Big data. Everyone’s doing it. OK—perhaps that’s an exaggeration. Everyone may not be doing it, but they’re certainly talking about it. And it’s easy to see why.

As higher education institutions continue to endure mounting financial pressures and relentless budget battles, savvy procurement professionals have put their numbers to work for them. Innovations in technology have allowed these folks to analyze spend data in ways that were previously unfathomable.

When leveraged effectively, this data provides valuable insight, helping procurement to increase efficiencies, drive meaningful savings, and significantly impact the institution’s bottom line. Equally as important, it helps to elevate the role of the procurement department on campus, distinguishing these individuals as financial stewards focused on advancing the institution’s overall mission and goals.

With so much data and information available, it can be difficult to know where to begin. The road to successful spend analysis is certainly paved with many metrics. Here’s how some of today’s most forward-thinking procurement leaders are navigating that path.

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Q: What tools does your institution use to capture big data, and what are some of the challenges this technology has presented?

Sandy Hicks, Assistant Vice President & Chief Procurement Officer, University of Colorado: Currently we are using SciQuest, Concur, and Spikes Cavell. SciQuest is the software behind the CU Marketplace, which is our P2P system. We use it for our sourcing, supplier portal, and contracting. Concur is our Travel & Expense software. We use it to book travel, submit expenses, and reconcile our procurement cards. We also use Spikes Cavell as our data analytics tool, which categorizes our spend.

The benefit to using each of these platforms is that they’re great in helping you nail tactical processes. The good news is that you’re provided with an enormous amount of data. But it’s impossible to measure it all, so you need to determine what is important to measure, why you’re measuring it, and if your system can pull the data you want to measure.

Many people have the misconception that because it’s technology, you should be able to pull anything and everything out of the system. That’s just not the case. Like with any computer system, the rule is “garbage in, garbage out.” The critical piece to the entire process is how you set up and implement these systems. That has everything to do with the quality of the data you get out of it.

Q: What are the key metrics you’ve identified as most important for a successful spend analysis?

Michelle Smith, Sourcing Specialist, University of Pittsburgh: We’ve created an executive dashboard to provide our management team with an at-a-glance view into our real-time performance. We use these metrics to check the health of our categories, meet diversity and sustainability initiatives, maintain quality customer service, and identify areas of improvement.

Our executive dashboard includes the following KPIs:

**Commodity Management**

*Estimated Savings:* We take our total spend and look at how much is contracted or managed by procurement. We have savings ranges we then apply to that spend within targeted categories. One of the initiatives we’re working on for 2017 is to get updated benchmarks from peer institutions to go along with these KPIs. This will help us better understand these numbers in terms of how we measure up with other institutions.

*Suppliers:* We look at the number of suppliers we have in each category and determine how many of them are contracted. This helps determine if we have spend that can be channeled to those suppliers or if we have a large category of spend where we have no contracted suppliers.

*Contract Spend:* This tells us how much spend in each category is with a contracted supplier versus a non-contracted supplier. For me, if I’m managing that category, I’m going to ask why a percentage of spend is going to non-contracted suppliers and determine what we can do to channel that spend.

**Payment Terms:** What are our average payment terms? Are we paying according to contract? Are the terms favorable? In the event that we ever want to change payment terms we can play with the metric to determine potential savings.

**Savings Efficiency**

*Unit Cost Comparison:* This report displays the largest gap in price for a single item that is compared by an identifiable part number. It helps us identify if a supplier is charging a different price for the same product and, if we have more than one supplier selling us the same item, it shows what that fluctuation in price is.

**Process Efficiency**

*Cost Per PO & Cost Per Payment Requisition:* We’ve calculated an associated cost for these activities from start to finish, including things like processing time, personnel, and cost of system.

*Days vs. Term:* Here we’re looking to ensure we’re not paying bills early, which could result in interest lost.

*Processing Method:* This provides a view of suppliers who send invoices electronically versus
suppliers who send them manually. There’s a
cost we feed into the system, and it calculates
how many invoices we received and how much it
costs to process each of them.

Social Awareness

Diversity Spend & Green Spend: We have a
large emphasis on working with diversity sup-
pliers, as well as identifying green spend. We
look at how much of our total spend is diversity
spend and try to find opportunities to move
spend to those suppliers when possible. As far as
our green initiative, we’re paying attention to how
much we spend on recycled and green products.
If a department tells us they have an initiative to
buy more green products, we can use the tools to
help them identify those suppliers.

Customer Service

Customer Service Requests: This is a metric
that tells us what kind of requests are going into
our customer service group, how often they are
being contacted, and how quickly the requests
are being handled.

Q: Let’s talk about department scorecards.
What are the metrics you include in these
scorecards, and why are they important?

Renee Funk, Strategic Sourcing Manager,
University of Iowa, and John Watkins
Director of Strategic Sourcing, University
of Iowa: We’ve found that the individuals in our
departments are often surprised by the metrics
we provide because they’re not able to see
that information in the day-to-day processing
of transactions or in the reporting they do.
Providing them with an overall snapshot of
these numbers has been a great benefit, and
they’re requesting this information on a more
regular basis.

We meet with each of the departments on
campus annually to take a deep dive into a
number of areas including, but not limited to:

• Spend by organization/department;
• Spend by month;
• Spend by transaction type (e.g., PO, eBay,
  procurement card, e-voucher, and state
  funding);
• Spend by user;
• Contract vs. off contract spend;
• Bid opportunities; and
• Policy compliance.

We begin by taking an overall view of spend for
a specific organization within our university and
break that spend down by department. We look
at it not only by total, but also by transaction type:
e-voucher, eBay (our B2B channel and preferred
method), credit card, or purchase order. That
broad view gives the department a really good
gut check into the metrics provided and demon-
strates accuracy or questions with the data.

We then take the data in a slightly different
direction and look at how spend is dispersed
throughout the year. Many times we’re able to
identify a trend within a department by looking
at things this way. For example, it’s not surprising
to see a spike in June and July around fiscal year-
end time, but let’s say we’re meeting with athletics
and notice an increase in spend in September
because they’re gearing up for basketball season.
We can see this trend and ask how we can work together to get in front of these activities rather than facing a rushed sole source situation in September. The data allows us to be proactive instead of reactive.

We further break down each of those transaction types by PO. We'll look at sole source justifications and see if we can transition any of them to bids. We'll look at competitive bids and encourage our individuals when they've done them well. We look at state funding versus non-state funding, and we look at it by the individual in the department, and by area. Every way we can possibly look at a transaction to see what might be going on, we've done a good job of capturing it.

It may sound like we're getting down in the weeds, but the conversation with the department is extremely positive and ends with a final view of the data from a perspective of opportunities. That's the reason to share the information. The numbers drive the occasion.

**Don't:** "Try to measure everything. It's important to manage peoples' expectations with the data that you have. Before you dive in, take a step back and look at your goals. Determine that the things you are measuring are impactful and don't try to do too much. There's no better way to measure a goal than to be able to do it objectively, and that's really what data gets you."
—Sandy Hicks

**Don't:** "Blindly trust your tool. You need human intervention to review and improve the data. You've got to put in the time on the front end of the process to cleanse the data and to understand how it is being classified. From there you can refine the information and create rules for tagging/classifying spend to build repeatable processes. You can't leave it up to the tool or provider to do all of this for you. You need to be heavily invested in the process, as you are the subject-matter expert for your data."
—Michelle Smith

**Don't:** "Be afraid to try. You've got to start somewhere. Even if you think you have nothing, the truth is you have something. Start with spend as a whole, build upon that, and then you can continue to find ways to grow. And don't be afraid to try something new based upon the data. You might make the wrong decision, but you'll learn how to better use the numbers in the future."
—John Watkins

Don't: "Forget to have a conversation. The data speaks volumes, but if there isn't an active conversation about that data, more than likely the change will not occur, or if it does, it will be very short-lived. For us, data has been a valuable pathway to communication and developing a procurement department that is less reactive and more proactive."
—Renee Funk

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