02

USE BIG DATA AND ANALYTICS TO MAXIMIZE THE PROCUREMENT LEVER

All of the digital transformations generate a high value by-product: data.

Quantity of data rises exponentially, including new forms of data, as well as granularity and complexity.

This creates unprecedented opportunities to pull new insights for procurement and maximize the impact of optimization levers , but also new challenges to be able to fully leverage it.

What type of data?

To extend its mastery of data, above and beyond its traditional playing field, procurement can focus on exploring three dimensions:

- DEEPEN THE FUNDAMENTAL DATA of the procurement/finance cube. This could mean, for example, integrating detailed supplier invoicing into ERP to preserve a fine level of granularity on the type and quantity of purchased goods and services, hence adding new dimensions to spend analysis.
- EXTRACT AND LEVERAGE COST DATA BY WORK UNIT/CONSUMPTION UNIT (such as HR, Finance, Supply Chain, Manufacturing, Sales, and Marketing). Such an approach would help break down information silos and identify real demand/consumption patterns: cost by employee, cost per square foot, and cost per process, per distribution channel, or per customer.
- ENRICH DATA WITH EXTERNAL SOURCES, from suppliers (such as integration of supplier inventory), customers (identification of cost-generating customer profiles), or third parties (raw material prices and supplier certifications).

CASE STUDY

RETAIL DISTRIBUTION CASE

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.

Why?

Understand consumption patterns. Big data integration and analysis provide a degree of visibility and transparency factually supporting observations only partially demonstrable in the past. Buyers making use of them will be in a strong position at the negotiation table with suppliers and will be equipped to address internal demand challenges. Over time, big data will also shed new light on procurement strategy development.

An analytical approach to challenge and track demand was adopted by one of the largest European banks when it established a dedicated procurement analytics team in charge of creating a whole series of consumption metrics based on a cross-comparison of spend with targeted cost drivers: number of employees, revenues, number of transactions, and square meters of floor space.

These indicators are then measured and communicated regularly and can be used to orient remedial measures jointly with business lines. Procurement thus possesses a factual KPI base to track and challenge demand, which then can provide a means to automate the production of these KPIs.

Maximize the negotiation lever. A core historical activity of procurement —

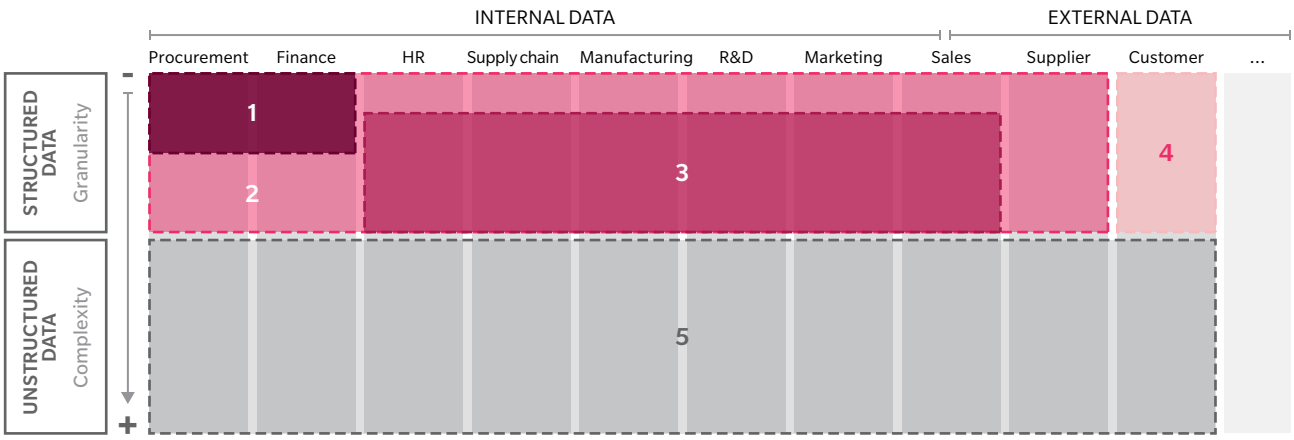
TESCO, *A MULTINATIONAL GROCERY AND RETAILER,*

used big data to cut its annual refrigeration cooling costs by

20%

EXHIBIT 5: PROCUREMENT AND BIG DATA: WHERE TO STAKE A POSITION?

INFORMATION SILOS AND DATA TYPES



1. Traditional procurement information fishnet: structured data from finance ERP and procurement systems
2. Integration of detailed supplier data and basic internal data from other functions
3. Integration of detailed structured internal data from other functions/businesses
4. Integration of customer data and third-party data (market studies, suppliers' external databases, commodity prices, etc.)
5. Integration of data from unstructured sources: raw text, images, sound, video, etc.

Source: Oliver Wyman

MRO CATEGORY KPI EXAMPLE

1. Average MRO spend per production line vs. value of production output (%).
2. Compliance percentage vs. negotiated contract prices and catalogues.
3. Percentage of original equipment spare vs. first mount brand, vs. 3rd party spares.
4. Spare parts inventory level vs. value of output.
5. Value of spare parts inventory.
6. Overall Equipment Effectiveness (OEE) vs. Maintenance costs.

CASE STUDY

KEY PRINCIPLES OF THE EUROPEAN GDPR

- **Extraterritorial application:** The regulation will apply to companies established outside the EU, which process data concerning the activities of EU organizations.
- **Explicit and positive consent:** Companies and other bodies must give citizens more control over their private data. This also applies within the framework of subcontracting relationships.
- **Right to oblivion:** Those concerned have the right to oblige data processing managers to delete their personal data at the earliest opportunity.
- **Right to portability:** Those concerned have the right to receive personal data provided to data processing managers in a structured format commonly utilized and legible by machine.
- **Profiling:** Any person has the right not to be subject to a decision founded exclusively on automated processing.
- **Security by default:** Organizations must take into account obligations concerning protection of personal data starting from product design.
- **Notification in case of leaks:** In the event of a serious data breach, companies and other bodies are required to notify national protection authorities as soon as possible.
- **More important sanctions:** Regulations give regulators the power to impose financial sanctions representing up to 4 percent of global company revenues or €20 million in the event of non-compliance.

supplier negotiations — is undergoing new developments catalyzed by leveraging big data. Examples abound in retail distribution, as well as telecommunications.

For procurement, the challenge is considerable:

- DEVELOP AND MAINTAIN SPECIALIZED ANALYTICAL CAPABILITIES, possessed by a small number of individuals, generally found outside procurement.
- MOVE FROM THE AGGREGATION OF DATA REQUIRED MERELY TO LEVERAGE LARGE MASSES OF DATA, to the development of advanced machine learning/deep learning analytical models in order to uncover insights inaccessible using standard analyses (relations/correlations), and also make reliable predictions.
- REINFORCE THE ABILITY TO INTEGRATE WITH OTHER COMPANY FUNCTIONS TO ACCESS DATA, and involve the IT department in complex data integration projects and in developing advanced analytical solutions.
- MANAGE REGULATORY IMPLICATIONS OF DATA MANAGEMENT, SUCH AS THE EUROPEAN GDPR (General Data Protection Regulation) directive, which will come into effect in May 2018 and should help create a harmonized framework from the multiple national laws currently in effect.
- FINALLY, THE HISTORICAL ACTIVITIES AND PRACTICES OF BUYERS WILL BE TRANSFORMED. Procurement must once again act as a true change agent, but this time focused on itself.

KEY TAKEAWAYS

- Volume, granularity, and types of data are growing exponentially inside and outside the company.
- It can be effectively leveraged to amplify cost reduction levers through vendor negotiations and demand management.
- There are significant challenges : Technical (IT), skills (data science), organizational (silos), and regulatory (GDPR).

CASE STUDIES

LARGE INTEGRATED BANK: MANAGING SUPPLIER RISK

Managing procurement risks is a major objective of procurement 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).

TELECOMMUNICATIONS CARRIER CASE

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 on the European level to develop a configurator for designing equipment for the best objective cost.