<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive summary</td>
<td>1</td>
</tr>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Section 1: Reimagining value delivery</td>
<td>6</td>
</tr>
<tr>
<td>Section 2: Building the foundations</td>
<td>13</td>
</tr>
<tr>
<td>About the research</td>
<td>33</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

DATA-DRIVEN DECISION-MAKING

LEADING PROCUREMENT TEAMS ARE DIFFERENTIATING THEMSELVES BY HARNESSING DATA TO DELIVER VALUE AT PACE

TRANSFORMING PROCUREMENT’S VALUE PROPOSITION
Data is the fuel that can enable procurement teams to deliver entirely new sources of value. Developing an ambitious data strategy will help functions leverage their unique position in the value chain to drive progress in areas such as risk management and sustainability.

The route from tactical, back-office function to strategic business partner is paved by data. The leading data-driven functions are pivoting their value propositions towards:
- Lower-touch, ‘self-service’ purchasing models.
- Becoming an enterprise insight engine, driving value beyond savings.
- Coordinating the value chain, using data to identify and manage partners and opportunities.

DELIVERING AT PACE
Well-designed data strategies allow procurement functions to deliver against their cost-reduction priorities more efficiently.

Top data performers are targeting cost savings of 4.1% for 2021...

...other respondents report this figure is...

2.2%

Source: Procurement Leaders CPO Planning Survey 2021

Data-driven functions are better able to execute and deliver traditional procurement value and can allocate more resources to strategic priorities.

ESTABLISHING NEW SOURCES OF VALUE
Leading performers have expanded the horizons of procurement analytics and are looking beyond spend analyses and purchasing data. These functions, which increasingly perform an advisory role, bring together a diverse range of data sets to deliver value cross-functionally.

During 2021, the most advanced data-driven procurement teams are more likely to prioritise:
- Supplier risk management.
- Sustainable practices.
- Margin growth.
- Driving innovation from the supply base.

Data will define the sources of value procurement teams can deliver and their effectiveness. Functions that do not have a well-informed data strategy will be restricted to a narrow, transactional role within the organisation.
COMMUNITY CHALLENGER REPORT: DATA-DRIVEN DECISION-MAKING – BUILDING PROCUREMENT’S FUTURE FOUNDATIONS

EXECUTIVE SUMMARY

BUILDING THE FOUNDATIONS

Data-driven decision-making can only be established through a capability improvement strategy that accounts for people, processes and technology. Procurement functions must put the following foundations in place to leverage data successfully.

1. VISION

Establish a strategic, differentiated vision of the value procurement can provide to make a compelling case for the function’s transformation. Leading practices include:
- Elevating strategic intent.
- Defining the differentiation.
- Challenging with questions.

2. STRATEGY

A strong strategy is critical to ensuring good governance, embedding new capabilities and aligning procurement with both internal and external partners. Leading practices include:
- Building a two-stream approach.
- Leading with collaboration.
- Establishing the data map.

3. SKILLS

Developing expertise in data stewardship, analytics and digital project management will enable teams to fully leverage existing investments in technology and ensure the success of new initiatives. Leading practices include:
- Distributing data literacy.
- Addressing data culture.
- Automating prescription.

4. DATA MANAGEMENT AND OPERATIONS

Without a shared vision of the processes, policies and roles required to collect, store and use data, a lack of accountability will undermine the availability and quality of data available to procurement functions. Leading practices include:
- Establishing clear ownership.
- Taking a user-centred approach.
- Employing agile methodologies.

5. SOLUTION ARCHITECTURE

The technology that enables advanced analytics is crucial. Without a well-designed solution architecture, procurement teams will struggle to access or analyse data, and any advanced analytics will be highly labour-intensive. Leading practices include:
- Building cross-enterprise.
- Consolidating data entry points.
- Proactively partnering.
A NEW DATA-DRIVEN VALUE PROPOSITION

Analytics is at the forefront of a fundamental shift in the value proposition of procurement functions. A foundation in driving efficiencies and improving decision-making, good-quality data is an enabler for teams looking to deliver new sources of value. For enterprise-wide initiatives around risk management, product or service enhancements, and sustainability, purchasing teams can use data to become a leading business partner.

Procurement is in a unique position to leverage data to drive enterprise decision-making because it is:

- **At the centre of a network:** Procurement teams are in a pivotal position within organisations as they not only have relationships with suppliers, but they also work with a diverse range of stakeholders within their own enterprises. Those relationships place procurement in a unique vantage point over the value chain, able to align different parties and access a range of internal and external data sets.

- **An adviser within businesses:** In many organisations, procurement already plays an important advisory role and data strengthens the function’s ability to deliver in this area. Augmenting existing advisory capabilities with data analytics opens up a deeper and more diverse set of insights that procurement professionals can provide to business partners.

- **A partner on sustainability:** In key areas such as supplier diversity and carbon disclosure, procurement is not only the function best placed to work with suppliers to acquire the relevant data, but it is in the strongest position to turn those insights into meaningful action; developing underperforming suppliers, redesigning contracts/service level agreements and identifying new sources of supply.

- **A partner that helps the business manage third-party risks:** Supply chain disruptions caused by the Covid-19 crisis have helped further elevate the importance of supply chain visibility and third-party risk management. As with sustainability, these risk initiatives not only provide senior leadership within procurement the fuel to drive their analytics business cases forward, but they can elevate the function’s contribution to a critical enterprise objective.
The evolution of enterprise priorities, particularly the elevation of risk management and sustainability, has presented CPOs with an opportunity to upgrade the function’s value proposition. Taking advantage of that opportunity has been made easier through advances in digital technologies, including:

- **Machine learning**: Advances in machine learning allow for unstructured data – such as that found in contracts, item descriptions or social media – to be transformed into structured sources of insight. Additionally, machine learning tools are enabling teams to identify opportunities, speeding up time to insight and, in some cases, even providing suggestions or acting on those insights automatically.

- **Blockchain**: Blockchain applications are moving from conceptual models to concrete deliverables for procurement, providing access to shared repositories of supplier, logistical and contractual information. The technology is designed to improve the reliability of data and reduce the resource required to maintain key data sets.

- **Cloud**: Cloud infrastructure ensures greater scalability in the levels of resource available to process data. This significantly increases the viability of performing complex data analysis and working with larger data sets.

Alongside these innovations, the improved availability of data – driven by the increase in third-party data offerings, volumes of sensory data and enterprise data initiatives – will significantly enhance the value that teams can derive from analytics. Functions that can translate this opportunity into investment, and can set themselves up in a way to maximise the value from that investment, will see a fundamental shift in their value proposition towards:

- A lower-touch, ‘self-service’ purchasing model.
- An enterprise insight engine.
- A value chain coordinator.

**A LOWER-TOUCH, ‘SELF-SERVICE’ PURCHASING MODEL**

Procurement can reduce its administrative and transactional burden by using data to inform and optimise a self-service approach.

**How does this change procurement’s value proposition:**

- Resource can shift from transactional and administrative tasks to more strategic activities.
- Improves users’ experience of purchasing platforms.
- Reduces process cycle times.
- Enhances procurement’s return on investment.

**How data can support:**

- Process mining to understand the performance of processes and underlying technology.
- Using interactions with platforms to better inform user experience design.
- Enhancing catalogue search functionality and identifying coverage gaps.
- Matching requests with suppliers where contracted suppliers exist or contracts could be extended.
- Improving chatbot support for procurement helpdesks.

“Data is going to be the driver of good automation in the future, we’re on a drive to use data to help automate activities”

CPO, energy and utilities company
COMMUNITY CHALLENGER REPORT: DATA-DRIVEN DECISION-MAKING – BUILDING PROCUREMENT’S FUTURE FOUNDATIONS

INTRODUCTION

ENTERPRISE INSIGHT ENGINE

Enabled by a broader set of data sets and a remit to focus on enterprise-wide initiatives, procurement teams can identify opportunities to deliver value beyond savings.

How does this change procurement’s value proposition:
- Advisory role extended beyond cost reduction to address enterprise-level operational efficiencies, product/service enhancement and resilience.
- A proactive partner in company-wide strategic planning, contributing to sustainable top-line growth through expertise in supplier-enabled innovation, sustainability and resilience.

How data can support:
- Data analytics capabilities enable staff to test hypotheses and engage in complex scenario planning.
- Dashboards detailing key metrics, with opportunities to run deeper analytics on anomalies.
- Prescriptive analytics to transform extensive data sets into next-step suggestions for purchasing areas.

"We’re looking at projects beyond those category managers ask us for. We looked at the raw data from the production process and discovered that delaying the inclusion of a high-cost raw material could enable us to retain 35% of that material”

Senior director, pharmaceutical company

VALUE CHAIN COORDINATOR

Procurement can strengthen its position as an interface between suppliers and the business, using data to identify and manage partners and opportunities.

How does this change procurement’s value proposition:
- Proactively align suppliers with enterprise objectives.
- Facilitating interactions between internal and external stakeholders.
- Pipeline for supplier innovation to enter the business.

How data can support:
- Identifying suitable partners, with repositories of up-to-date vendor information and deep supply chain mapping.
- Identifying opportunities for collaboration, using operational, customer and risk data sets.
- Performance and project tracking to ensure partners are aligned.

“We are looking to deliver more value, more diverse value, cross-functional value and we want to deliver beyond savings. To do so, we need not just more data – we need more collaboration”

Senior manager, food and beverage company
Procurement analytics represents far more than a simple analysis of the organisation’s expenditure. Instead, leading functions are taking advantage of emerging digital technologies and the demands of many businesses to gain greater visibility into the supply base to revisit the scope of analytics and unlock a spectrum of opportunities.

These leading functions are revisiting analytics from two different angles:

- **Enhancing traditional sources of value:** Deepening the scope of analytics to deliver traditional procurement value more effectively, using data to offer up greater returns with fewer resources. Functions that excel in this area are applying analytics more comprehensively in category planning, functional performance monitoring and supplier management to draw out a greater range of opportunities.

- **Establishing new sources of value:** Delivering new sources of value by analysing previously untapped data sets, applying analytics to risk management, product/service enhancement and sustainability.

Teams with strong analytics capabilities are able to operate more efficiently and capitalise on a broader range of levers to deliver cost reductions. CPOs who felt their functions used data successfully or very successfully have targeted cost savings of 4.1% for 2021 while, for other respondents, this figure stood at 2.2% (source: Procurement Leaders CPO Planning Survey 2021).

By continuing to deliver in these traditional service areas and freeing up resources by gaining efficiencies, the procurement function can take a leading role in strategic enterprise objectives. Revising the scope of procurement analytics, accessing and drawing insight from a greater range of sources, will not only enable purchasing functions to realise this opportunity but fundamentally reshape procurement’s value proposition to become a trusted business partner.
DRIVING ESTABLISHED SOURCES OF VALUE

Leading teams are widening the analytics exercises they apply to core procurement activities, using a greater range of data sets to identify opportunities to cut costs, generate efficiencies and build new partnerships.

1. OPERATIONAL EFFICIENCIES

**Objective:** Gain insight into business processes, using data to identify opportunities to increase speed, reduce operational expenses and direct resources effectively.

**SAMPLE ANALYTICS EXERCISE**
- Opportunities to adapt supply specifications to increase speed to market, reduce stoppages or improve production-line efficiency.
- Optimising procurement processes and platform user experience (UX).
- Adapting operational processes or products/services to maximise supplier impact.
- Informing strategy around globalising or localising supply strategy.
- Optimising inventory levels.
- Predictive maintenance/purchasing.

**SAMPLE DATA SETS**
- Asset performance data.
- Delivery lead times and logistics tracking.
- Inventory volumes and scrap.
- Minimum order quantities.
- Operational expenditure.
- Purchase orders and invoices.
- Sales and internal consumption data.
- Sensor data.
- System event data.
- Upcoming marketing campaigns.

2. CATEGORY PLANNING

**Objective:** Obtain insight into how best to manage an area of spend, using data to identify and prioritise opportunities.

**SAMPLE ANALYTICS EXERCISE**
- Identifying cost-reduction opportunities:
  - Total cost analysis.
  - Should-cost analysis.
  - Opportunities for discounts.
- Informing supplier management:
  - Spend fragmentation and supplier segmentation.
  - Supplier performance measurement.
  - Mapping perception matrixes.
- Informing category classifications.
- Predicting prices and raw material costs.
- Identifying new sources of supply.
- Demand profiling and forecasting.
- Opportunities for cash-flow optimisation.
- Optimising technical specifications.
- Designing recommendation engines.

**SAMPLE DATA SETS**
- Contracts and service level agreements (including payment terms, expiration/renewals, rebate triggers).
- Customer and sales data.
- Labour market databases and salary resources such as Glassdoor.
- Online marketplaces for reference prices.
- Product plans and marketing strategies.
- Purchase orders and invoices.
- Raw material costs and price benchmarks.
- Spend data from purchasing cards and B2B marketplaces.
- Third-party market intelligence.
- Vendor bids.
COMMUNITY CHALLENGER REPORT: DATA-DRIVEN DECISION-MAKING – BUILDING PROCUREMENT’S FUTURE FOUNDATIONS

SECTION 1: REIMAGINING VALUE DELIVERY

3. SUPPLIER MANAGEMENT

Objective: Acquire greater insight into the supply base, using data to classify, manage and onboard suppliers.

SAMPLE ANALYTICS EXERCISE

- Segmenting and classifying suppliers.
- Measuring spend with:
  - High-risk suppliers.
  - Diverse suppliers.
  - Local suppliers.
  - Sustainable suppliers.
- Identifying opportunities for supplier rationalisation, or areas in which the buying organisation has over-consolidated.
- Monitoring supplier availability and performance.
- Identifying supplier development opportunities.
- Geospatial supplier mapping, analysing local cost profiles and risks.
- Assessing volume and impact of supplier engagement initiatives.

SAMPLE DATA SETS

- Audits and internal supplier performance assessments from stakeholders.
- Contracts and SLAs (terms, renewal, compliance).
- Purchase orders and invoices.
- Risk management and workflow tools.
- Social media data (supplier perception, regional disruptions).
- Supplier financial statements, investor relations and annual reports.
- Supplier information repositories (including locations, contacts, legal and financial details, associated assessments).
- Supplier questionnaires.
- Third-party credit ratings and risk assessments.

4. FUNCTIONAL PERFORMANCE MONITORING

Objective: Understand the value the function delivers, using data to identify capability improvements and illustrate achievements.

SAMPLE ANALYTICS EXERCISE

- Reporting functional performance to illustrate value.
- Tracking spend under management and contract coverage.
- Assessing the progress of initiatives and identifying bottlenecks.
- Prioritising initiatives and developing capability improvement roadmaps.
- Comparing savings performance against inflationary pressures.
- Savings life cycle analytics, tracking bottom-line impact.

SAMPLE DATA SETS

- External benchmarking data.
- Inflation and price indices.
- Inventory volumes.
- Net promoter scores and stakeholder feedback.
- Procurement staff satisfaction and perceptions.
- Project or work assignment tools.
- Purchase orders and invoices.
- Support desk metrics.
- Warehousing expense and premium/expediting charges.
CASE STUDY: MONDEΛĒZ USES DATA TO DRIVE OPERATIONAL EFFICIENCY

**CHALLENGE**
Having developed a central data repository and enhanced its reporting capabilities, the procurement team at Mondelēz International began to explore opportunities to run more advanced analytics projects for strategic initiatives. The function recognised it needed to combine computer science, mathematics and business knowledge to provide value.

**APPROACH**
The team looked at data storage and accessibility before building out its analytics capabilities. This 'data democratisation' phase comprised three stages:

- **Sourcing data:** The procurement data analytics team undertook a data-mapping exercise, to understand how data was used and where it sat.
- **Integration and storage layers:** A central data repository was established to bring together previously disparate data sets held in procurement, risk and financial systems.
- **Analytics capabilities:** Using data visualisation tool Tableau as a platform to build reports and provide stakeholders with insight into key metrics.

**OUTCOME**
This has enabled the data analytics team to focus on more strategic objectives, including:

- **Inventory optimisation:** The team studied material movements, inventory and consumption forecasts to identify what and where the company was overstocking.
- **Automated KPI tracking:** As legal documents, certificates and delivery instructions were not available in a structured digital format to allow for quick analysis, the team developed a set of artificial intelligence algorithms to enable machines to read those insights. This allowed procurement to check invoices and KPIs against what had been agreed on with suppliers.
- **Flexible formulations:** Data scientists in procurement paired historical data with projections of raw material prices to assess whether the company was using the most cost-effective recipes.

Combined, these projects drove significant efficiency improvements.

**READ THE FULL MEMBER STORY**
- Mondelēz International utilises data science to find commercial opportunities.
OPENING UP NEW SOURCES OF VALUE

Leading teams are broadening the scope of procurement analytics to manage risk, improve sustainability, and enhance products and services. Through its supplier relationships, market knowledge and access to transactional data, procurement is uniquely positioned to inform enterprise decision-making. However, leaders must expand the scope of the function’s analytics initiatives and augment existing data sets with new sources of information.

Leading functions are demonstrating the benefits of this approach: respondents to Procurement Leaders’ CPO Planning Survey 2021 who felt their function used data successfully or very successfully consider supplier risk management, sustainable practices, margin growth and driving innovation from the supply base to be higher priorities than those whose data performance is poor.

“We built a reciprocity index using sales and procurement data – not just what we were spending with other companies, but what they spend with us and the revenue impact of what we buy. This gives us and the sales teams more leverage in our discussions”

Senior manager, telecoms company

1. RISK MANAGEMENT

Objective: Understand the organisation's vulnerabilities, using data to identify and manage threats.

SAMPLE ANALYTICS EXERCISE

- Identifying threats to the enterprise:
  - Supplier financial strength assessments.
  - Inherent risk within third-party contracts (missing clauses, termination dates, standards, and so on).
  - Exposure to exchange-rate volatility.
  - Assessing security credentials of suppliers accessing systems or data assets.
- Developing economic and political reports to inform regional strategies.
- Prioritising risk-reduction measures.
- Identifying supplier development opportunities to reduce risk vulnerabilities.
- Scenario planning to understand how different events may impact the enterprise, critical purchasing items and subcategories.
- Analysing historical disruption to build resilience.
- Identifying of purchasing fraud.

KEY DATA SETS

- Audit outputs.
- Bill of materials.
- Contracts and SLAs.
- Foreign exchange rates.
- Risk management and workflow tools.
- Social media data (supplier perception, regional disruptions).
- Supplier financial statements, investor relations and annual reports.
- Supplier information repositories (including locations, contacts, legal and financial details, associated assessments).
- Supplier questionnaires.
- Third-party credit ratings and risk assessments.
- Third-party market intelligence providers.
SECTION 1: REIMAGINING VALUE DELIVERY

2. PRODUCT/SERVICE ENHANCEMENT

Objective: Obtain insight into customer-facing activities, using data to identify opportunities to open up new sources of revenue, or improve the business’s product/service portfolio.

SAMPLE ANALYTICS EXERCISE
- Leveraging market intelligence to inform sales strategies, product development and entry into new markets.
- Analysing cost drivers and benchmarks to engineer higher-margin products.
- Identifying innovative suppliers or capabilities that could enhance existing or introduce new deliverables.
- Establishing spend consolidation opportunities with peer organisations to sell procurement services.
- Identifying revenue opportunities by selling waste or providing access to underused assets.

KEY DATA SETS
- Bill of materials.
- Business cases generated and accepted.
- Innovation portals and proposals.
- Marketplaces and supplier discovery tools.
- Product development plans, trial feedback and prototype performance.
- Raw material costs and price benchmarks.
- Sales data and customer feedback.
- Third-party market intelligence providers.

3. SUSTAINABILITY

Objective: Gain insight into the social and environmental objectives of the organisation, using data to measure compliance and the progress of initiatives.

SAMPLE ANALYTICS EXERCISE
- Tracking compliance to sustainable sourcing policies.
- Monitoring third-party emissions and the impact of shared initiatives.
- Identifying supplier development opportunities.
- Finding alternative or prospective suppliers with strong sustainability credentials.
- Identifying poor labour practices.
- Determining supply chain mapping and localisation opportunities.
- Uncovering asset-sharing opportunities.
- Identifying ways to minimise waste.

KEY DATA SETS
- Audit outputs.
- Contracts and SLAs.
- Corruption perceptions index, Global Slavery Index and Amnesty International country reports.
- Joint initiative tracking and outputs.
- Supplier information repositories.
- Supplier-provided data.
- Third-party disclosure service providers and scoring.
- Third-party supplier diversity data.
CASE STUDY: CHINA MOBILE USES DATA TO TACKLE FRAUD

CHALLENGE
As a state-owned company, China Mobile must ensure its spending is legitimate and that it obtains value for the public money it spends. One barrier to this is supplier fraud, which can come in numerous forms – from fraudulent purchase orders to kickbacks from suppliers.

APPROACH
China Mobile’s Procurement Shared Service Center (PSSC) developed a process to identify fraudulent bids by analysing the consistency of details provided by suppliers.

Bid evaluation experts enter bidding documents into a system, which uses algorithms to identify and extract data, and compare this information against the standard developed to look for signs of malpractice. Suspicious bids are flagged for review and the company takes action against those deemed to have committed fraud. The standard is based on 14 categories of data, including:

- **Media Access Control (MAC) addresses**: The unique identifying number of the computer used to submit a document. A similarity between these numbers could suggest that bids are coming from the same building or company.
- **Supplier documents**: Similar formats and contact details in documents from different companies could imply collusion.
- **Bidding deposit account**: Whether the suppliers use the same bank account.
- **Quotation frequency**: Are there regular quotes between suppliers?
- **Relationship of key investors**: Whether supposedly separate suppliers are owned by the same people or their associates.

OUTCOME
In its first year of operation, the system detected 2,857 suspicious bids, of which 100 were determined to be fraudulent after being reviewed by the committee. The system support the function’s cost-saving initiatives, saving $12m over 50,000 projects, assuming labour costs of $150 per person each day. The company’s compliance administrator also uses the system to review 8,000 projects each year, saving a further $1.6m.
CREATING A PLATFORM FOR SUCCESS

For procurement to transform itself into a data-driven function and emerge as a strategic leader within the business, it must have strong foundations. These foundations, which extend beyond technology alone, differentiate the teams that are set up to take advantage of the data-driven opportunity and those that are not.

Procurement Leaders’ research has identified a number of practices common among the top performers, with these separated over five critical capability layers:

- **Vision**: The objectives for procurement’s data strategy.
- **Strategy**: The action plan the function develops to address its data improvement and analytics objectives.
- **Skills**: Developing expertise around data stewardship, analytics and digital project management.
- **Data management and operations**: The processes and practices used to collect, store and use data effectively.
- **Solution architecture**: The technological underpinning that enables advanced analytics.

Teams can only establish data-driven decision-making through a capability improvement strategy that accounts for people, processes and technology (see Figure 2, page 15). Leaders who focus exclusively on tools and systems — without accounting for the skills and strategy necessary to ensure the success of such investments — will fail to deliver the desired impact.

PROGRESSING THROUGH THE STAGES OF ANALYTICS MATURITY

Procurement’s transformation towards this new, data-driven value proposition will happen in stages, with Procurement Leaders’ research pointing to a spectrum of analytics maturity. Although the number of high-performing functions is growing, most organisations are either unaware of the opportunities procurement analytics can offer or struggle to execute on a plan to improve their capabilities (see Figure 1, page 14).
## COMMUNITY CHALLENGER REPORT: DATA-DRIVEN DECISION-MAKING – BUILDING PROCUREMENT’S FUTURE FOUNDATIONS

### SECTION 2: FOUNDATIONS

**FIG 1: THE SPECTRUM OF ANALYTICS MATURITY**

<table>
<thead>
<tr>
<th>LEVEL ONE</th>
<th>LEVEL TWO</th>
<th>LEVEL THREE</th>
<th>LEVEL FOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data-deficient</strong></td>
<td><strong>Data-aware</strong></td>
<td><strong>Data-informed</strong></td>
<td><strong>Data-driven</strong></td>
</tr>
<tr>
<td>Characteristics: Procurement is not in a position to run meaningful analytics and has a limited appetite to establish improved capabilities.</td>
<td>Characteristics: The function is aware of the opportunities that data provides and has a strategy to improve its capabilities.</td>
<td>Characteristics: Procurement is delivering value by leveraging data, with analytics both challenging and informing strategic planning.</td>
<td><strong>Characteristics:</strong> Decision-making at a leadership and category level is driven by data, analytics is a central pillar in procurement’s value proposition.</td>
</tr>
</tbody>
</table>
| **Capabilities and infrastructure:**  
- Leadership has little awareness of the opportunities that data can provide.  
- Analytics tools are limited to spreadsheet tools, analysis is highly manual.  
- Few standards exist for managing data. Where available, data is historical and has undergone little quality assurance.  
- No clear governance structure exists and procurement is not an active partner in enterprise-wide initiatives. | **Capabilities and infrastructure:**  
- Analysis is ad-hoc with some strong performance but inadequate systemisation.  
- Practitioners use a variety of inconsistent data sources. Cleaning is time-intensive and primarily occurs at the point the data is used.  
- Data management guidelines are being established, but are not fully integrated with workflows.  
- A limited degree of reporting exists, providing visibility into procurement and supplier performance. | **Capabilities and infrastructure:**  
- Procurement teams are making use of a diverse range of internal and external data sources.  
- Diverse analytics exercises are embedded in procurement activities.  
- Clear accountability and processes exist to improve data quality.  
- Data standard alignment exists between business units and departments. | **Capabilities and infrastructure:**  
- Simple decision-making tasks use algorithmic automation, with more complex decision-making supported by prescriptive insight generation.  
- Data science expertise allows the team to test hypotheses, conduct sophisticated scenario planning and embed machine-learning capabilities.  
- Established, comprehensive practices exist to ensure and maintain data quality. |
| Procurement decision-making is not informed by data. | Data delivers value, but within limited confines. Analytics initiatives are primarily centred on cost savings, with transactional data the central focus. | Analytics is more forward-looking, with forecasting and opportunity identification built into strategies. Value is being delivered beyond spend analytics, informing initiatives such as risk management, business partnering and process design. | Procurement is a strategic adviser that uses data to inform and challenge the business. The function plays a proactive role in shaping wider decision-making, contributing to revenue-generating and strategic initiatives. Its insight is used to design products and services, explore new markets and inform resilience. |
FIG 2: FACTORS THAT INFLUENCE DATA ANALYTICS MATURITY

**EXECUTION**
- **INTERFACES** Applying technology to support users in interacting with data
- **ANALYTICS** Applying technology to extract insights from data
- **STORAGE** Applying technology to record and secure data
- **CLEANSING** Applying technology to support the process of making data suitable for analysis
- **ACQUISITION** Applying technology to collect raw data from both external and internal sources

**DATA MANAGEMENT & OPERATIONS**
- **CHANGE** Improving change management activities to embed data capabilities
- **RESOURCING** Identifying and securing the requisite resources for data initiatives
- **GOVERNANCE** Designing frameworks to drive oversight, direction and accountability
- **SECURITY** Driving resilience through data privacy, availability and security

**CAPABILITY LAYERS**
- **SKILLS**
  - **ANALYSIS** Building capabilities to interpret and illustrate data
  - **STEWARDSHIP** Building capabilities for the management and oversight of data assets
  - **LEADERSHIP** Building capabilities for digital leadership and project management

**STRATEGY**
- **ROADMAP** Designing a data roadmap, accounting for skills, processes and technology
- **ALIGNMENT** Strengthening and aligning relationships with stakeholders to improve delivery

**VISION**
- **OBJECTIVES** Agreeing on a set of desired outcomes for the data improvement strategy
VISION

Vision represents the objectives of the procurement data strategy. If the function lacks a clear vision, or its aims do not align with enterprise objectives, digital leaders will struggle to make a compelling case for transformation. Setting transformation objectives also helps teams to structure and prioritise investments.

The capability area (see Figure 2, page 15) covered in this section of the report is:

- **Objectives**: Determining a set of desired outcomes for data improvement strategies.

1. **CHALLENGING WITH QUESTIONS**

   The scope of an analytics exercise will be driven by what is asked of staff. If procurement teams are only expected to produce basic spend fragmentation reports, digital project teams should not be surprised if analytics tools are being underused.

   Leadership teams should challenge simplistic analysis, particularly if the organisation has the architecture in place for deeper investigations. Asking questions of buyers that require the use of multiple data sets, such as the volume of spend with high-risk suppliers or the proportion of expenditure with diverse suppliers in a given category, will help them deliver greater insight and upskill staff within the function.

   "If we just ask who are the biggest suppliers, that is what buyers will analyse. The depth and nuance of analysis depends on the questions we ask our teams- we have to use the right insights to answer the right questions"

   CPO, energy and utilities company

2. **ELEVATING STRATEGIC INTENT**

   Elevating the objectives of procurement’s data strategy will provide leaders with a stronger, more compelling business case for investment. Focusing on emerging enterprise priorities – particularly sustainability and risk, both of which have a significant supply chain component – will help digital leaders to demonstrate the function’s potential impact.

   Digital leadership teams should ensure this alignment with the business’s strategy is obvious: it is more difficult for stakeholders to reject an initiative that directly addresses a stated objective for the enterprise.

   Although many procurement teams engage in sophisticated analysis on strategic topics, these are rarely embedded or habitual (see Figure 3, page 17). While 61% of pulse survey respondents engaged in some form of supplier CSR and diversity monitoring, just 28% have embedded the practice into their workflows. Similarly, although 78% have engaged in some degree of risk monitoring, just 34% have embedded it as an ongoing practice.

   By challenging the function to deliver against these elevated goals, such exercises will become established procurement activities.
3. DEFINING THE DIFFERENTIATION

Providing unique insights should be a leading objective for procurement data strategies. Differentiating the insight the function can provide will drive its advisory capabilities. Leaders can do this by emphasising:

- The function’s access to unique data sets.
- Focusing on analysing underused data sets.
- Combining disparate data sets.
- Demonstrating procurement’s access to unique skills or toolsets.

Knowledge of local markets and access to category-specific information can be central to this differentiation. When exploring sales strategies for new markets, or identifying gaps for new products, procurement is often in the strongest position to inform the organisation’s approach.

Digital procurement leaders should also demonstrate the function’s unique role in driving action from insight. Where it is active in supplier selection and supplier relationship management, procurement can align suppliers with opportunities identified by enterprise partners. Translating insights from marketing and product development into a supplier development programme shows the function can generate insights and be a pivotal partner in executing on them.

When defining the strategic intent for procurement data strategies, identify and prioritise those areas in which procurement is uniquely positioned to deliver.

---

**FIG 3: WHICH TYPES OF DATA ANALYSIS DO YOU ENGAGE IN AS A PROCUREMENT FUNCTION? (N=18)**

<table>
<thead>
<tr>
<th>Data Analysis</th>
<th>Not applied</th>
<th>Applied irregularly</th>
<th>Embedded in workflows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement performance tracking</td>
<td>11</td>
<td>39</td>
<td>50</td>
</tr>
<tr>
<td>Spend analytics</td>
<td>6</td>
<td>50</td>
<td>44</td>
</tr>
<tr>
<td>Process performance measurement</td>
<td>17</td>
<td>44</td>
<td>39</td>
</tr>
<tr>
<td>Risk monitoring</td>
<td>22</td>
<td>44</td>
<td>34</td>
</tr>
<tr>
<td>Fraud detection</td>
<td>28</td>
<td>39</td>
<td>33</td>
</tr>
<tr>
<td>Sustainability tracking</td>
<td>28</td>
<td>44</td>
<td>28</td>
</tr>
<tr>
<td>Supplier CSR and diversity monitoring</td>
<td>22</td>
<td>39</td>
<td>28</td>
</tr>
<tr>
<td>Market intelligence development</td>
<td>28</td>
<td>56</td>
<td>28</td>
</tr>
<tr>
<td>Contract analytics</td>
<td>28</td>
<td>50</td>
<td>22</td>
</tr>
<tr>
<td>Supplier performance tracking</td>
<td>29</td>
<td>53</td>
<td>18</td>
</tr>
<tr>
<td>Cost modelling</td>
<td>28</td>
<td>56</td>
<td>16</td>
</tr>
<tr>
<td>Functional benchmarking</td>
<td>22</td>
<td>67</td>
<td>11</td>
</tr>
<tr>
<td>Consumption/demand analytics</td>
<td>28</td>
<td>61</td>
<td>11</td>
</tr>
</tbody>
</table>
STRATEGY

A well-developed strategy is essential to targeting investments wisely and creating an integrated data environment. A strong strategy is crucial to ensuring good governance, embedding new capabilities and aligning with partners.

Two capability areas (see Figure 2, page 15) covered here are:

- **Alignment:** Strengthening and aligning relationships with stakeholders to improve value delivery.
- **Roadmap:** Designing a data roadmap, accounting for skills, processes and technology.

1. BUILDING A TWO-STREAM APPROACH

An effective data strategy should be underpinned by a vision that states the benefits of improved data stewardship and analytics. It must be strategic enough to appeal to senior stakeholders and closely aligned with the practical needs of procurement staff. Designing this requires two development streams:

- **Use-case:** Consult with procurement staff and business partners to understand the opportunities and pain points. These should be concrete proposals, assessed against their perceived value and the ease with which they can be implemented.

- **Narrative:** Design a higher-level, more aspirational vision of how data will impact procurement’s value proposition. This ought to be forward-looking and strategic.

These two streams should be aligned as closely as possible. Use the strategic vision to inform the prioritisation of use cases and frame the communications strategy.

2. LEADING WITH COLLABORATION

Data storage and management is an enterprise-wide activity, with many data sets required by several functions. The ability to integrate disparate data sets is central to advanced analytics. Building an effective data strategy requires alignment with a range of internal stakeholders. A proactive approach to collaboration will help address bottlenecks around governance, data accessibility and resourcing.

Top performers play a larger role in enterprise data management initiatives, ensuring procurement requirements are being addressed and actively seeking partners within the business where improving data management would deliver against joint initiatives. The finance and IT functions are useful starting points.

### DESIGNING A STRATEGY

- Build a two-stream approach.
- Lead with collaboration.
- Establish a data map.

### Areas of potential collaboration

- **Pooling resources and identifying expertise:** Siloed data management strategies and resourcing plans create inefficiencies. Obtaining visibility of existing resources, relevant skills and ongoing data management efforts in other functions will help to streamline resourcing plans.

- **Building a business data glossary:** Lists of business terms and definitions will support cross-functional data management and analytics. Having a common language will help make sense of data throughout the business, particularly when paired with glossaries that describe data sets and models.
3. ESTABLISHING A DATA MAP
Digital project leads should commit to a data-mapping exercise as a foundational step towards building a data strategy. Successful data improvement strategies are built from an understanding of the information that staff of varying seniority use to make decisions.

This awareness can be built up over two layers of investigation:

1. **Current state:**
   - What data is currently being used?
   - How is it collected, stored and accessed?
   - What does the governance and ownership of that information look like?
   - What characteristics does that data have and how regularly is it synchronised?

2. **Gap analysis:**
   - What data would it be useful to have?
   - From where could the organisation acquire that information?
   - What restrictions does the organisation face – from a regulatory or resource perspective – that would limit the scope of its aspirations?

Even when procurement teams have access to valuable data sets, they are rarely set up to analyse these comprehensively (see Figure 4, page 20). Aside from sources such as carbon emissions, social media data and system event logs – to which most respondents do not have access – the challenge is in how data sets are structured and, consequently, whether they are suitable for analysis.

Teams should consider this shift from data being available to being suitable for analysis as part of any mapping exercise. This may involve understanding requirements around:

- **Formatting:** Organising data to meet processing and analytics requirements. An aspect of this conversion is standardising data so the organisation can combine and compare different data sets.
- **Cleansing:** Detecting and fixing inaccurate or corrupted information as part of an ongoing process.
- **Enriching:** Merging data sources to enhance information, with context obtained from elsewhere.
- **Integrating:** Providing consistent access to and delivery of data, extracting and combining different sources of information in a unified manner.

“We need to know which system has what data, whether it is structured or unstructured. There is also discovery; there are many data points we want that we don’t even capture today. We need to put a process in place to find the data we don’t have and build a process that outlines how we would collect it”

Centre of excellence lead, consumer goods organisation
## FIG 4: THE DATA SOURCES THAT ARE AVAILABLE TO PROCUREMENT FUNCTIONS

<table>
<thead>
<tr>
<th>Data Source</th>
<th>No access</th>
<th>Accessible, but not structured for analysis</th>
<th>Accessible and structured for partial analysis</th>
<th>Accessible and suitable for analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase orders</td>
<td>23</td>
<td>36</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Invoices</td>
<td>9</td>
<td>23</td>
<td>32</td>
<td>36</td>
</tr>
<tr>
<td>Currency rates</td>
<td>5</td>
<td>43</td>
<td>19</td>
<td>33</td>
</tr>
<tr>
<td>Contracts</td>
<td>27</td>
<td>46</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Inventory</td>
<td>15</td>
<td>30</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>Commodity pricing data</td>
<td>10</td>
<td>25</td>
<td>45</td>
<td>20</td>
</tr>
<tr>
<td>Supplier credit ratings</td>
<td>29</td>
<td>19</td>
<td>33</td>
<td>19</td>
</tr>
<tr>
<td>Social media data</td>
<td>24</td>
<td>50</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>Sales forecasting and marketing campaigns</td>
<td>24</td>
<td>37</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td>System event logs</td>
<td>62</td>
<td>18</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Supply chain carbon dioxide emissions (Scope 3)</td>
<td>57</td>
<td>19</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>Perception data, such as net promoter score</td>
<td>37</td>
<td>47</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- No access
- Accessible, but not structured for analysis
- Accessible and structured for partial analysis
- Accessible and suitable for analysis
SKILLS

To leverage data fully, teams require expertise in areas such as data stewardship, analytics and digital project management so they can deliver digital projects and make full use of existing investments in technology.

1. ADDRESSING DATA CULTURE

Encouraging high-quality data inputs and empowering staff to draw insight from data is central to realising value from digital investments. While the term ‘data culture’ is broad and understood differently in different organisations, data-driven cultures have several things in common:

- **Catalysts**: Enthusiastic staff can act as change agents, establishing themselves as linchpins of a data culture. While senior executives are often of central importance, organisations require proponents of data-driven decision-making at every level. These individuals will not just prove valuable in disseminating messages, but they often play a practical role in supporting other staff to learn new tools and techniques.

- **Recognition and profiling**: Effective data practices should be identified and recognised as a characteristic of procurement’s data culture. This may entail celebrating successes in team meetings, establishing rewards schemes and highlighting staff achievements to ensure they are visible to senior management. This should be part of a wider push to exchange best practices and share knowledge.

- **Ethical practices**: A strong data culture takes account of both regulatory and ethical standards. Moral practices include ensuring transparency in how data is used and for what purpose, acknowledging the limitations of data when presenting analysis and, particularly when training models, assessing data for potential bias. Embedding ethical practices will reduce the risk of analytics initiatives causing conflict, particularly when making use of personal data.

2. DISTRIBUTING DATA LITERACY

Survey respondents report that they have invested in dedicated digital and data roles (see Figure 5, page 23). Data analysts appear to be a particular area of focus, with 63% of those surveyed reporting that they have at least one specialist embedded within their function. One area of concern appears to be that of dedicated digital project leads; 38% of procurement functions do not have access to a focused digital project management role. This lack of expertise can lead to organisations failing to convert digital investments into embedded solutions for the procurement function, which could undermine leaders’ change management efforts.
Discussions with several leading organisations have revealed procurement teams must augment these specialist data skill sets. Prioritising the recruitment of data specialists but not providing training to existing employees gives rise to three significant challenges:

- **Detaching insight and action**: Providing insights to purchasing staff does not ensure they drive decision-making. Employees must feel confident in the data they are being provided, understand how to present that information to stakeholders and be able to interpret data so they can transform analysis into action.

- **Inefficient resourcing**: If staff are unable to support themselves with low-level analytics initiatives, data specialists will spend their time offering basic support, rather than focusing on more valuable initiatives. This is particularly inefficient for functions that focus on hiring data scientists.

- **Poor business acumen**: Data specialists may lack the level of procurement knowledge required to produce enterprise-ready insights. Procurement staff with strong business acumen and domain-specific knowledge will find they are in a far stronger position to draw meaningful insight from the information available.

3. **AUTOMATING PRESCRIPTION**

Prescriptive analytics — analysis that provides options based on available data to inform decision-making — is an emerging area of focus for procurement functions. Digital leaders are exploring algorithmic solutions that can automate aspects of the decision-making process, extending beyond predictive analytics in proposing and, in some cases, automatically enacting actions to achieve predicted outcomes.

Many organisations have harnessed prescriptive analytics to assist with supply chain optimisation, applying such analysis to data-heavy areas such as production planning and inventory management. Several organisations are also continuing to investigate the use of prescriptive analytics to assist with the timing of purchases — particularly when sourcing raw materials subject to price volatility.

In the context of procurement skills deficits, particularly translating data into actionable category strategies, prescriptive analytics offers a route to better decision-making. Bringing together a diverse range of data sets and presenting options to purchasing staff reduces the time required to run analysis, limits the risk of human error, and helps address both skills and knowledge gaps.

Establishing prescriptive analytics practices will require a strong data foundation, with the few procurement functions currently investing in such technologies highly mature in their data capabilities.

“The first thing we need to have is a data strategy. We then need to set up our data layer so it is cleansed and available in the correct format. We can then look at analytics, and only then build AI on top of those analytics to give sourcing teams the information they need.”

CPO, technology and telecoms company
SECTION 2: BUILDING THE FOUNDATIONS

FIG 5: THE DEDICATED DATA ROLES AVAILABLE TO PROCUREMENT FUNCTIONS

- **Data analyst**
  - Not available: 6
  - Available, but not within procurement: 31
  - Embedded into procurement (single FTE): 44
  - Embedded into procurement (multiple FTE): 19

- **Data engineer**
  - Not available: 19
  - Available, but not within procurement: 62
  - Embedded into procurement (single FTE): 19

- **Data stewards**
  - Not available: 31
  - Available, but not within procurement: 44
  - Embedded into procurement (single FTE): 25

- **Dedicated digital project lead**
  - Not available: 38
  - Available, but not within procurement: 19
  - Embedded into procurement (single FTE): 24
  - Embedded into procurement (multiple FTE): 19

- **Data scientist**
  - Not available: 41
  - Available, but not within procurement: 35
  - Embedded into procurement (single FTE): 18
  - Embedded into procurement (multiple FTE): 6
CASE STUDY: SIEMENS BUILDS A DIGITAL COMPANION FOR PROCUREMENT

CHALLENGE

Siemens is focused on tapping into the large streams of data its operations generate. Although procurement produces a lot of data, the function has often struggled to determine the best way to analyse that information and draw intelligent insights from it.

APPROACH

The function developed a digital companion – a prescriptive IT application that provides members of Siemens’ procurement team with ‘next-best-activity proposals’, a prioritised list of activities for staff to and recommendations on the action they should take next.

The companion learns from the decisions the team subsequently makes to enable it to offer better advice in the future. Examples of next-best-activity proposals include:
- Which supplier should be evaluated next.
- Which supplier should be developed next.
- Which risk should be mitigated next.
- Which supplier to assign to Global Value Sourcing.
- The next cost and value engineering project.
- The next project-pooling opportunity.
- The payment term to use next.

Siemens assembled a team of between five and eight staff to develop the digital companion. This group included supply chain management professionals and data scientists.

OUTCOME

The digital companion has delivered efficiencies and helped the procurement function to perform more effectively. The team is making better decisions, which enables it to deliver savings and help the organisation to mitigate risk.

Because the companion taps into data, leverages new digital technologies and helps staff make more intelligent decisions, Siemens is looking to develop the pilot project into a full-scale programme throughout the business.

READ THE FULL MEMBER STORY

- Siemens: Building a digital companion for procurement
DATA MANAGEMENT AND OPERATIONS

Without a shared vision of the processes, policies and roles required to collect, store and use data, a lack of accountability will undermine the availability and quality of data available to procurement functions. Poor governance will also contribute to security and compliance risks.

1. OWNERSHIP AND GOVERNANCE

To deliver a data strategy, digital leadership teams should establish responsibilities around executive sponsorship, project team roles and stakeholder contributions. This is particularly true where change management and communications are concerned, as these areas are often overlooked.

Digital leadership teams should know who is responsible for the following deliverables:

- **Analytics**: Who is responsible for data analytics, what analysis are those individuals expected to undertake? How is their impact measured?
- **Stewardship**: Who is responsible for data stewardship? What activities does this include? How is their impact measured?
- **Data architecture**: Who is responsible for maintaining IT architecture and applications? What are they accountable for? How is their impact measured?
- **Process**: Who owns the core operational processes within the business? Who is responsible for changes to processes? How is the performance of those processes measured?
- **Security**: What practices and guidelines are in place to manage risks? How does procurement fit into the enterprise cybersecurity framework?

“We needed an ongoing master data management approach. We can’t just do a one-off cleanse and six months later do it all again. We had to have a process of ownership”

Senior director, media and entertainment organisation

FOUR KEY CAPABILITY AREAS

- **Security**: Driving resilience through data privacy, availability and security.
- **Governance**: Designing frameworks to drive oversight, direction and accountability.
- **Resourcing**: Identifying and securing the resources needed for data initiatives.
- **Change**: Improving change management activities to embed data capabilities.

See Figure 2, page 15, for more information
2. TAKING A USER-CENTRED APPROACH
Account for users when embedding new capabilities, defining expectations, understanding requirements and targeting communications strategies. Deploying data products or investing in analytics training will not lead to long-term benefits unless teams communicate analytics practices and align them with workflows. A few practices include:

- **Accountability and tracking:** Record training attendance and formalise analytics activities within job roles, performance measurement and workflow maps. This may involve mandating analytics exercises at project junctures, aligning analytics requirements with performance indicators and analysing tool usage.

- **Resourcing change management and communications separately:** Having a dedicated communications strategy is critical when rolling out new analytics technologies. A well-designed communications plan will help improve engagement with projects, ensure expectations are clear and address resistance to change. Assigning separate resources to this initiative will help ensure change management activities are not squeezed out as projects progress.

- **Take a user-centred approach to development:**
  With knowledge of who is using procurement insights and their job roles, development teams can ensure data products are developed in line with users’ requirements. For example, dashboards can be designed to display the most important metrics to different user groups. This approach should be informed by a process to collect and escalate feedback.

  “The first thing I did was measure the use of our various analytics tools and we had a lot of sad findings. They were used, but totally died out. We are learning from that”

  — Senior director, pharmaceutical company
3. EMPLOYING AGILE METHODOLOGIES
Demonstrating the opportunities that advanced analytics offers can be difficult when working with nontechnical staff. Shifting to an agile methodology, characterised by creating and iterating on deliverables in short sprints, can help digital leaders demonstrate the progress of projects and demonstrate functionality. This provides senior executives with greater awareness of the opportunities, which helps them to prioritise initiatives and suggest changes while a project is in progress.

Agile methodologies are particularly useful when exploring data products, where user feedback is essential in building a useful product. These include:
- Category and strategy dashboards.
- Decision-support algorithms.
- Chatbots.
- Automated spend classification.

“We prioritise a few things nontechnical staff want to see and build them during a sprint. We show it to them and if they like it we continue, if they don’t we revise it. Before, they couldn’t see the possibilities or even articulate what they wanted”

Senior manager, telecoms company
SOLUTION ARCHITECTURE

Procurement teams that lack a well-designed solution architecture to enable advanced analytics, will struggle to access or analyse data and any advanced analytics will be labour-intensive.

1. BUILDING CROSS-ENTERPRISE

In working with IT to devise the architecture and applications that will support for procurement’s data strategy, project teams should take a cross-enterprise approach while considering the following points:

- **Accessibility of data across the business**: Staff must have opportunities to access enterprise data sources outside of the function in an accessible format.
- **Applicability of third-party data sources**: Sourcing third-party data that is valuable to both other functions and procurement can create efficiencies and open new business partnering opportunities.
- **Cross-functional scalability**: Opening data investments to other functions helps position procurement’s digital strategy as an enterprise enabler.
- **Stakeholder reporting**: Ensuring approaches address stakeholders’ interests and reporting needs, including the relevance of insights and visualisation preferences, as well as the timeliness and accuracy of data.

"Capture information in one place and use it in multiple places. The creation process has to be solid, so vendor information would include its code, address, location: everything. This should be reused in different systems so we don’t have to punch that in for every contract or purchase order”

Procurement manager, consumer goods organisation

2. CONSOLIDATING DATA ENTRY POINTS

Addressing data quality at the point it is entered is a valuable way to reduce the level of resource required for effective data stewardship. Although such approaches often focus on maintaining and cleansing information already available within databases, digital leadership teams should also explore how to improve the quality of data they receive.

1. **Automating data entry**: Designing or purchasing solutions that can suggest or correct inputted values. While still an emerging use-case, some companies use machine learning algorithms to suggest category classifications and part numbers.

2. **Reducing opportunities to input data**: Mapping out processes to identify where staff enter data can reveal opportunities to consolidate and reduce duplication. This may involve designing systems to work with prepopulated fields. Teams may also need to integrate systems so that data can be used in multiple applications.

As well as improving the quality of data available and reducing the time spent on cleansing activities, these approaches also improve the user experience by reducing manual data entry.
3. PROACTIVELY PARTNERING

Procurement functions are often poorly aligned with the organisation’s digital and data strategies. This may result in many business-wide data investments failing to address purchasing teams’ requirements.

Leading procurement functions differentiate themselves through strong internal digital partnerships, which result from close alignment with IT. This alignment extends to infrastructure, with procurement ensuring it is a consulted partner, rather than a passive participant for a critical area with significant implications for the scope of analytics.

Digital procurement leaders should ensure they articulate the function’s objectives to IT. This will inform a collective approach to identifying the digital infrastructure procurement needs need to deliver against those objectives. Digital leaders within the function should have oversight of the enterprise’s digital roadmap, using it as a basis to inform the function’s digital strategy and challenge business assumptions where enterprise-wide investments are unlikely to deliver value.

To play a proactive role, digital project leads should be knowledgeable about IT applications and infrastructure when building a data improvement strategy. This includes understanding the solutions that are available to support data access, storage, quality and analytics (see Figure 8, page 30).

Areas of additional alignment

- Aligning applications with corporate standards and guidelines.
- Accessing, or making better use of, resources available within the business.
- Consolidating systems, decommissioning underused applications and rationalising licences.
- Establishing or maintaining the enterprise data model, which defines the data the organisation produces and consumes. Procurement can help to inform and champion the model.

“We have a consolidated data strategy with a data lake we store our data in. It has spend and sales data, so we can see the sales impact raw materials have. We have an established big data environment with Spark, Azure and Hive; we can connect to this data easily and use it in Tableau”

Manager, food and beverage company
FIG 8: INTRODUCTION TO THE DATA SOLUTIONS LANDSCAPE

<table>
<thead>
<tr>
<th>DATA SOURCES</th>
<th>DATA REPOSITORIES</th>
<th>DATA QUALITY</th>
<th>ANALYTICS SOLUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supplier reference</strong>: This growing and diverse market offers insight into financial strength, diversity and sustainability.</td>
<td><strong>Supplier information repositories</strong>: Central store of supplier details. Can be integrated with supplier master data management tools.</td>
<td><strong>Supplier MDM</strong>: Master data management solution with specialist supplier focus, this can include outsourcing cleansing.</td>
<td><strong>Spend analytics</strong>: Software designed to provide visibility over spend, either from a specialist provider or part of a suite.</td>
</tr>
<tr>
<td><strong>Procurement benchmarks</strong>: Category and strategy benchmarks used to compare performance.</td>
<td><strong>Knowledge management</strong>: Information storage that can include data processes, governance information and glossaries.</td>
<td><strong>Enterprise MDM</strong>: Synchronises master data across the organisation, without procurement domain-specific focus.</td>
<td><strong>Business intelligence</strong>: Tools used to analyse and report on performance and critical business metrics.</td>
</tr>
<tr>
<td><strong>Data marketplaces</strong>: Platforms where data sets can be purchased or sold, functioning as an interface between parties.</td>
<td><strong>Contract repositories</strong>: Central point of storage for contracts, often integrated within a procurement suite.</td>
<td><strong>Material MDM</strong>: Master data management solution with cleansing capabilities for purchased, and stocked materials.</td>
<td><strong>Process mining</strong>: Visualising processes and performance using system event logs. Can offer prescriptive recommendations.</td>
</tr>
<tr>
<td><strong>Market intelligence</strong>: Offerings that provide insights into trends and suppliers for purchasing areas.</td>
<td><strong>Data warehouse</strong>: Aggregates processed data into a central data repository for analysis.</td>
<td><strong>Data input assistants</strong>: Solutions that match, automate or inform data entry. Usually part of a broader offering.</td>
<td><strong>Contract analytics</strong>: Emerging area around running analysis on contracts to understand obligations and compliance.</td>
</tr>
<tr>
<td><strong>Event alerting</strong>: Platforms that monitor supply chains and notify teams when disruptions are predicted.</td>
<td><strong>Data lake</strong>: A repository that stores structured, semi-structured and unstructured data. Associated with greater flexibility and scalability than warehouses.</td>
<td><strong>Data preparation tools</strong>: Tools which help consolidate, enrich and compile data. Often integrated with data science tools as the preparatory step before analysis.</td>
<td><strong>Data science</strong>: Platforms that support the life cycle of a data science project, including data exploration, model development and visualisation.</td>
</tr>
</tbody>
</table>

**Note**: The graphic outlines some of the procurement technology providers active as of June 2021. This is a high-level illustration of a range of vendors that offer different capabilities. The complex and overlapping nature of the landscape makes strict classification difficult and this representation does not fully account for differences in offerings between solution providers.
Technology has led procurement to a crossroads. One path leads to the function becoming a highly automated, scaled-down entity on the periphery of the organisation. Pursue the other, however, and procurement will become a critical business partner that leverages technology to inform and execute on a diverse range of strategic priorities.

To ensure the function is in a position to establish itself as a critical business partner, leaders must adopt a holistic data strategy.

See Figure 9, page 32, for further information on leading practices within each capability layer.

**ACTION POINTS: THREE STEPS TO TAKE NOW**

1. **GENERATE A COMPELLING VISION**
   Elevate the strategic intent of procurement analytics. Align this intent with both the function's objectives and those of the enterprise.

2. **DEFINE OWNERSHIP**
   Establish visibility into the projects, processes and architecture underpinning analytics. Look to define workflows, responsibilities and governance.

3. **BUILD PARTNERSHIPS**
   Take a proactive approach to collaboration; starting with IT, finance and any established data management teams. Gain insight into the resources that are available, any opportunities for collaboration that may exist and push for cross-enterprise improvement strategies.
FIG 9: LEADING PRACTICES BY CAPABILITY LAYER

**SOLUTION ARCHITECTURE**
- **BUILDING CROSS-ENTERPRISE**
  Design an architecture that prioritises the availability of data throughout the enterprise to extend the scope of procurement analytics.

**DATA MANAGEMENT & OPERATIONS**
- **ESTABLISHING OWNERSHIP**
  Allocate responsibilities in both the delivery of data strategies and in the management of established practices.
- **TAKING A USER-CENTRED APPROACH**
  Centralise users in data strategies by targeting change communications, increasing accountability and understanding user profiles.

**SKILLS**
- **DISTRIBUTING DATA LITERACY**
  Build broad expertise, with data specialists augmenting procurement staff literacy, rather than replacing it.
- **ADDRESSING DATA CULTURE**
  Pair efforts to increase technical analytics expertise with a focus on changing behaviours and mindsets.

**STRATEGY**
- **BUILDING A TWO-STREAM APPROACH**
  Prioritise the business’s requirements and pair these with a strategic and aspirational vision that appeals to senior stakeholders.
- **LEADING WITH COLLABORATION**
  Take a proactive approach to collaboration, partnering with the business on data management and spearheading joint opportunity identification.

**VISION**
- **ELEVATING STRATEGIC INTENT**
  Align the data strategy with enterprise objectives, exploring opportunities to deliver value beyond minimising spend.
- **DEFINING THE DIFFERENTIATION**
  Establish a unique role within the business using data, prioritising deliverables that provide a differentiation in insight.

**PARTNERING PROACTIVELY**
- Actively partner with IT to ensure objectives and resourcing, as well as application and infrastructure requirements are aligned.

**EMPLOYING AGILE METHODOLOGIES**
- Build data deliverables through an iterative development mode, prioritising functionality based on stakeholder feedback.

**AUTOMATING PRESCRIPTION**
- Explore prescriptive analytics as a way of addressing skills gaps in data-driven decision-making.

**CHALLENGING WITH QUESTIONS**
- Challenge procurement teams with questions that require the use of multiple data sets or advanced analytics techniques.

**CONSOLIDATING DATA ENTRY POINTS**
- Design around reducing manual data entry to improve data quality and the experience of using procurement platforms.

**DEFINING THE DATA MAP**
- Undertake a mapping exercise to understand where data is stored, how it is used, as well as future data requirements to deliver on, to build an informed strategy.

**ESTABLISHING THE DATA MAP**
- Undertake a mapping exercise to understand where data is stored, how it is used, as well as future data requirements to deliver on, to build an informed strategy.
COMMUNITY CHALLENGER REPORT: DATA-DRIVEN DECISION-MAKING – BUILDING PROCUREMENT’S FUTURE FOUNDATIONS

ABOUT THE RESEARCH

This report was produced during the first half of 2021 using the insights drawn from Procurement Leaders’ data-driven virtual roundtable series. These have been supplemented by a pulse survey of 22 respondents representing a range of industries and company sizes.

<table>
<thead>
<tr>
<th>RESPONDENT PROFILE BY INDUSTRY (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer goods</td>
<td>9</td>
</tr>
<tr>
<td>Energy and utilities</td>
<td>14</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>21</td>
</tr>
<tr>
<td>Pharmaceuticals and healthcare</td>
<td>14</td>
</tr>
<tr>
<td>Primary and extractive industries</td>
<td>5</td>
</tr>
<tr>
<td>Public services and not-for-profit</td>
<td>14</td>
</tr>
<tr>
<td>Technology and telecoms</td>
<td>9</td>
</tr>
<tr>
<td>Travel and logistics</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESPONDENT PROFILE BY COMPANY SIZE (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $1bn</td>
<td>45</td>
</tr>
<tr>
<td>$1bn–$10bn</td>
<td>32</td>
</tr>
<tr>
<td>$11bn–$50bn</td>
<td>14</td>
</tr>
<tr>
<td>More than $50bn</td>
<td>9</td>
</tr>
</tbody>
</table>

ABOUT THE AUTHOR

ALEX JOHNSTON
Principal analyst
Procurement Leaders

Alex is a principal analyst at Procurement Leaders, specialising in digital transformation and procurement technology.

CONTACT THE AUTHOR AND FEEDBACK
If you have enjoyed this report, would like some more information, or feel it has not met your expectations, please contact us:
feedback@procurementleaders.com