

Data analytics

in procurement





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Introduction



We live in a world inundated with information — emails, phone calls, social media, and the internet. We have multiple systems to track information and spend hours deciphering data to make smarter, more effective decisions. At times, data can overwhelm us; however, we can use the information to improve decision-making by validating a course of action before moving forward.

You can find many different stages and types of data analytics. In procurement, we've identified four main useful categories:



Descriptive

Explains what happened.



Predictive

Forecasts what might happen.



Prescriptive

Recommends an action based on the forecast.



Marketing

Evaluates performance and identifies growth opportunities.

Procurement professionals rely on data analytics to promote success. Data provides insight about gaps and opportunities, creates transparency, enhances internal stakeholder and supplier relationships, drives initiatives, and more. If you are new to this journey, you'll probably first have to build a data-based case to add an analyst on your team. Amy Lehnhoff, strategic sourcing analyst for the University of North Florida, writes, "Procurement analysts spend 100% of their workday performing those tasks that bring the most value to their organizations."

In this guide, you will learn how analytics can improve your organization and positively impact the people you serve.

Descriptive analytics



Descriptive

Explains what happened.

When you need to condense historical and current data into smaller, digestible information, use descriptive analytics to gain insights for how to approach the future. In other words, you'll be mining data to gain business intelligence of what is currently taking place and what has historically happened at your organization. Data tells a story, which influences behavior to drive positive change.

Successfully leverage data using two main components:

- Data integration
- Data integrity

Use data integration to combine data living in different sources so users can have a unified view of the information. Data integrity is maintaining data accuracy and consistency over time. You'll need both to begin leveraging data in your decision-making.



Mini case study

Leaders at the University of North Florida used descriptive analytics to prove the average cost to process each purchase order ranges from \$80 to \$140.

As a result, the procurement team focused on leveraging more P-card spend. The team now purchases all computers with a P-card and no longer requires a purchase order, which saves time, money, and effort for buyers.

The team continues to discover new areas of improvement with their increased P-card use. The procurement team learned they were adjusting 50-200 P-card limits each month. Each adjustment takes up to 10 minutes, which mounts to significant time and staff resources over the course of a year. Using data analysis, the team can more accurately set P-card limits for staff members, thereby reducing resources over time.

“You need to leverage data to make well-informed decisions. It will create greater efficiencies for your procurement team and the university.”

— Eric Dickey, Associate Director of Procurement, University of North Florida

Predictive analytics

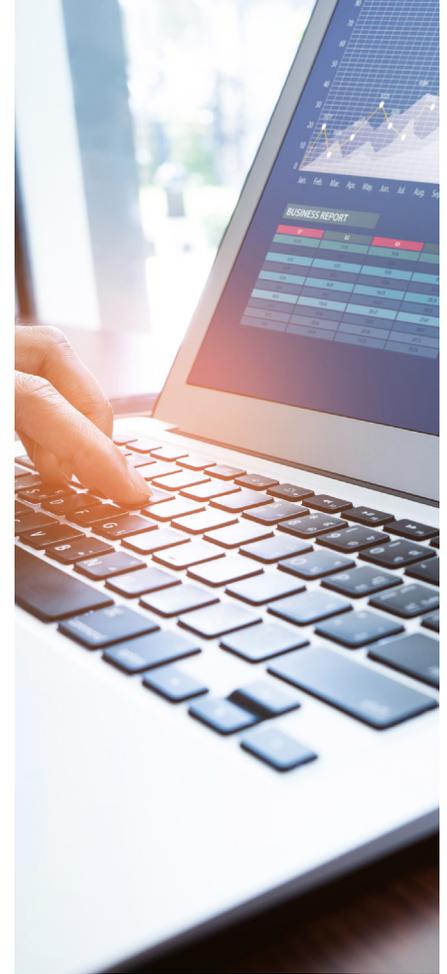


Predictive

Forecasts what might happen.

Use predictive analytics to further reduce data to better read, work with, analyze, and communicate with the information. Predictive analytics provide opportunities to:

- Analyze root source: understanding why something is happening
- Identify correlated data and patterns
- Forecast trends



Mini case study

The University of Colorado's procurement team developed a customized taxonomy based on the UNSPSC (United Nations Standard Products and Services Code), which creates a multisector standard classification of products and services. Using their six-level taxonomy, team members can break down spend to the commodity level.

The university's investment in predictive analytics required significant people resources, primarily involving information technology and procurement. However, the effort is proving to be very beneficial.

Staff discovered analytics and reporting capabilities dramatically improved and are readily accessible. New dashboards allow folks to customize their view of spend data by campus, department, year, and other criteria. This means significantly fewer ad hoc requests, which saves the procurement team significant time.

Real-time reporting and understanding of spend has improved the university's operations, increased transparency, and boosted performance. The procurement team also sees greater compliant spend. The university's data insights allow them to make better-informed decisions for their future.

Prescriptive analytics



Prescriptive

Recommends an action based on the forecast.

Harness prescriptive analytics to achieve optimization in the future. Maximize results by establishing business rules to automate the process of analyzing possible future outcomes.

These analytics are advanced and complex, and you will need additional resources to manage. However, it proves to be an asset, particularly for scheduling the inventory in the supply chain, optimizing operations, and improving customer experience within the organization.

The impact of prescriptive analytics extends beyond procurement. For instance, The University of North Florida's facilities team uses software that identifies trends throughout the facility, including water, electricity, heating, cooling, and more. For example, a spike in water usage and electricity can help identify leaks and quickly fix a problem that might have gone unnoticed for days or even weeks. The software, procured by the procurement team, helps the facilities team be more efficient and saves resources for the university.

Mini case study

Frederick County Public Schools in Winchester, Virginia, previously required a purchase order for any purchases over \$1,500. The purchasing team members leveraged data to indicate the vast number of purchase orders they were required to process and the amount of time it took to complete the process. They also surveyed their peers to determine the average thresholds of other public agencies, which was greater than \$5,000.

The purchasing team was able to show the time and resource savings of increasing internal purchasing threshold, which ultimately increased efficiencies and processes for the school.

“You can't get better unless you know what is wrong. Surveys show areas for improvement and opportunities to increase customer service.”

— Kristy Varda, NIGP-CPP, CPPO, CPPB, Contracting Officer, Loudoun County

Marketing analytics



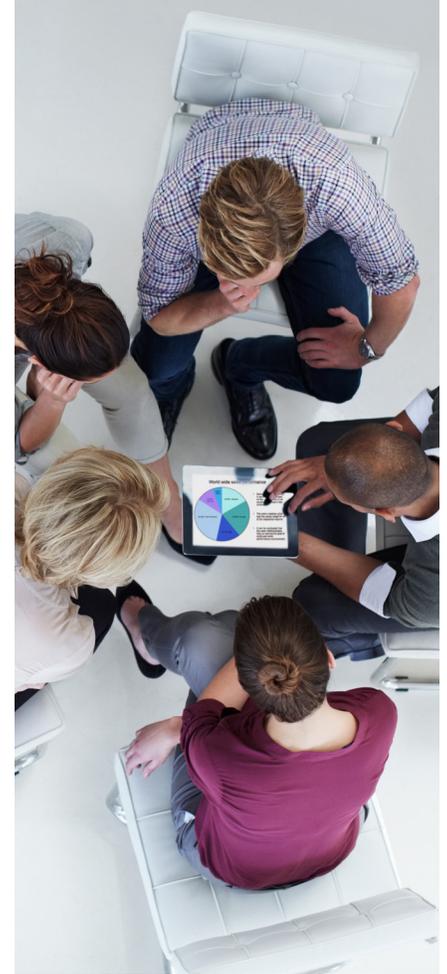
Marketing

Evaluates performance and identifies growth opportunities.

Borrowing a page from their marketing colleagues, procurement teams can utilize marketing analytics to drive buying decisions. These analytics involve metrics data to evaluate performance and identify growth opportunities.

Qualitative and quantitative research are also included in marketing analytics. Looking at marketing analytics can help your team learn about target audience behavior, including departments, suppliers, and leadership, as well as set metrics, measure, analyze, and then adjust your procurement team's activities based on those behaviors.

Surveys are a great tool to help your procurement team gather such data.



Mini case study

Granite School District leaders in Salt Lake City, Utah, use two surveys to measure the procurement team's performance and learn where they can continue to improve.

End users within the school district fill out one survey focused on customer service. Folks are asked to rate the procurement team on accessibility, satisfaction, responsiveness, quality of products being purchased, professionalism, and other factors. They also supply open-ended feedback, which has been critical to learning areas for improvement. The feedback showed a need to provide additional training between low bid and highest quality, creating greater understanding of procurement's value.

Awarded and nonawarded suppliers fill out the second survey. The survey asks the supplier community to rate the school district on responsiveness, fairness, transparency, satisfaction, and experience with the eProcurement software. Using the survey responses, the team identified the need to enhance their training and support to suppliers in relation to the eProcurement software.

— Jason Steinmann, CPPB, Buyer, Granite School District (formerly)

Getting started

“Spend the money to hire a rock star so you can make progress. This person does not need procurement experience. Instead, they must have persistent curiosity and data interest. Procurement can be taught, and you need a certain skillset to help your team leverage the data.”

— Duane Tucker,
Director of Strategic Procurement,
University of Colorado



If your organization is new to this journey, it is up to you to spark change. Experts warn the change management process can be a heavy lift. Be prepared to build a business case to support the advantages of having access to and leveraging data in your organization. It will involve meeting with decision-makers at your organization and selling your needs. Data backs your business case, and there are many ways to show the value and return on investment.

The following stories showcase examples where procurement demonstrated opportunities for improvement at organizations.

University of Colorado

A messy, convoluted spreadsheet demonstrating procurement's past process was compared to a beautiful, user-friendly dashboard that could be accessible to all — making a clear case for change. Procurement identified areas that are easy fixes to help the entire organization leverage data in a user-friendly manner.

Frederick County Public Schools

Kristi Varda, previous purchasing supervisor at Frederick County Public Schools, Winchester, Virginia, utilized a P-card dashboard to find a significant amount of spend that was not on contract. She was able to write a solicitation and award a contract to help with the county's purchasing needs in a compliant manner.

University of North Florida

The University of North Florida is required to present a quarterly savings report to the Florida Board of Governors. The procurement team hired a strategic sourcing analyst to expedite data turnaround time for the state, leadership, and other campus staff members. The analyst shortened the turnaround time from four to five days down to just two to three hours.

Start by assessing your organization to determine the people and budget resources available. Do you have someone who can analyze and collect data to drive decisions? If not, your first step may require hiring a new full-time position to help analyze data. Another option could involve refocusing current roles to have a team member assigned to data analysis. It is critical to have designated team members focused on data so that progress can begin.

Building data integrity

“A huge chunk of my time as a buyer is having to sell ideas.”

— Jason Steinmann, CPPB, Buyer, Granite School District (formerly)

There are many ways to slice and dice the data, and it must make sense for your needs so that it can help you achieve your goals. Here are some ways that others are pulling data to help with their own missions:

Organization activity

- Spend by category
- Spend by department
- Spend by supplier
- Aggregate spend on contract versus not on contract
- Channel spend (i.e., state contract, cooperative contract, sole source)
- Total number of purchase orders versus number of purchase orders above threshold
- Hot list spend helps with supplier meetings to set goals and achieve greater pricing
- Number of shipments received and the time it takes to be delivered

Procurement activity

- Number of purchase orders issued by buyer per fiscal year helps to better distribute workload
- Cycle time of purchase order to requisition
- Average cost to process a purchase order
- Contract pricing comparisons (i.e., banking, rental cars, medical supplies, office supplies) to determine the best value contract
- Contract evaluation data related to pricing
- Number of supplier responses to solicitations
- Use of surveys or listening sessions to obtain data on your team's performance and identify opportunities for improvement

Building data integrity

Next, determine what data is available and identify what is missing. Jason Steinmann, CPPB, was formerly a buyer at Granite School District. He admits that pulling data without data integration is very manual and time-consuming. Build a business case to show the return on investment for investing in software that can assist with data analysis.

Organization leaders can increase awareness and transparency of their spend by having the right information. Additionally, they create opportunities to increase efficiencies, reduce rogue spend, and centralize procurement. Organizations with insights into their spending behavior are more likely to spend taxpayer dollars mindfully, and it helps team members become more outcome focused.

Survey evaluation

- Responsiveness
- Transparency
- Quality of contracts procured
- Professionalism
- Customer service
- Ease of use of eProcurement software (or other software)



Read Amy Lehnhoff's (University of North Florida) article, "*In the market for an analyst?*" in the National Association of Educational Procurement's (NAEP) Education Procurement Journal to learn more about the value of adding an analyst to your team, and what data you can leverage to help your organization.

“You must be savvy about how the organization works and be a confident data cruncher. If you have those two pieces you will see success as an analyst.”

— Amy Lehnhoff, Strategic Sourcing Analyst,
University of North Florida

Final thoughts



Focusing on data analytics can add tremendous value to your organization. However, you must use data wisely, and the human factor should always be considered when proposing changes. Prepare to navigate political considerations or long-term relationships. Relying on data could affect some of these relationships. Be clear on your organizational goals so that you know when to push back and when to find common ground.

Remember relationships matter. Use analytics to tell a clear story, create dialogue, save time, increase productivity, and enhance relationships.

Procurement professionals continue to transition away from transactional necessities in order to create transformational experiences. Lean on your procurement expertise to add significant value to the organization and use data to craft a complete story. You might discover new opportunities to influence high-level leadership, which will allow you to be more strategic, more proactive, and increase value for the people you serve.

“Our analyst uses data to help our team develop and foster relationships. Hire the right people to use the data; provide the right training to allow for continued growth.”

— Eric Dickey,
Associate Director of Procurement,
University of North Florida

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