know you are doing the right things.

This chapter explores campaign planning from the context of constituency potential, effectiveness of strategies, and your ability to execute

these strategies. Basic techniques for campaign planning, including capacity analysis and pyramid design, are also shown.

Chapter 5: Data-Driven Prospect Management

One of the most telling indicators that an organization is data driven is having a systematized method of connecting with and engaging constituents. Organizations that do this well raise a lot of money. Those that don't might get by on luck—but I don't see it too often. Data-driven prospect management will transform your institution if you do not already have it in place.

In this chapter I devote considerable attention to covering prospect management from the basics to the development of metrics. I also include a detailed work plan for building a data-driven prospect management system for your organization. It is critical for an analytics professional to understand prospect management thoroughly. It is the business context of fundraising.

Chapter 6: Annual Giving Analytics

For an analytics professional, annual giving and membership programs provide the greatest opportunities for seeing the data in action. Models predicting responses to appeals can be tested and evaluated in a matter of weeks. By shifting the attention on the constituents most likely to respond to your messages and minimizing the attention to those who will never respond, you can be more efficient in your base development activities.

Chapter 6 will discuss principles of segmentation, modeling, and developing metrics to gauge and guide your success. Whether you are outsourcing your analytics or building in-house capacities, you will be equipped to make better decisions guided by your data.

Chapter 7: Selecting Data for Mining

The first step for any analysis project is producing your data file. Modern prospect relationship management databases have countless fields to explore and incorporate into models.

This chapter presents a field-by-field guide to the fields you might extract for analytics. If you are new to analytics, this will be a helpful guide to navigating the possibilities in your database.

Chapter 8: Descriptive Analysis: Basic Statistics and Scoring Models

Whether statistics is new or "old hat" to you, it is helpful to see some of the basic statistical operations in action on a fundraising database. After discussing the many applications of analytics in the preceding chapters, you might be wondering, "Where do I start?"

In this very specific how-to chapter, many of the basic statistical techniques using Statistical Package for the Social Sciences software (SPSS) are demonstrated. Expect to see how to conduct descriptive analysis, build simple scoring models to rank correlation, build an RFM score (recency, frequency, monetary values), and build a basic attachment score.

Chapter 9: Regression Analysis

Very powerful statistical tools for predictive analysis are now within your reach. Statistical software has become very user friendly. Complex regression analysis used to be left to the academic statisticians. Now you too can produce predictive models to identify major and planned gift donors, segment a mail file, or prioritize your constituency.

This chapter presents step-by-step instructions for building a model to predict giving at your organization. I use SPSS to demonstrate a binary logistic regression formula and evaluate the results. After learning this technique, building models of many varieties will be within your grasp.

Glossary of Common Terminology

At the end of the book, I've assembled a brief glossary of some of the common terminology used in fundraising analytics. Throughout the book, I have tried to remain free from jargon, but sometimes there are no other words for the peculiar things we do. For this reason, I have tried to decode the code for many of you who might be new to this field.

Enjoy the Journey

I hope you enjoy your journey into the exciting world of fundraising analytics. Don't feel overwhelmed by the many different concepts presented in this book. You should not worry about applying all of these techniques overnight. As you read, keep a journal of new ideas. When

you are finished, go back to the journal and organize it into strategies you can apply now, strategies for the three-year plan, and strategies warranting long-term discussion. Then try one thing at a time. Get a license for statistics software. Run some basic correlations. Focus on enhancing your database with new data. Evaluate your business processes.

As long as your focus remains on the donor, your data-driven strategies will evolve to benefit your organization. To be guided by data means to be guided by donors. Donors are the remarkable coefficients in high-results equations. If you plug them into your formula, your results will be extraordinary.