

What is your nonprofit's level of data analytics maturity?

Identify where your nonprofit organization stands in its analytical development to take your advancement strategy to the next level.



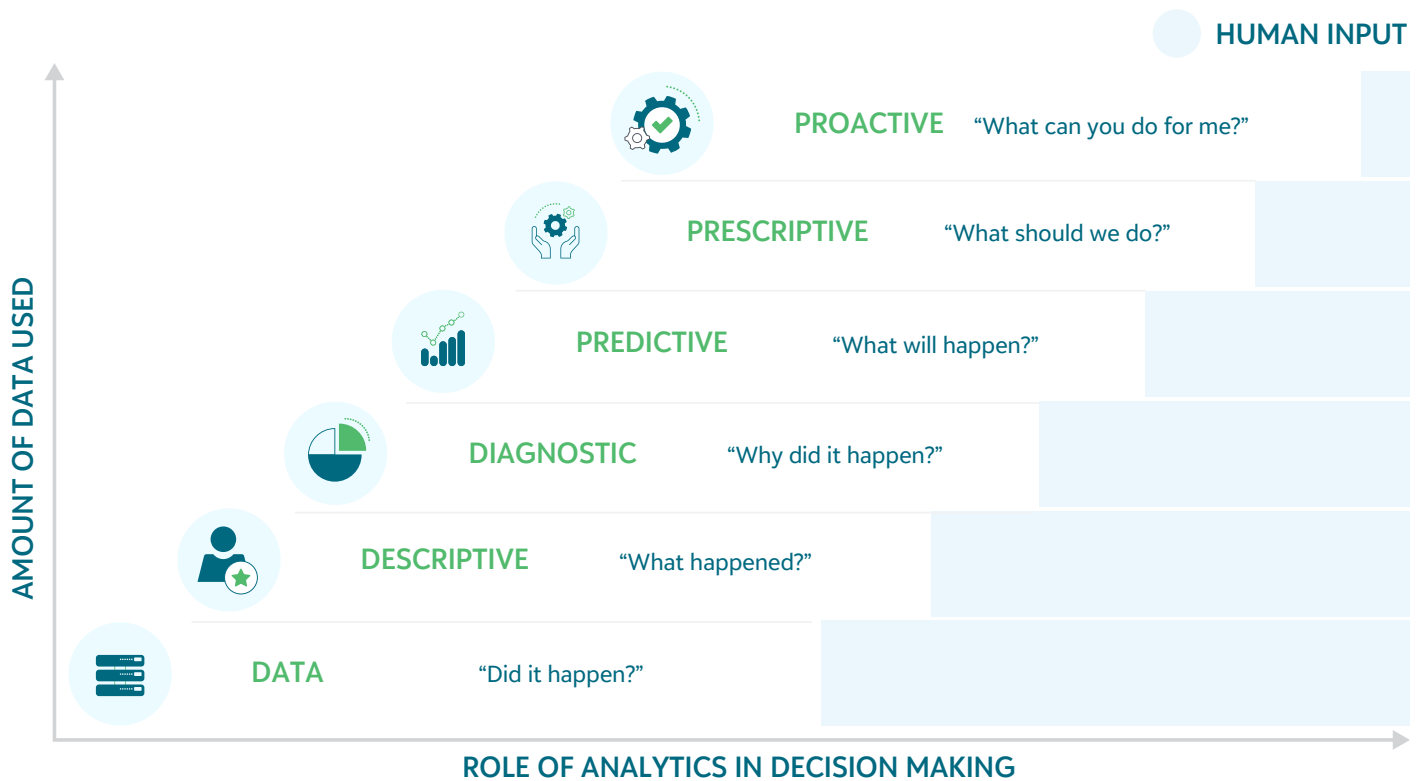
BY MELISSA BANK STEPNO AND KATHERINE SWANK

Understanding the Purpose of an Analytics Maturity Model

An analytics maturity model is a sequence of steps or stages that represents the evolution of your organization or department in its ability to manage its internal and external data to inform business decisions. As maturity increases, human input to produce the analytics outcomes decreases. Artificial intelligence and machine learning take the place of manual data manipulation to deliver almost instantaneous information.

Six Stages of Analytics Maturity

Your organization, department, or team follows an analytical development path that can be broken into six stages.



To become more sophisticated, your organization must embark on a journey toward analytics maturity. One benefit is that your organization can more effectively allocate resources and budgets to the most valuable investments. For example, an advanced analytics program will allow you to identify which events or revenue line items are high-value and responsive to your organization's goals. When your fundraising organization uses analytics to its fiscal advantage, you will spend less on solicitation promotions to achieve the same or better results. Savings can be directly translated into mission fulfillment or reinvested to improve the fundraising operation itself.

Your big data agenda requires your organization to rethink the way you are currently managing information and what types of analytics you can use. To get started, ask yourself these essential questions:

- What data do I already have?
- What other data is available to me that could deliver better answers?
- How can I/we improve our analytic infrastructure to deliver fast answers allowing for quick course corrections where needed or activity replication where success could be expanded or enlarged?
- What types of analytics do I need – descriptive, diagnostic, predictive, or prescriptive?
- How do I/we drive the required or desired behavioral change throughout the organization, department, or team?
- Which of these activities can or should we do internally?
- Which of these requires a high level of expertise best provided by external partners, data scientists, and analytics experts?
- Do we have software and systems that can employ artificial intelligence and machine learning? Are we ready to engage in those processes now or do we need more time to mature and plan for their inclusion in our future processes and decision-making?

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The most important thing to consider at this point is if a new fundraising software system will help your nonprofit raise more money for your mission.

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Trusting the Process of Analytical Maturity

Developing analytics maturity begins by knowing what you're looking to achieve and what data supports that objective.

To be successful, your organization will need to commit resources to both data and analysis for the long term and encourage ownership in the analytics and their application. As you reach analytical maturity, you will need to embrace the capability to conduct or employ artificial intelligence and machine learning processes that far exceed the analysis a human can manage. Ultimately, the desired outcome is to trust the analysis by acting upon it rather than using additional time or resources to reinterpret or attempt to prove its validity.

Analytics Maturity Self-Assessment

Stage 1: What does success look like at the DATA stage?

Data quality measures the condition of your data, using factors such as accuracy, consistency, integrity, compliance, and usability. Data answers the question, “Did it happen?” High-quality data is essential for data-driven analyses.

How do you employ high-quality data?

For your organization to deliver data with good quality, you need to manage and control each data storage in the pipeline from beginning to end for:

- Accuracy — How well does a piece of information reflect reality?
- Completeness — Does it fulfill your expectations of comprehensive data?
- Consistency — Does information stored in one place match relevant data stored elsewhere?
- Timeliness — Is your information available when you need it?
- Validity — Is information in a specific format, does it follow business rules, or is it in an unusable format?
- Compliance — Is the information being collected in a way that is ethically and legally appropriate for its intended use?
- Uniqueness — Is this the only instance in which this information appears in the database?

Stage 2: What does success look like at the DESCRIPTIVE ANALYTICS stage?

You are using descriptive statistics successfully when you use data to describe what is or what the data shows. It answers the question, “What happened?” Descriptive data tells you how you are performing. Examples include:

- Total dollars raised

- Number of donors
- Dollars per donor
- Percent increase or decrease from last year to this year

How do you employ descriptive analytics?

Descriptive statistics help you simplify large amounts of data in a sensible way. Each descriptive statistic reduces lots of data into a simpler summary. One might use descriptive analytics to understand a central tendency such as mean, median, or mode. Or you might use it to understand extremes, such as the lowest (minimum) or highest (maximum) instances of a data point. Also, you can use descriptive analytics to show a frequency distribution with a series of categories and ranges. Tables, charts, and graphs make this easy to accomplish and easy to share. Data displayed in this way helps you to understand or describe to others what is or what the data is showing.

Stage 3: What does success look like at the DIAGNOSTIC ANALYTICS stage?

You are using diagnostic analytics successfully when you examine data or content to answer the question, “Why did it happen?” When you use techniques such as drill-down, data mining, and correlations, your use of data is diagnostic. This type of analysis can draw on data from both internal and external sources to illustrate a series of connections and correlations between two variables, to find new and unexpected links. Furthermore, it’s possible to incorporate external information with internal data meaningfully. Examples include:

- Investigating why one revenue line has the lowest cost to raise a dollar than others
- Digging deeper into a sharp increase in donors
- Finding the root cause of a decrease in donations online (digital giving)
- Using external information to understand its effect on an event, such as inclement weather, other organizations’ events taking place at the same time, postal interference in delivering timely invitations

How do you employ diagnostic analytics?

Diagnostic analytics enables your organization or team to turn your complex data into manageable and easily understandable information, presented in the form of visualizations and insights that everyone can use. This way, decision-makers, managers, and implementation employees all have access to everything they need to know about the department's performance. Visualizations can also be presented through comparative bar graphs, or with relational visualizations, infographics, and dashboards. One of the disadvantages of this type of analytics is its focus on past occurrences, which limits its ability to provide actionable insights about the future.

Stage 4: What does success look like at the PREDICTIVE ANALYTICS stage?

Predictive analytics is the use of data, statistical algorithms, and machine learning techniques to identify the likelihood of future outcomes based on information from the past. Typically, historical data, both internal and external, is used to build a statistical model that captures important trends. The predictive model is then used on current data to predict what will happen next, or to suggest actions to take for optimal outcomes. The goal is to go beyond knowing what has happened to provide a best assessment of what will happen in the future and acting upon those predictions.

Predictive analytics answers the question, "What will happen?" Examples include:

- Who is most likely to make a gift of at least \$25,000 to our organization?
- What philanthropic gift capacity is available to us from each constituent in our database?
- Who is unlikely to make a gift to our organization and therefore costs us resources if we continue to use staff time and organizational assets in soliciting them for a gift?
- Which of our event participants is most likely to return? Which is most likely to raise the most revenue on our behalf? Which is most likely to create their own third-party event to benefit our organization?

How do you employ predictive analytics?

Predictive analytics enables your organization to function more efficiently. In addition to predicting the actions of known constituents, it can also use known results to predict future behavior for new constituents. You are successfully using predictive analytics when you align your analytic modeling to your organizational goals. This allows you to focus your departmental resources on action and implementation rather than on data interpretation. You will use model scores or ratings to select records for inclusion or exclusion for specific types of activity. Based on the results of that activity, descriptive and diagnostic information can be used to display the effect of employing predictive analytics.



Stage 5: What does success look like at the PRESCRIPTIVE ANALYTICS stage?

Prescriptive analytics factors information about possible situations or scenarios, available resources, past performance, and current performance, and suggests a course of action or strategy. You can use it to make decisions on any time horizon, from immediate to long-term. This type of analytics always relies on artificial intelligence techniques, such as machine learning – the ability of a computer program, without additional human input, to understand and advance from the data it acquires, adapting all the while. As new or additional data becomes available, computer programs adjust automatically to make use of it, in a process that is much faster and more comprehensive than human capabilities could manage. It answers the question, “What should we do?”

Prescriptive analytics is the opposite of descriptive analytics, which examines decisions and outcomes after the fact. However, prescriptive analytics works in concert with predictive analytics, which involves the use of statistics and modeling to determine future performance based on current and historical data. Together, the analytics go further by using the predictive analytics’ estimation of what is likely to happen and the prescriptive analytics’ recommendation of what future course to take.

Examples include software that:

- Chooses constituents for proactive outreach or for a specific activity
- Rates or ranks constituents based on near-term or far-term gift commitment timing
- Indicates revenue line sustainability
- Optimizes pricing, timing, and marketing of specific campaigns or appeals

How do you employ prescriptive analytics?

Prescriptive analytics systems are not perfect and require close monitoring and maintenance. Data quality issues such as missing or incorrect information can

lead to false predictions, and overfitting in predictive models can lead to inflexible predictions that cannot handle changes in data over time. You are employing prescriptive analytics to its best utilization when you partner with an expert in prescriptive analytics or employ analytics experts and data scientists. You must have high data quality standards in place and constantly monitor your data for accuracy. To do this, you will use a platform specifically designed for integrating data into a data warehouse for analysis.

Stage 6: What does success look like at the PROACTIVE ANALYTICS stage?

Proactive analytics is in place when systematic tools automatically find critical insights and proactively present them, all without waiting for human input into the process. Somewhat futuristic in its application, proactive analytics can flag issues as they are occurring so that immediate corrective actions can be employed.

The process provides an answer to the question, “What can you do for me?” This might be something like an instantaneous forecast of the volunteer staffing requirements for an upcoming event as the need is developing day over day. Another is flagging a point-in-time decrease of donation volume or amounts to suggest course corrections.

How do you employ proactive analytics?

You don’t staff for this type of analytics. It is activated through an analytics platform such as a constituent relationship management (CRM) database that offers this capability in a package or as an optional add-on. If your organization has matured to the point of readiness for proactive analytics, plan your budget and staff expertise accordingly.

Taking stock of your approach to data maturity

You can't solve a problem without diagnosing it, so gaining a clear understanding of your data maturity is critical. There's more than one way to accomplish this, but a good starting point is the six stages of analytics maturity presented in this document. Take stock in understanding where you are currently and use the descriptors here to determine potential future steps:

- **Level 1.** No analytics. You are employing no analytics processes whatsoever. Your data and analytics are managed in silos. There is no one "source of truth" for your organization and people argue about whose data is correct. Your data is used but not capitalized on and analysis happens in an ad hoc fashion.
- **Level 2.** Your department is trying to advance data quality and efforts, but it is still managed in silos. Although a strategy is in place, it is long and cumbersome, and leadership around data and analytics is not clear.
- **Level 3.** Your organization has a strategy and vision for data and analytics, articulated clearly and succinctly. Although different content types are treated differently, executives in your organization are champions of analytics.

- **Level 4.** Data and analytics are linked across programs and are seen as the primary fuel of innovation and performance. Your leaders champion and communicate best practices related to data and analytics. You likely have a Chief Data Officer. At this stage, data informs return on investment in multiple ways.
- **Level 5.** Data and analytics are central to your business strategy. A Chief Data Officer is in place and strategy and execution are aligned and continually improved.

At lower levels of maturity, data analytics is set up to provide hindsight and insight, answering questions such as "What happened?" and "Why did it happen?" However, at higher levels of maturity, data analytics offers foresight, answering questions such as "What will happen?" and "How can we make it happen?" and "What can the data do for me?"

At these higher stages of maturity, your organization can leverage predictive modeling to optimize performance and anticipate outcomes. You will also be in position to avail yourself of tools that proactively prescribe next steps and actions. While it's not easy to get to that point, it's not difficult to imagine why the time and energy is ultimately worth it.

If you're ready to turn predictive modeling results into actionable projects, want to learn how to inspire leadership to trust in analytics, or need to sell your development team on data-driven portfolios, register for Blackbaud's on-demand data intelligence webinar, **Making Predictive Modeling Scores More Actionable**.

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Authors

Melissa Bank Stepno. Director, Analytics & Business Consulting Services at Blackbaud

Katherine Swank. Principal - Customer Success Services at Blackbaud

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