# Big Data in Procurement

*Unlocking Big Value in better sourcing, process efficiency, and agility of procurement*

### What is Big Data?

The terms "Big Data" and "Advanced Analytics" have become buzzwords in many business fields such as customer management and marketing. In fact, Big Data and Advanced Analytics tools provide considerable opportunities for gaining top-line growth and sustaining a competitive advantage. In short, "Big Data" can be defined as any analysis activity targeted at getting more insight from large amounts of data in order to generate business value. The basic idea is that trends and correlations will be discovered by combining data from a wide range of sources. Many procurement organizations today leverage existing data warehouses and spend cube solutions, but do not yet fully leverage the vast array of data from internal and external sources. Applying a Big Data methodology leverages existing data and can unlock significant insight and benefits.

### There is no shortage of data

Today large amounts of procurement-related data are generated, e.g. spend data, supplier assessments, and negotiation information. Further data can easily be included by accessing relevant data from process partners *within* the company (e.g. quality reports, supplier databases, audit information), as well as from *external* data sources (e.g. the Ariba Network open supplier database). These data sources already exist and provide a solid base for advanced analytics. For example, DHL relies on its existing internal operational data, combined with macroeconomic data, to streamline its operations and improve supply-chain efficiency.

### How to unlock value from Big Data

Big Data approaches deliver business value in four main aspects:

1. Managed supply risk: A powerful application of Big Data lies in identifying trends and events that act as warning signs for supply-chain risks. Suppose you monitor publicly available news or social media channels for critical keywords or phrases associated with your suppliers' names or specific sourcing markets. Such a system can help continuously update your suppliers' and sourcing markets' risk profiles and even trigger contingency plans in case of, e.g., bankruptcies or natural disasters.

2. Sourcing cost improvements: Big Data analytics is also a great source from which to identify opportunities for better sourcing. Suppose your organization procures plastic pellets. If your database is linked with market price data for crude oil and macroeconomic forecast data, a Big Data solution can constantly discover new opportunities and alert your organization to act, e.g. to renegotiate contracts as soon as there is a significant decrease in the price of crude oil. An analysis shows that Big Data has a direct impact on one-third of the 40 improvement levers of the Arthur D. Little procurement toolbox and could lead to additional improved sourcing costs of 2% to 5% annually.

3. Organizational efficiency and agility: Despite intensive usage of ERP systems in procurement, typically 20% to 50% of working time in procurement is related to searching for information. Big Data solutions link and aggregate all relevant information, thereby facilitating and speeding up strategic and operational procurement activities significantly. We have modeled an efficiency improvement potential in procurement organizations of 10% to 30% by extensive use of Big Data possibilities.

4. Fact-based decision-making: With Big Data, fact-based decision-making has a chance to become ubiquitous reality. We all know that critical business issues are often discussed anecdotally. With a Big Data approach, procurement executives could consistently ask for data-oriented evidence for all major decision and reported business issues, such as quality problems and material availability, among others.

### How to speed up your data

Big Data initiatives should be driven by procurement functions in collaboration with information technology experts.

When applying Big Data to procurement, the first step is to come up with hypotheses on what correlations among the available data might have actual business value. There are highly sophisticated IT algorithms that are capable of automatically finding correlations within sets of data, but they often work best in a scientific setting. Even showcase Big Data users such as Tesco rely heavily on experienced and creative humans to discover trends that are hidden in the vast amount of data.



The second step is to identify all potentially relevant (internal or external, micro or macro, existing or new, real or proxy) data sources to support the business case. Business and IT need to work together to identify and locate the best data sources. The third step is to rapidly build prototypes to verify correlations and support hypotheses. This can best be done by small teams mixed with profound expertise in analytic methods and knowledge of the business and data environment.

Only after having assessed the measurable business impact of the newly gained insight, the fourth and final step is to implement a durable IT-based solution specifically for the most urgent and business-critical correlations.

### Conclusion: Don't boil the ocean

Big Data can deliver business value for procurement organizations by uncovering previously unknown interrelations among supplier and economic data. It is important to ask big questions, yet start small with rapid prototypes before implementing a full-fledged, durable solution.

**Contact:**

Bernd Schreiber      +49-175-5806-322
Daniel Seitz          +49-175-5806-158

Author: Patrick Sauter