WILL BIG DATA BE THE NEXT REVOLUTION THAT DISRUPTS PROCUREMENT?

THE BIG DATA CONTEXT

Data is growing exponentially, with more than 2.5 exabytes of information being created every day—and companies are only just beginning to utilize and draw insights from it. Roughly 75 percent of this data comes in the form of big data: data that exceeds the capacity of conventional databases because the volume is too big, the velocity is too high, or the data is too unstructured. It is worth noting that "a lot of data" doesn't necessarily equate to "big data." Specifically, "big data" is distinguished from "small data" by its sources: instead of coming in the form of spreadsheets, big data comes in numerous formats, some of which may include video and audio files, blogs, emails, Facebook posts, and Twitter feeds.

The scale, scope, and depth of data that is accessible to the Procurement function has accelerated, providing new opportunities for Procurement to generate insights and drive intelligence. To do so, however, companies will not only need to unify the siloed data within the organization, but also leverage external sources of information.

Increasingly, data is becoming a key area of focus for Procurement. While organizations still have a long way to go before they can call themselves data-proficient, it is already possible for them to envision the value that big data and analytics will one day bring: deep insights and greater efficiencies to the Procurement function.

"It's the difference between using a fishing pole and a net. Today, we fish with one line"

— CPO of a large chemical manufacturer

THE BIG DATA REVOLUTION

Big data and predictive analytics are revolutionizing the tech landscape, and it will shake up Procurement in a profound way. As such, Procurement organizations need to prepare themselves, as we are on the edge of a major shift in Procurement approach and operations.

Already, companies are leveraging big data to manage risk, manage customer relationships, and automate purchasing. A large luxury-goods maker, for example, is using a big-data, risk-management tool that scours the internet for negative signals on suppliers, allowing early detection of reputational threats. A large tech player has set up an internal CRM to manage existing relationships and scan through meeting minutes to create customized alerts for Procurement (such as a cost center is moving, no recent meetings with a preferred supplier, or a contract is near expiry). And many companies are automating media buying, with predefined business rules. This automation lets media companies economically buy ads at a per-impression level—that is, a customized web ad for each specific viewer.

Companies and Procurement organizations are only scratching the surface as they figure out how big data and predictive analytics can help them. There are even more far-reaching applications in the development pipeline. A large tech company, for example, is working on automating a range of Procurement functions, such as program management, supplier lifecycle management, spend analysis, sourcing, contract management, and services procurement. An online retailer is developing a predictive purchasing program to ship products in anticipation of a purchase. A large manufacturer is developing predictive price modeling tools to detect "weak" signals in the market, while also bringing in such data points as raw material imports and exports, market indices, and trends. And a startup is developing a tool that scans through academic papers and creates customized alerts for companies looking for potential business applications.

As these developments evolve and accelerate over the next few years, tomorrow's Procurement will look very different from today's. In a few years, we can expect that Procurement will more often be a strategic and growth partner. It will automate risk management by scanning through financial statements, social media, and the internet for signals of weakness. It will set predefined business rules to generate cost savings, using market data to determine the best price and scanning through business needs to determine exact specifications and demand. Chief Procurement Officers (CPOs) will have better insights on how and when to interact with the overall business, gleaned from an automated innovation pipeline that searches and engages with the community for ideas.

THE BIG DATA COMPETITIVE ADVANTAGE

Big-data predictive analytics will ultimately drive a significant competitive advantage for those who move to adopt the technology. In the next few years, we believe a handful of innovative companies will pave the way. A larger group will eventually adopt, driven by the need to compete; finally, the remaining half of companies will struggle to adapt. The job will be much easier if you start preparing a foundation for the big-data shift, rather than trying to make the leap in one jump. Here's a checklist of actions to get started.

Case studies

RETAIL DISTRIBUTION	LARGE INTEGRATED BANK	TELECOMMUNICATIONS CARRIER
Buyers traditionally spend considerable time gathering the information needed for their negotiations (including consulting reports and documentation). The most innovative analytical approaches help automate the recovery and synthesis of this information, so that buyers can devote their time to higher value tasks, such as procurement strategies and negotiation tactics. Basic data traditionally used by buyers (historical prices and volumes) is enriched by analyzing sales data (drawn from cash register transactions), consumer data (from loyalty accounts), data on margins, product quality/non-quality (returns/after-sale service), and behavioral data on e-commerce site users. Findings can then be used to generate powerful fact-based negotiation arguments for all categories of products and buyers. This approach may also be further reinforced by adding richer external data (panelists, competitor prices, and raw materials prices). In some cases, automation has even been used to generate automatic negotiation arguments — particularly relevant for small and medium suppliers, to which buyers cannot afford to devote as much time as to first-tier suppliers.	Managing procurement risks is a major objective of in the banking sector, specifically within the framework of new Central-bank directives. The stakes are twofold: improve visibility on the risk level of all suppliers, and move from static to dynamic management of procurement risk. For instance, one large banking concern completes its traditional risk-tracking scorecards (analysis of financial health, rate of dependency, and corporate social responsibility (CSR) assessment by EcoVadis) with an analysis of weak risk signals for its key suppliers. Big data resources are used to analyze all the information produced by diverse sources such as the Financial Times, Twitter, LinkedIn, and specialized networks in the supplier industry. By leveraging key words, the model identifies weak signals corresponding to potential risks and thus makes them easier to anticipate. Proof-of-concept results were conclusive, and the system is now being implemented across several procurement categories. Finally, this system can be reversed and used to anticipate weak signals linked to innovation (using "positive" key words).	In telecommunications, big-data initiatives helped a European procurement consortium (IT, Network, Terminals) employ advanced negotiation practices. Granular spend data (category, sub-category) were made available centrally—whereas they had previously been scattered and held by each carrier locally—and crossed with market data to track and measure market share with the large manufacturers in the consortium member portfolio, including details on the level of quality/level of service of each supplier. Price data obtained at the end of each negotiation were shared in order to constitute a European benchmark enabling each member to measure and improve its negotiating performance rapidly. Detailed cost structure data on set-top boxes were aggregated at the European level to develop a configurator for designing equipment for the best objective cost.

Source: Oliver Wyman Digital Procurement: from myth to unleashing the full potential

START WITH SMALL DATA

The Oliver Wyman Big Data study indicates that only 10 percent of Procurement organizations consider themselves proficient in big data. Interestingly, however, the study also shows that the majority of Procurement organizations rated themselves worse than the company overall in small-data proficiency—that is, using concrete datasets in structured (spreadsheet) formats. And before an organization can make the leap towards mastering big data, it first must become proficient in small data.

The first step companies should take is to invest in their small-data analytical capabilities, making data-driven decisions before moving toward realizing their big-data dreams. Begin by identifying current gaps in the organization's capabilities and pinpointing opportunities for improvement. Then match these opportunities with the right people, defining both the processes to develop the tools and capabilities to execute them.
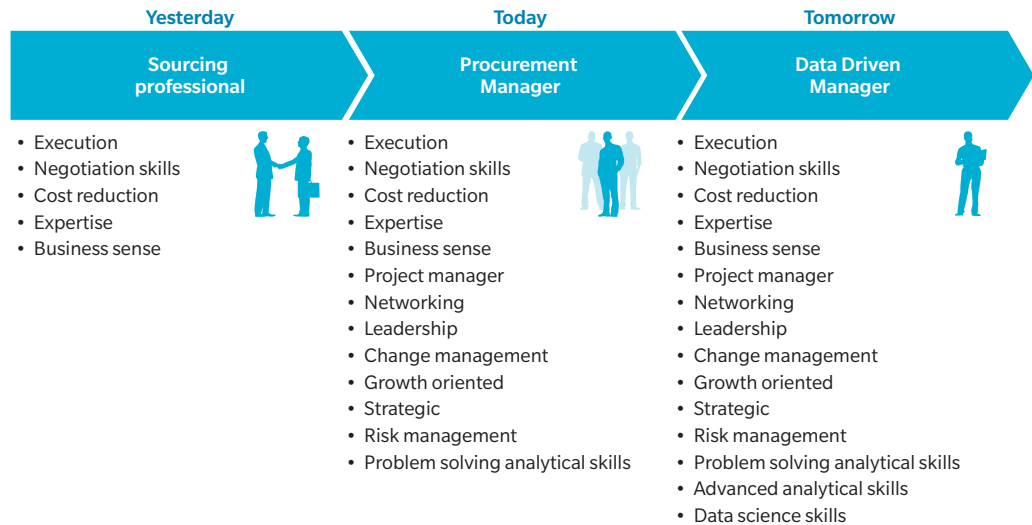
ADD DATA-SCIENCE TALENT

The role and skillset of buyers have changed over time. Traditionally, procurement professionals had a transactional role, one that required solid execution and negotiation skills, and that placed an emphasis on cost reduction, relying on "buy cheaper" types of optimization levers.

Recently, sophisticated organizations have begun to expect more from their procurement managers. In addition to the traditional skillset, the procurement professional must also exhibit leadership, problem solving, change- and risk- management capabilities, strategic thinking, and growth orientation.

In the future, the data-driven manager will need all the capabilities of his predecessors, as well as advanced analytical and data-science skills. People with these advanced technical skills will be in short supply, so Procurement will need to partner with other functions in the organization to satisfy its needs. To make big data in Procurement a practical reality, new talent will be needed to bridge potential gaps and collaborate with other teams. (See Exhibit 1.)

Yesterday	Today	Tomorrow
Sourcing professional	**Procurement Manager**	**Data Driven Manager**

• Execution • Negotiation skills • Cost reduction • Expertise • Business sense	• Execution • Negotiation skills • Cost reduction • Expertise • Business sense • Project manager • Networking • Leadership • Change management • Growth oriented • Strategic • Risk management • Problem solving analytical skills	• Execution • Negotiation skills • Cost reduction • Expertise • Business sense • Project manager • Networking • Leadership • Change management • Growth oriented • Strategic • Risk management • Problem solving analytical skills • Advanced analytical skills • Data science skills

FIND THE RIGHT BUSINESS CASE

Given the propensity of Procurement to view the benefits through the lens of cost reduction and "buy cheaper" price levers, Procurement organizations struggle to support the investment in big data. The key is to pivot away from time-based transactional and tactical approaches, and embrace advanced demand-management levers by Spending Smarter. (See Exhibit 2.)

The business case will require expanding the scope of value that Procurement delivers to the organization to include risk management and growth (Open Innovation). Only by looking at the function through a more strategic lens can Procurement gain enough visibility within the organization to build the business case to internally sell the big-data transformation.

However, the Oliver Wyman Big Data study indicates it will be difficult to build a business case that is specific to Procurement. Consequently, CPOs will need to expand their reach by joining forces with other parts of the organization. By playing a bigger role and taking a more strategic approach, Procurement will be able to become part of a broader and more compelling enterprise business case.

Today

Buy cheaper

Tomorrow

Growth

Risk mitigation

Spend matter

IDENTIFY DESIRED IMPACT, THEN SEARCH FOR DATA

Companies typically adopt a three-stage approach to big data. First, they start with the data, and then they try to generate insights, hoping they will lead to impact. However, this approach is backwards and potentially creates two problems.
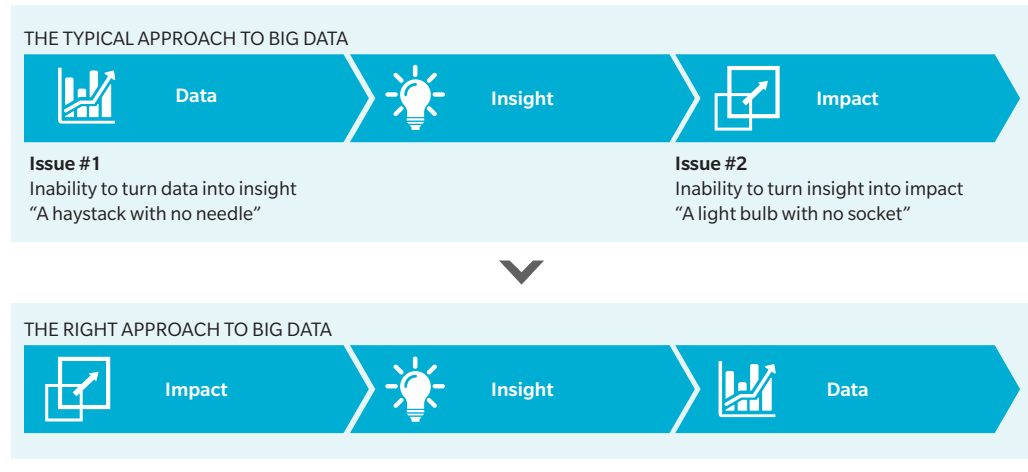
One, without a vision or a clear objective in mind, extracting insights from an ocean of data can be a forbidding task. Forget looking for a needle in a haystack – this is a matter of *a haystack with no needle*. The inability to turn data into meaningful insights will ultimately undermine the considerable IT investments required.

Two, even if you derive insights, there is no guarantee they will drive the desired impact. All too often we hear about companies that are unable to realize the ROI impact because the great insights they have derived from their data are of no value, since no one can relate them to any strategic priority. Deriving insights that don't drive impact is like a lightbulb—with no socket.

Instead, the right approach to big-data analytics is to start with the desired impact, not the data. By adopting this view, companies can focus on their vision and desired impact, identify the right insights that would support the objective, and thus understand the data sources they need to mine. (See Exhibit 3.)

Exhibit 3: Companies might need to rethink their approach to big data

THE TYPICAL APPROACH TO BIG DATA

Data → Insight → Impact

Issue #1
Inability to turn data into insight
"A haystack with no needle"

Issue #2
Inability to turn insight into impact
"A light bulb with no socket"

THE RIGHT APPROACH TO BIG DATA

Impact → Insight → Data

DEVELOP A CLEAR BIG-DATA STRATEGIC VISION AND ROAD MAP

Because the time horizon is long and the value is not immediately tangible, many Procurement organizations do not have a clear big-data strategy and road map. However, it is wishful thinking to believe big data can get off the ground without a clearly defined vision.

Procurement organizations should begin by identifying current gaps in their approach to "small data," looking at the evolution of their talent pool and processes. As they reflect

upon the strategic value they want to derive from a better mastery of their data, they should look for other functions that may be willing to embark on the journey with them, since Procurement is unlikely to succeed alone.

The big-data revolution is still in its early stages, still five to 10 years from fruition. But you can't wait that long to start applying data analytics, as the early adopters will quickly gain a competitive advantage that will be tough to recoup. Reframe Procurement as a contributor to risk management and growth (Open Innovation). Start with small data and with use cases that will drive value. The road ahead is challenging, but offers potentially great opportunities and rewards.

Oliver Wyman is a global leader in management consulting that combines deep industry knowledge with specialized expertise in strategy, operations, risk management, and organization transformation.

Oliver Wyman's global Operations Practice specializes in end-to-end operations transformation capabilities to address costs, risks, efficiency, and effectiveness. Our global team offers a comprehensive and expert set of functional capabilities and high-impact solutions to address the key issues faced by Chief Operating Officers and Chief Procurement Officers across industries.

For more information please contact the marketing department by email at info-FS@oliverwyman.com or by phone at one of the following locations:

AMERICAS	EMEA	ASIA PACIFIC
+1 212 541 8100	+44 20 7333 8333	+65 6510 9700

AUTHORS

Damien Calderini
Partner
damien.calderini@oliverwyman.com

Stephen Picard
Principal
stephen.picard@oliverwyman.com

www.oliverwyman.com

CONTACTS

Lars Stolz
Global Head of Operations
lars.stolz@oliverwyman.com

Greg Kochersperger
Europe, Middle East, and Asia Head of Operations
gregory.kochersperger@oliverwyman.com

John Seeliger
Americas Head of Operations
john.seeliger@oliverwyman.com

Xavier Nouguès
Head of Value Sourcing
xavier.nougues@oliverwyman.com

Brian Prentice
Head of Manufacturing and Process Operations
brian.prentice@oliverwyman.com

Michael Lierow
Head of Supply Chain
michael.lierow@oliverwyman.com

Alex Lyall
Head of Digital Operations
alex.lyall@oliverwyman.com

OLIVER WYMAN