ECONOMIST IMPACT

Procurement's digital transformation imperative

Sponsored by SAP

About the research

This paper analyses how the procurement function is adopting and deploying digital technology, including the drivers behind digital transformation, expected investments in the coming year and the obstacles and pitfalls ahead. Building on the foundational insights presented in the first paper in this series, which explored the key priorities and challenges facing the procurement function as a whole, this report takes a forward-looking approach to understanding investment in, and adoption of, various technologies in the next 12-18 months.

To inform the analysis, Economist Impact conducted a global survey of 500 C-level executives across organisational functions, including chief financial officers (CFOs), chief operating officers (COOs), chief procurement officers (CPOs), chief supply chain officers (CSCOs) and chief human resources officers (CHROs). The survey explores procurement's technology priorities, with an added focus on the role of emerging technologies and external workers in advancing the procurement function's mandate in 2023 and beyond.

The key findings of this report are:

- **User experience remains one of the top priorities for businesses in driving digital transformation.** Intuitive procurement portals and guided experience models, through multilingual translation and chatbots that provide a customised solution for users, are paving the way for procurement to improve its offering and therefore, relationships.
- **A category management evolution is coming to the fore as supply chains face a more complex risk landscape.** A priority for 27% of the C-suite, category management has remained one of the top three areas of focus for driving digital transformation in procurement to manage costs and deliver greater value to its stakeholders. Greater investment in technology to further should-cost analysis (selected by 27%) and strategy identification (selected by 23%) could optimise negotiations and operations.
- **Spend and predictive analytics are increasingly in demand by business leaders to overcome risks and identify new opportunities.** As supply chain visibility continues to remain a top organisational risk focus for 30% of executives, businesses are turning to data and analytics for forward-looking insights on supply shortages and opportunities and new suppliers. The C-suite focus on spend analytics increased from 16% selecting it in 2022 to 30% in 2023.
- **With rapid technological developments, companies are looking to increasingly utilise and invest in artificial intelligence (AI).** Advanced AI applications (eg fraud detection) and generative AI are being used to automate more complex datasets, scenarios and workflows are available at the fingertips today. Procurement teams must seize the opportunity to embed AI, as it draws upon actionable insights from diverse data and provides early warning signals while managing supplier risks at a super speed.
- **Challenges with change management and ease of deployment are key barriers to digital transformation in the business.** Procurement's digital initiatives are largely impeded by issues with change management (selected by 34%) and ease of deployment of technology (selected by 32%). The complexity of the organisation, procurement processes, and product and service categories contribute to the unwillingness to change and deploy technologies. Procurement teams also need new knowledge and skills to use these technologies effectively.

Contents

- **Cyber-security risks are a dominant concern as large-scale cyber-attacks emerge at weak points in supply chains.** A top risk for 27% of businesses and critically for 32% of smaller businesses that are struggling to fend off cyber-attacks, greater focus on third-party risk assessments, mapping supplier cyber-security standards, vendor security ratings, and reporting issues, as well as better technology protection and user training are required.

Economist Impact gratefully acknowledges the contributing writer, Adam Green, and the technical experts (listed below) who provided guidance in their personal or professional capacities. The paper's findings do not necessarily reflect the views of the experts or their organisations:

- Philip Ideson, founder, Art of Procurement
- Peter Smith, managing director, Procurement Excellence

Economist Impact wishes to thank the editorial and policy team for their contribution:

- Charles Ross, programme director
- Elizabeth Mackie, research director
- Harsheen Sethi, research manager
- John Ferguson, research advisor
- Oliver Sawbridge, research advisor
- Aashi Garg, research analyst

The survey findings were supplemented by interviews with executives and experts across various regions and sectors. Economist Impact would like to thank the following experts for their time and insights (listed alphabetically by surname):

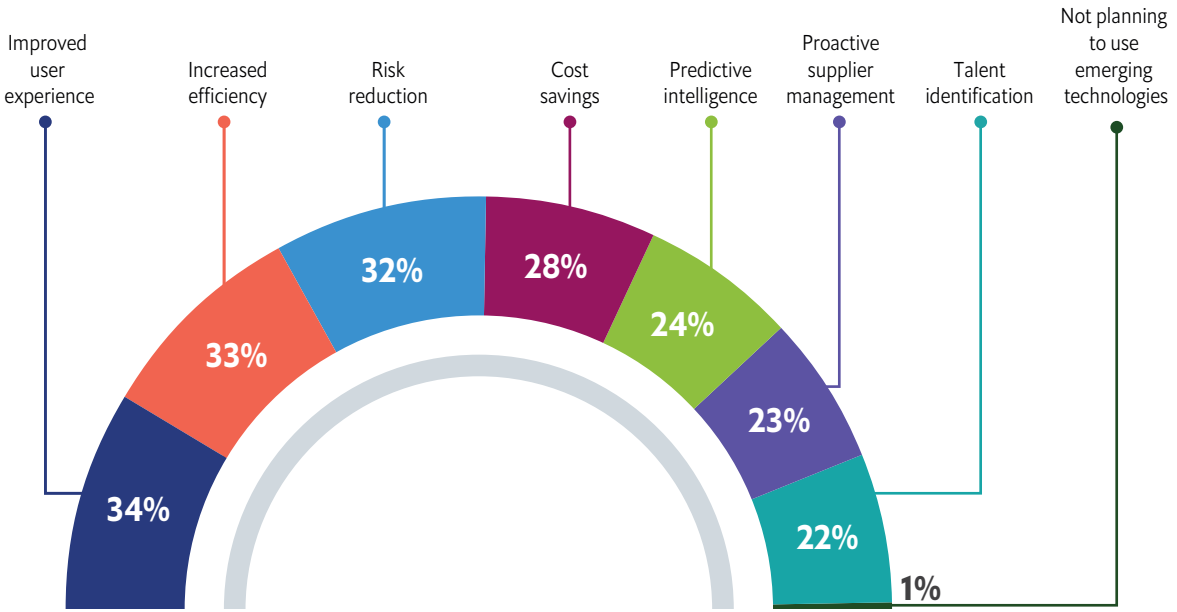
- James DePalma, managing director of sourcing and supply chain management, Grant Thornton LLP
- Roxane Desmicht, thought leader in supply chain management and former vice president, global supply chain management, ams OSRAM
- Stéphane Masson, senior vice president, Global Procurement, Marriott International
- Pierre Mitchell, chief research officer and managing director, Spend Matters
- Gustavo Moreno, managing director and global head of sourcing/category management (ex. IT), Standard Chartered Bank

Contents

Introduction

Digital technologies are playing an increasingly significant role in helping the procurement function to improve efficiency, create value for the business, and raise performance in emerging and important domains like environmental, social and governance (ESG) reporting.[1] From user-friendly interfaces for suppliers and internal teams to AI-powered scenario modelling and decision support, contemporary digitalisation and analytics tools and data are an asset to a function that is buffeted by significant headwinds, including the pandemic, inflation and fraught global supply chains.[2]

Figure 1: How organisations are using digital technologies to drive procurement value



Source: Economist Impact, 2023

Contents

Previous Home Next

1 Gartner. 2021. "Anatomy of an Effective ESG Program". [https://www.gartner.com/en/legal-compliance/trends/anatomy-of-an-effective-esg-program] Accessed September 6, 2023.
2 World Trade Organisation. 2021. "Rising Risks to Global Value Chains". [https://www.wto.org/english/res_e/booksp_e/08_gvc_ch5_dev_report_2021_e.pdf] Accessed August 23, 2023.

Digital technology is helping the procurement function to manage risks and costs while offering predictive and modelling capabilities for the future. In part, the function's internal importance has accelerated investment in its own digital journey, according to experts. "I think procurement has always been a laggard in digital transformation because in most cases they are [seen as] a cost centre," says James DePalma, managing director of sourcing and supply chain management at Grant Thornton LLP. "I think there's been a huge shift over the past 15 or so years in terms of procurement being a profit centre."

Roxane Desmicht, thought leader in supply chain management and former vice president, global supply chain management, ams OSRAM, believes that, by giving the procurement function oversight of spending and providing greater visibility, technology can help it to drive value and savings in the wider business.

However, uncoordinated software adoption across functions, along with variable data quality, can create technical debt and complexity rather than efficiency. Technologies can also fall short of their potential due to inadequate change management; the workforce needs to be part of the transition and given the skills to ensure new technologies are deployed effectively.

The first Economist Impact white paper[3] in this series reviewed the broad shifts in the procurement function's place in the modern enterprise. It included key risks and investment needs as well as differences of opinion and outlook across functions, industries and geographies.

With procurement's evolution from being mainly a cost centre, coupled with rapid developments in digital technology, it is imperative to understand the strategic, organisational and technical foundations required to achieve successful deployment of these technologies. This paper explores the emerging use cases for technologies, especially AI and advanced data analytics, while also analysing different risks and challenges to successful integration.

Contents

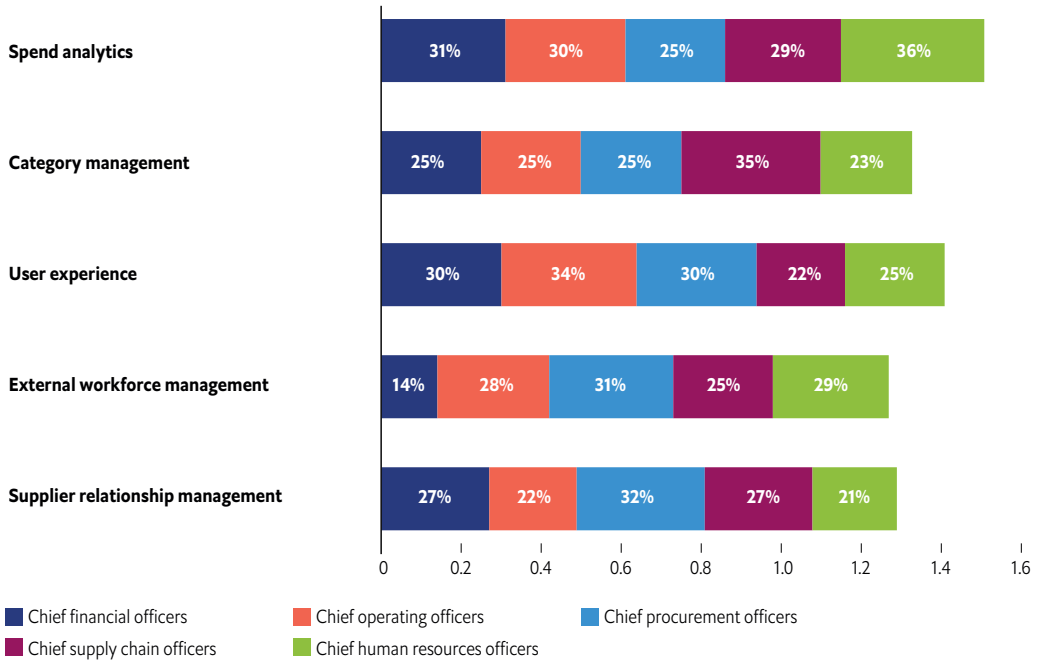
3 To read more, visit The Procurement Imperative [https://impact.economist.com/projects/the-procurement-imperative/].

Digital technologies are playing an increasingly significant role in helping the procurement function to improve efficiency, create value for the business, and raise performance in emerging and important domains like environmental, social and governance (ESG) reporting.

Chapter one: transformation drivers

Digital transformation can help the procurement function adapt to economic volatility, improve costs and efficiencies, and raise standards in emerging domains such as ESG compliance. Certain areas of business are seeing this digital transformation more than others. According to our 2023 survey, the top five drivers of digital transformation in procurement are spend analytics (30%), user experience (including experiences with people, processes and products) (28%), category management (27%), supplier relationship management (26%) and external workforce management (25%).

Figure 2: Top drivers for digital transformation in the procurement function



Source: Economist Impact, 2023

Contents

A year-on-year comparison of our survey shows that for two years in a row, user experience and category management have been the top digital transformation priorities for business leaders. Amongst these, spend analytics stands out, with rising favourability for 30% of executives in 2023 from just 16% in 2022.

The focus areas highlighted by different C-suite executives not only reflect their priorities for the year ahead but also specific challenges in their job functions. For instance, the strong emphasis on spend analytics for CFOs and CHROs is likely underpinned by the nature of their roles in managing and financing outsourced labour, with a growing need for forward-looking insight into spend and risk in the current environment.

All eyes on data and experience

Within spend analytics, better data is helping procurement teams be more proactive and strategic. "In the past, procurement ran spend analytics based on previous data. This is shifting as we have more data at our fingertips so we can see, for instance, what spend categories are trending where we don't have a contract? How do I act on that now? This is how procurement can now align to the current business," says Mr DePalma.

Enhanced spend analytics also allows the procurement function to more effectively identify new sources of potential value and risks for the enterprise. Data-driven spend analysis can help procurement teams make smarter decisions on suppliers, contracts and planning, and improve visibility into all the variables impacting decisions.

Gustavo Moreno, managing director and global head of sourcing/category management (ex. IT) at Standard Chartered Bank, highlights the importance of data and technology to measure and forecast spend risk across the supply chain to identify hidden threats. "When you assess some aspects of concentration risk, such as how much money is spent with a party, you don't know whether that party subcontracts the same tier-2 or tier-3 suppliers as many of your other vendors. Concentration might happen three or four tiers down the supply chain and you may not have visibility of that. In the near future, surely a common platform should allow us to map vendors, contractors and subcontractors to be able to have in-depth visibility into our supply chains and help us predict potential issues," he adds.

Businesses are realising the benefits of leveraging digital transformation to improve decision-making. "Innovation and technology are moving Marriot away from a fact-driven strategy towards a data-driven strategy," says Stéphane Masson, senior vice president of global procurement at Marriott International, a leading hospitality player across 138 countries.

"Historically, we were driving our strategy based on product or preference, but now innovation lets us make decisions based on data," says Mr Masson. This is helping the company identify efficiencies, for example, and accelerate its ESG reforms. Yet many organisations are struggling to be truly data-driven. According to a SpendHQ study, there is much doubt over the accuracy of procurement data, leading to poor decisions, indecision and pushback. The reported lack of dedicated procurement performance management (PPM) software to track and manage outcomes adds to woes among the majority of business leaders who are still using tools like spreadsheets or who cannot refresh their procurement data daily or in real time. Large organisations reportedly struggle more with having numerous data sources or silos and incompatible systems than small or midsize enterprises.[4]

Contents

Previous Home Next

4 Procurious. June 8, 2023. "From Insights to Impact: Driving High-Performance Procurement". [https://www.procurious.com/resources/from-insights-to-impact-driving-high-performance-procurement-maximise-organisational-value-and-effectiveness] Accessed September 7, 2023.

Implementing spend analytics and PPM systems can consolidate spend, supplier, ESG, and category information into one place, enabling procurement teams to make good decisions faster. They also help procurement teams to oversee the smooth completion of projects. Additionally, PPM solutions make it easier for procurement teams to track progress, report to stakeholders and showcase their expanding influence.[5]

The automation revolution

Automation is the backbone of digital transformation with the application of technology to drive efficiency and transparency.[6] It offers enormous potential for procurement, a process-heavy function, especially in areas like purchase order issuance, invoice processing and expense reimbursement. To date, procurement's automation agenda has focused on improving data accessibility and consistency and freeing up employees to work on higher-value tasks.

For Pierre Mitchell, chief research officer and managing director at Spend Matters, a market intelligence firm, the biggest cost for procurement is "the opportunity cost of doing transactional activity rather than 5x return on investment (ROI) activity that the function should be able to generate. That means looking at new ways to create value, and that involves innovation and digital technology."

Economic pressures are accelerating the function's automation adoption as inflation escalates the need for inventory flexibility and efficiency, which require rapid access to data and documentation.[7] Today, parametric cost modelling analyses detailed historical data and the ability to make comparisons across different cost drivers with greater efficiency hold promise for larger enterprises with a diverse portfolio of products and services. These can streamline should-cost analysis by rapidly sifting thousands of combinations and producing models that would take human analysts weeks or months, which is especially valuable in a time of price uncertainty and volatility.[8]

Indeed, using technology for better should-cost analysis was a top choice among the C-suite to improve category management (27.2%). This is also true for organisations of differing sizes, particularly among more than 33% of smaller enterprises with an annual revenue between US$300m and US$500m.

Automation can also be useful in fraud detection, given the power of algorithmic models to spot irregularities in large data sets or transaction volumes at a speed and efficiency beyond the capability of the human eye.[9]

Contents

5 Ibid.
6 IBM. "Defining digital transformation". [https://www.ibm.com/topics/digital-transformation] Accessed September 25, 2023.
7 IDC. August 2023. "Driving Best-in-Class Supply Chain Collaboration with a Business Network". [https://www.sap.com/registration/protected/default-overlay.html?pdf-asset=ec54f354-847e-0010-bca6-c68f7e60039b&page=1&ut=L2RvY3VtZW50cy8yMDIzLzA3L2VjNTRmMzU0LTg0N2UtMD-AxMC1iY2E2LWM2OGY3ZTYwMDM5Yg%3D%3D&client_id=1fc287f6-4b0b-11ee-8876-3fa5ed711855] Accessed September 7, 2023.
8 GEP. October 22, 2020. "Why procurement should automate should-cost modelling". [https://www.gep.com/blog/technology/why-procurement-should-automate-should-cost-modeling] Accessed August 24, 2023.
9 Economist Intelligence. June 5, 2023. "How companies use artificial intelligence". [https://www.eiu.com/n/how-companies-use-artificial-intelligence/] Accessed August 23, 2023.

Ms Desmicht says robotic process automation (RPA) can be a valuable initial step before 'big bang' automation reform, bringing procurement teams and their partners up to a baseline on standardisation. "It gives you an idea of whether automation is doing what you expect. That's a nice stepping-stone before moving on to something more expensive and riskier. We should see this used more."

Enterprises can now access automation tools once beyond the reach of all but the most well-funded and technologically advanced. "You don't need to develop your own algorithms, this is all becoming infrastructure now," says Mr Mitchell. "If you look at something like spend analytics, there is no reason you can't get basic capabilities around aggregating spend, visibility and taxonomy around spend categorisation, and linking that to cost centres."

Adoption of generative AI at all levels also offers promise.[10] Within procurement, it can analyse large datasets to produce scenario-based results, reducing complex manual processes and interventions; leverage more complex automation techniques to increase efficiencies; generate insights based on historic trends, demand profiles and supplier performance; and combine internal and external data to drive better negotiation and price strategies.[11]

Mr Mitchell sees potential for AI and automation in multilingual translation, chatbots to improve supplier communication and content production for workloads like frequently asked questions (FAQs) and knowledge management. "[Right now], people can get used to it and learn the art of the possible, and vendors are using it to augment their existing functionality and offer intelligent chat-bots."

A natural language interface could allow the procurement function to quickly interrogate contracts and documents that can be shrouded in jargon and legalese [legal terminology], which might obscure risks and anomalies. "Having a CLM [contract lifecycle management] system that speaks legalese and has semantics and vocabulary, not just business and process, but understands syntax and semantics, obligations and risk, that's where it gets to the next level," says Mr Mitchell. He cautions that this requires generative AI tools based on accurate data sources and with full reliability.

Mr DePalma sees potential for generative AI in procurement but warns that many organisations lack the corpus of data to train a robust model. "You need the data to feed the model, and if you don't have the volume, it will not drive the expected insights. We may see companies that want to do something with generative AI but when they get downriver with a project, it doesn't work because they lack the data."

A foundational understanding of AI governance is critical to responsibly adopting AI in procurement. In 2020, less than half of the organisations in the European Union had recognised the regulatory compliance risks associated with AI development, and even fewer had been addressing these risks. This indicates that a majority of organisations around the world are unprepared for a comprehensive AI risk management programme in line with emerging regulatory requirements.[12]

A robust evaluation and review process is essential to ensure the alignment of AI solutions to larger business strategy, organisational value and ethical standards. Encoding unethical standards into the system could introduce biases into the model which will have widespread implications in the supply chain where AI-powered reliance is increasing.[13]

10 Forbes. June 29, 2023. "How Generative AI Is Transforming Supply Chain And Procurement Roles". [https://www.forbes.com/sites/forbestechcouncil/2023/06/29/how-generative-ai-is-transforming-supply-chain-and-procurement-roles/?sh=2f04de0528ec] Accessed August 24, 2023.
11 Deloitte. June 27, 2023. "How Generative AI will transform Sourcing and Procurement Operations". [https://www2.deloitte.com/us/en/blog/business-operations-room-blog/2023/generative-ai-in-procurement.html] Accessed August 24, 2023.
12 McKinsey & Company. August 10, 2021. "What the draft European Union AI regulations mean for business". [https://www.mckinsey.com/capabilities/quantumblack/our-insights/what-the-draft-european-union-ai-regulations-mean-for-business] Accessed September 26, 2023.
13 World Economic Forum. June 2023. "Adopting AI responsibly: Guidelines for Procurement of AI Solutions by the Private Sector". [https://www3.weforum.org/docs/WEF_Adopting_AI_Responsibly_Guidelines_for_Procurement_of_AI_Solutions_by_the_Private_Sector_2023.pdf] Accessed September 26, 2023.

Contents

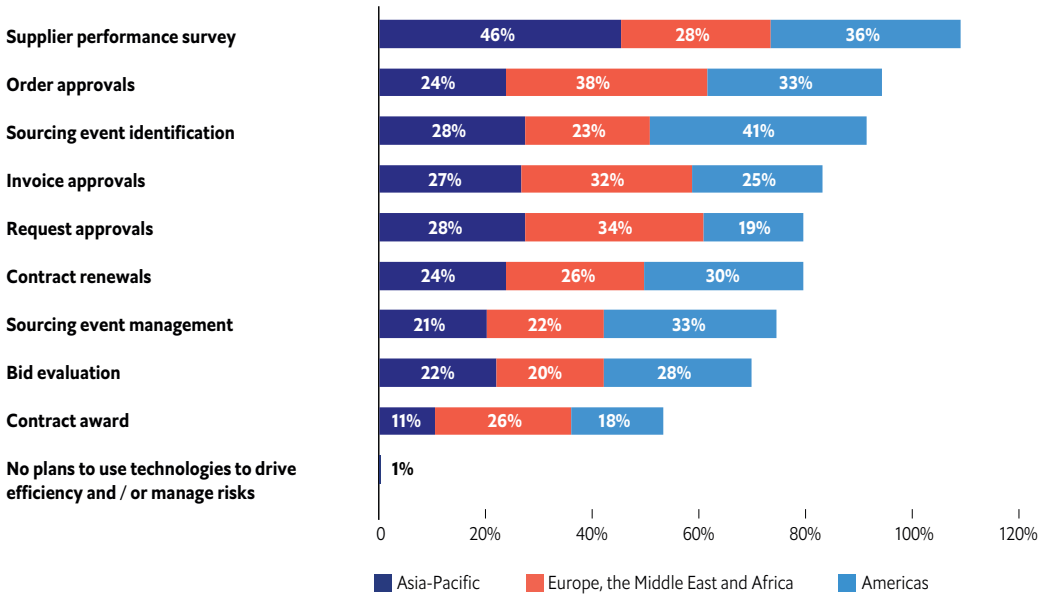
Within spend analytics, better data is helping procurement teams be more proactive and strategic. “In the past, procurement ran spend analytics based on previous data. This is shifting as we have more data at our fingertips so we can see, for instance, what spend categories are trending where we don’t have a contract? How do I act on that now? This is how procurement can now align to the current business.”

James DePalma, managing director of sourcing and supply chain management, Grant Thornton LLP

Chapter two: the technology investment agenda

Looking forward, the top investments to drive efficiency and manage risk in the coming 12-18 months will be supplier performance surveys (36%), order approvals (32%), sourcing event identification (30%), invoice approvals (28%) and request approvals (27%), according to our survey. Supplier performance surveys were most prominently highlighted by respondents in Asia-Pacific (46%), reflecting a greater focus on strategic needs as well as tightening regulations and the pressures brought on by the growing US-China rift, which is impacting supply chains.[14]

Figure 3: Organisations are using technology to drive greater efficiency in their processes



Source: Economist Impact, 2023

Contents

Previous Home Next

14 The Economist Intelligence Unit. July 13, 2023. "How should companies think about supply-chain shifts?" [https://www.eiu.com/n/how-should-companies-think-about-supply-chain-shifts/] Accessed August 24, 2023.

The top business applications for emerging technologies were improved user experience (34%) and increased efficiency (33%). Between them, industry leaders from telecommunications (61%), higher education (50%), media (48%) and healthcare (47%) selected user experience improvements as their top focus area. This reflects a desire to leverage technology at all points of user interaction with the business model, particularly among customer-centric industries.

Clunky or poorly designed systems are a burden for procurement and supply chain teams, with customer satisfaction reportedly declining due to the inadequate integration of experience and operational data.[15] Digital technology can facilitate a more intuitive layout and design, easing everything from ordering supplies to onboarding suppliers. It can also reduce errors that result from confusing interfaces.

The efficiency drive is not just about cost containment; it can produce novel and valuable insights as well. Mr Masson recalls an effort to reduce stock-keeping unit (SKU) variability. They reduced 6,500 contracted SKUs to around 3,000 using e-procurement for analytics and optimisation of quality and price. In doing so, they gained new insights into the most-contracted breakfast ingredients. Marriott International is now scaling its approach across various countries and continents by further leveraging technological tools and skill sets to accelerate the transition.

"We keep learning what we can do better, and we have teams all over the world working on the same product, they are all trying to find the best way to extract the data," says Mr Masson. Marriott has teams in India, Dubai and Washington working together and sharing best practices and insights monthly, including about the best ways to derive data from different systems.

Category management driving technological investment in procurement

The third key focus area for investing in digital transformation in the organisation was category management, selected by nearly 27% of the C-suite, and a top driver for 35% of CSCOs. Category management has retained its spot as a focus area since 2022, when 40% of the C-suite selected it as one of their top three focus areas and 21% of CSCOs ranked it as their primary focus area for digitalisation.

According to Mr Mitchell, category management remains an underdeveloped capability generally, with many interpretations. Ultimately, category management is "about taking in the nature of the supplier market in a category and tuning it to your internal processes, systems and data to manage them in an optimal way". This requires accessing market intelligence and insight from multiple resources and people, then formalising them into a cross-functional approach to understand and manage category-level procurement.

Contents

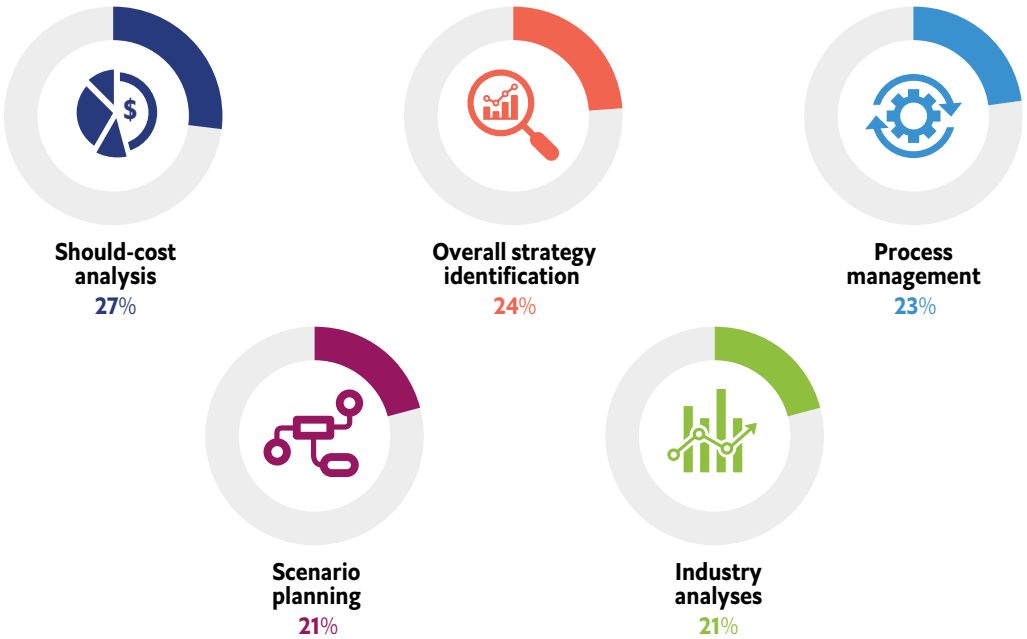
15 Art of Procurement. September 29, 2021. "Experience Management: Making P2P 'Pleasure to Purchase'". [https://artofprocurement.com/experience-management-making-p2p-pleasure-to-purchase/] Accessed August 24, 2023.

ESG is an integral pillar of category management, according to Mr Moreno, and should be considered as important as cost management. "Two things that are fully embedded into our category strategies are emissions, that is the E of ESG, and diversity and inclusion (D&I)", he says. As some suppliers may also be clients, it is important to have a unifying standard across the board to ensure that partners are assessed consistently."

Over 27% of respondents say should-cost analysis, which assesses the factors that determine the cost, will be a key area in which technology could improve category management. Should-cost analysis was more likely to be a target for technology-driven improvement among smaller to mid-tier firms, at 33% and 30% respectively, than firms with over $1 billion in revenue (23%).

A fifth of surveyed business leaders (21%) also plan to improve scenario planning in category management through technology—a push by nearly a third of leaders in Asia (29%) and CHROs (29%), likely a symptom of the recent geopolitical uncertainties in the region which have caused an outflow of labour and investment.

Figure 4: Elements of category management that organisations plan to improve through greater technology use



Source: Economist Impact, 2023

Contents

The hard part, agrees Mr Mitchell, is efficient execution. "You don't want a 99-step process for a category that is a tail spend.[16] You need to mass customise your spending and technology, and that requires nimble infrastructure, extensible systems and software, and low code functionality to democratise it."

The ESG data odyssey

Our survey shows that nearly a quarter of respondents plan to enhance procurement's value to the organisation through sustainability and ESG. It is a higher priority in emerging economies, reaching 42% in India and 45% in Mexico, for example. In light of continuous trade fragmentation and net-zero business targets, economically dominant countries, such as the US, China and those in Europe, are increasing their engagements with developing countries to expand their export markets and secure a viable inflow of energy and critical minerals. Emerging countries in Africa and Latin America, like Guyana, Libya and Venezuela, are reportedly well positioned to enhance business value through an increased focus on ESG and sustainability by way of bilateral and multilateral partnerships.[17] In our survey, CSCOs were the most likely to prioritise ESG among the C-suite, selected by 33% of respondents, compared with the survey average of 25% across functions.

While ESG requires engagement from all areas of the business, it is transforming procurement to a greater degree. An estimated two-thirds of the average company's ESG footprint lies with its suppliers,[18] and public awareness is heightening, putting pressure on companies to make their supply chains more sustainable. Upstream scope 3 emissions account for most operational emissions in the banking industry, which gives procurement a unique opportunity to lead. "The board supports procurement as the impact of upstream scope 3 in the sector is significant, unlike some in the manufacturing sector who would rather focus on addressing scope 1 and 2 emissions with higher priority," adds Mr Moreno.

Survey respondents in consumer products were the most likely to pick ESG as a procurement value enhancer, at 32%. Heavy industry respondents are also prioritising ESG as regulations tighten, selected by 40% of respondents from the chemicals sector. "Procurement should be taking the lead in assessing supplier sustainability standards and screening suppliers for ESG," says Ms Desmicht.

Contents

Previous Home Next

16 Tail spend is generally the money that makes up around 80% of transactions but only 20% of the total spend amount. Read more at "Taming Tail Spend". [https://www.bcg.com/publications/2019/taming-tail-spend]

17 Economist Impact. January 5, 2023. "The outlook series: key trends in trade-2023". [https://impact.economist.com/perspectives/economic-development/outlook-series-key-trends-trade-2023?utm_source=email&utm_medium=Eloqua&utm_campaign=e-impact-newsletter&utm_id=newsletter_perspectives_20230111&utm_content=outlook-series-key-trends-trade-2023-body] Accessed September 9, 2023.

18 McKinsey & Company. September 22, 2021. "Buying into a more sustainable value chain". [https://www.mckinsey.com/capabilities/operations/our-insights/buying-into-a-more-sustainable-value-chain] Accessed August 24, 2023.

With only 2% of companies reporting high visibility beyond their first-tier suppliers and just 28% conducting multi-tier supply chain illumination,[19] obtaining a full and accurate picture of ESG performance requires intensive data collection and best-in-class technologies. A suite of capabilities—from distributed ledger technology (DLT)[20] and Internet of Things (IoT)–based sensor networks to AI tools and dashboards—has come to market to help procurement teams trace ESG impacts through supply chains in everything from emissions to labour practices.

In IoT networks, for instance, objects and sensors are interconnected, monitored and optimised, increasing visibility and control of energy and efficiency performance and asset tracking.[21] ESG software for enterprises is improving, with dashboards combining enterprise-owned data with climate and environment data science tools, allowing more robust estimates of supply chain emissions and impact.[22] But further innovation and progress are needed.

While ESG is often considered to be shorthand for the environment, the social and governance pillars cannot be underestimated. "There are so many risk and compliance requirements across the E, S and G—from diversity to slave labour," notes Mr Mitchell. "The procurement function needs to draw diverse data and intelligence through tiers 3 and 4 and bring it together at the time of a decision." This requires bidirectional collaboration with suppliers to make them, in effect, an extension of the firm, so they in turn are monitoring and asking their suppliers to raise standards.

"In the mid-term future, calculation, especially of scope 3 emissions, will have to be ruled by standards across sectors and organisations," says Mr Moreno. "This is the moment where technologies like blockchain could become the backbone of connecting organisations and streamlining calculations." He cites the example of sustainable aviation fuel (SAF), in which blockchain is being considered one of the only ways to securely and accurately track in-set reductions from SAF generation to its consumption by end customers. "Currently, every organisation seems to be reinventing the wheel to some extent, running their own siloed process with assurance and audits done at a company level. So, technology is the only way to bring this across the supply chain."

ESG has become a complex and opaque area with potential for reputational damage. While technology is important, managerial and organisational clarity is also key. "ESG objectives need to be clear, not a target that keeps moving, and procurement needs to put leadership or a SWAT team around meeting those objectives in a sustainable way," advises Mr DePalma. He sees technologies like blockchain assisting in ensuring that reporting goals are genuine, helping to build trust. "There's a lot of room for bad behaviour in an area that's so new and high profile," he adds.

ESG compliance is proving to be more of a challenge to smaller firms. The absence of common ESG standards and metrics to evaluate suppliers, and a lack of transparency from some vendors and partners, could mean that smaller firms will struggle more to engage in ESG efforts beyond meeting regulatory requirements.[23] It is unsurprising that only 18% of mid-market firms (revenue US$500m-1bn) and 19% of small businesses (revenue less than US$500m) plan to invest in technology to track and monitor ESG performance through supplier sustainability applications.

Previous Home Next

19 Deloitte. March 13, 2023. "2023 Global Chief Procurement Officer (CPO) Survey: Orchestrators of Value". [https://www2.deloitte.com/content/dam/Deloitte/us/Documents/consulting/us-2023-global-chief-procurement-officer-survey.pdf] Accessed August 24, 2023.
20 Distributed ledger technology (DLT) is the technological infrastructure and protocol that allows simultaneous access, validation and updating of records across a networked database spread over multiple locations or nodes. Blockchain is a type of DLT.
21 Journal of Cleaner Production. May 20, 2022. "The Internet of Things and the circular economy: A systematic literature review and research agenda". [https://www.sciencedirect.com/science/article/pii/S0959652622010617] Accessed September 12, 2023.
22 IDC. April 22, 2022. "How can technology support supply chain ESG outcomes". [https://www.idc.com/ap/supply-chain/assets/blog-detail?id=18700ce2c70c48ad61de] Accessed September 11, 2023.
23 IDC. September 2022. "The role of the circular economy in sustainable IT procurement". [https://www.delltechnologies.com/asset/de-de/solutions/business-solutions/industry-market/idc-whitepaper-the-role-of-the-circular-economy-in-sustainable-it-procurement.pdf] Accessed August 24, 2023.

“In the mid-term future, calculation, especially of scope 3 emissions, will have to be ruled by standards across sectors and organisations,” says Mr Moreno. “This is the moment where technologies like blockchain could become the backbone of connecting organisations and streamlining calculations.”

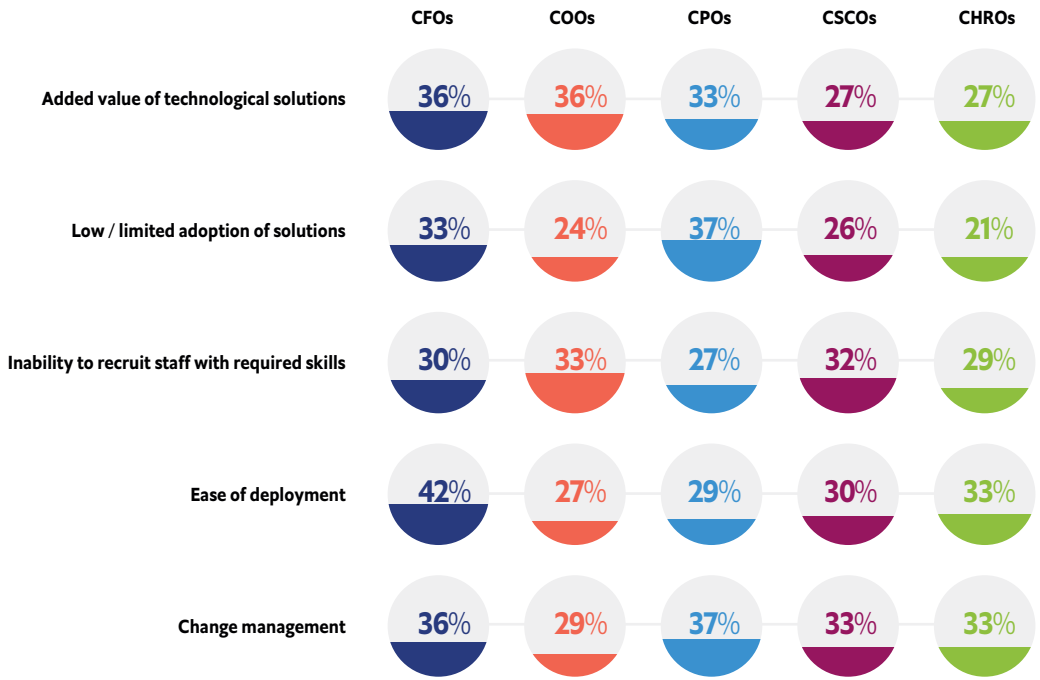
Gustavo Moreno, managing director and global head of sourcing/category management (ex. IT), Standard Chartered Bank

Chapter three: business barriers

The procurement function is no stranger to technology, but adoption and deployment bring tactical, operational, and strategic challenges, including variable data quality, inadequate workforce skills, and the need for technology harmonisation internally and across the supply chain to avoid a confusing 'spaghetti soup' of solutions.

According to our survey, the top barriers to digital transformation are change management (34%), ease of deployment (32%), added value of technological solutions (32%), inability to recruit staff with required skills (30%) and low/limited adoption of solutions (28%). This shows that organisational and cultural factors are as important to success as the capability of any given solution to solve a single problem.

Figure 5: Top barriers to digital transformation in procurement



Source: Economist Impact, 2023

Contents

"Those two [barriers] are correlated," says Mr Mitchell for change management and ease of deployment. "The less able you are to implement technology changes, the less agile you are around managing technological change, the more you are creating a barrier to change management in general."

For Mr DePalma, change management requires a 'people' strategy that encourages engagement with new technology solutions, led by 'change champions' who encourage stakeholders to shift practices. More user-friendly technologies can incentivise new workflows and processes. "People might have a process that works for them, and shifting is hard. There's a huge opportunity to streamline that process and service internal customers better through digital transformation and making people's jobs easier," he says. "If people aren't on board, the supply base they manage isn't on board either. Change management is minor if you have the right people driving it and articulating value."

Change management is also a transition challenge when it comes to harmonising technology and practices across the supply chain. For Mr Masson, technologies to improve ESG monitoring can only go as far as the supply chain's capability and willingness. "You can put all the technology in-house, but if the suppliers you have agreements with cannot provide the data, it is useless," he notes.

International organisations must also contend with differing digital adoption across markets, he adds. "We are global, and that means there are some markets that are mature, but when you go to some others, just getting an invoice sent electronically is already a challenge. It is about the entire ecosystem being able to embrace the same approach globally. That is a challenge."

Data quality is another cross-cutting barrier. Procurement data requires inputs from many different internal and external sources, which the function does not itself control.

Even when procurement does have ownership, in its internal systems for example, Mr Mitchell observes that data systems are only as good as the training of the staff entering the data. Without proper training, data entry quality is likely to be suboptimal. He sees a greater role for AI and automation to provide guardrails to reduce errors like miscoding.

"You need training and rules and getting humans out of the loop, so you don't have users with no idea what a spend commodity code is, for example, entering that into a dropdown list for a transaction. That is the kind of area where AI is useful in getting to 95%+ classification accuracy."

Contents

The software spaghetti

The prominence of 'ease of deployment' and 'added value of technology solutions' in the list of barriers illustrates the technical integration challenge facing procurement teams. While business apps and software are becoming simpler to install and use, evidently there is considerable room to improve processes. Improvements in this area could enable individuals and units across the business to start using new technology without any coordination or involvement from the procurement function or IT team going forward.[24]

In larger firms, the technology stack could differ entirely from one country to the next. "This makes it hard or impossible for the procurement function to consolidate data, leading to many ways of managing procurement transactions," Mr Mitchell says. "This feeds back into the data governance and visibility challenge."

"You have many technology offers on the table with new visibility platforms and a lot of marketing. The challenge we are facing is too many options," says Ms Desmicht. She expects consolidation, as the market cannot support the number of companies and startups. Ms Desmicht says decision-makers have to balance a best-in-class solution with the need for a rational overall architecture. "You need to select the right partner and to have a viable solution that can scale."

There are also complexities in fast-evolving areas like ESG, according to Mr Moreno. "Sustainability has become a key part of our job, including understanding future scenarios, but currently we don't have enough predictive analytics that can help manage and forecast supplier emissions over time," he says. "I think at some point we'll have it as this is being developed and assisted, among other things, by AI, but at the moment there are many solutions at the early stage. I observe that companies in the same sector currently have different approaches. This is the moment that companies can really start drawing out this roadmap."

A spaghetti soup of software creates redundancy, overlap and confusion. "Software-as-a-service (SaaS) is great, but there is so much of it that you get overlapping technology and need additional integration," warns Mr Mitchell. He notes that some technology providers are looking to stitch together data from different parts of the procurement process, but there are many subtleties to be accounted for even within data that might seem homogeneous. For instance, contingent labour refers to both contingent employees and contingent commercial services like professional consulting, which are very different from a contracting and compliance point of view.

Ms Desmicht sees an opportunity in technologies that allow companies to access all of their supply chain partners at once, rather than setting up one-to-one electronic data interchanges (EDIs).

"What happens when you are trying to connect and manage things is they don't always connect well in terms of software," says Mr Mitchell. "The software and digital platforms that sit on top of master data capability, delivered as an API [application programming interface], are hard to deliver in practice. A lot of people do not have skills in terms of the plumbing of these architectures, to make it easy for users."

The problem may get worse without taking an architecture-driven approach, warn experts.

Contents

24 Supply Chain Digital. February 02, 2023. "SaaS bloat hitting procurement bottom lines". [https://supplychaindigital.com/procurement/saas-bloat-hitting-procurement-bottom-lines] Accessed September 22, 2023.

"More connectivity creates more risk that things are not synchronised, and the need for maintaining all these connections becomes more important," says Ms Desmicht. "It's good to look at the best, but from an integration perspective, you have to think of simplicity and integration. That's where system architects have an emerging role to govern and decide who is the master of information. Is it the ERP [enterprise resource planning], or does another system take over?"

Talent gap

Inability to recruit staff with the required skills was a top digital transformation challenge for 30% of respondents to the survey. The life sciences industry appears to struggle the most, with 65% citing a talent shortage. Executives from medium to large companies also cited a talent gap, indicating the greater complexity of digital transformation in these contexts.

The skills mix of the procurement function must evolve, especially in ESG and expert domains like carbon footprint management. "All require unique and specific skills across the entire organisation," says Mr Masson. "We hire new people and make sure skills are communicated in our entire supply chains, so they understand all the work is part of overall strategy and not isolated in their corner." Third-party reports also found the lack of digital skills among employees (80%) and availability of data and digital tools (73%) were the top challenges to integrating ESG into company supply chains.[25]

For one in five business leaders in our survey, talent identification was an overall area in which they planned to use emerging technologies, including AI and machine learning, with COOs the most likely to look to talent as a technology use case. Mr Mitchell believes that companies have been struggling to have users of all stripes just generally be tech-savvy about basic analytics and have an understanding of fundamental issues around data management. "There is a general gap in knowledge around existing technology in general that is much worse in new areas such as generative AI."

This can significantly impact procurement, especially in the event of talent strategies that go beyond the borders of the organisation, such as contingent or just-in-time labour or skills that sit at the intersection of procurement and human resources.

Cyber-security threats in the AI era

Another challenge in adopting emerging technology is the increase in cyber-attacks. At a business level, the push for digitally connected supply chains has increased attack surfaces, and at a global scale, cyber risks have significantly increased since the Russian invasion of Ukraine.

According to a 2022 report on ransomware threats,

25 PwC. 2023. "PwC's 2023 Digital Trends in Supply Chain Survey". [https://www.pwc.com/us/en/services/consulting/business-transformation/digital-supply-chain-survey.html] Accessed September 5, 2023.

the average cost of a successful ransomware attack in 2021 was US$312,493. This has implications for supply chain risks, as a supply chain's cyber-security is only as strong as its weakest link.[26] For instance, ransomware attacks in the transportation and logistics sector have become more common since the covid-19 pandemic due to critical remote desktop protocol (RDP) exposures as well as security infrastructure and data storage issues, which have increased with the rise of digital supply chains.[27]

The study indicates that cybercriminals are targeting cloud infrastructure (accounting for 91% of new threats, an increase from 80% in 2021) and exposed RDP surfaces (one-quarter of threat issues). This is significant, since a third of businesses reportedly plan to utilise industry cloud platforms by 2026, creating additional cyber vulnerabilities in the absence of cloud asset creation outside of security controls, insecure defaults and lax protection of operational technology assets.[28]

Organisations need to ensure third-party software and technology are robust, since an estimated 66% of attacks focus on suppliers' code, according to one study, and 62% of the time, such attacks exploit customers' trust in their suppliers. This makes it crucial for procurement teams to ensure better incident reporting by suppliers and better management of suppliers overall.[29] Vulnerabilities in the supplier network are compounded by a lack of visibility into the inner workings of suppliers, particularly beyond the first tier, and leave a shadow of insufficient security controls in place that threaten the entire supply chain in one fell cyber-attack.[30] To make matters worse, cyber breaches can now tunnel through supply chains with devastating impacts, as evident in the massive SolarWinds hack that led companies and governments to re-evaluate their third-party software vendor landscapes.[31]

As third-party vendor operations with lax security measures open up supply chains to new, high-value entry points—with access to critical financial and intellectual property at risk[32]—more stringent measures are needed. For instance, procurement teams need an integrated picture to map supplier cyber-security standards, vendor security ratings and reporting for issues.[33]

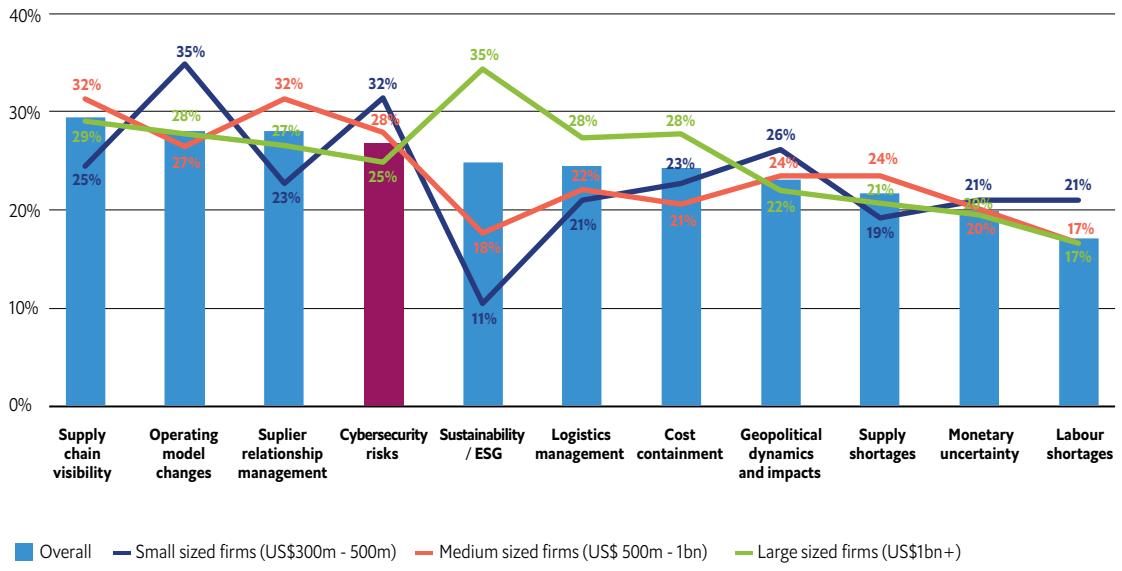
Cyber-security resilience depends not only on defences and proactive cyber governance, but also on readiness to adapt and respond in the supply chain if a cyber-attack occurs, to ensure business continuity among supply chain partners, argues Ms Desmicht. "Do people know how to react and know what the next steps are?"

Reports also show that less than 5% of procurement leaders currently have visibility of disruptive events within 48 hours of occurrence.[34]

26 Palo Alto Networks. 2022. "2022 Attack Surface Threat Report". [https://start.paloaltonetworks.com/2022-asm-threat-report.html?utm_source=google-jg-japac-cortex&utm_medium=paid_search&utm_campaign=google-cortex-stsoc-japac-in-awareness-en-fy23q4&utm_content=gs-19654006246-145893171356-647322027540&utm_network=&sfdcid=7014u000001hMKrAAM] Accessed August 24, 2023.
27 Ibid.
28 Supply Chain Management Review. May 09, 2023. "Cybersecurity risk could soon become buying criteria for CSCOs". [https://www.scmr.com/article/cybersecurity_risk_could_soon_become_buying_criteria_for_cscos#:~:text=%E2%80%9CIn%20evaluating%20new%20technologies%20to,objectives%20of%20CSCOs%20this%20year.%E2%80%9D] Accessed August 24, 2023.
29 European Union Agency for Cyber Security. July 29, 2021. "Understanding the increase in Supply Chain Security Attacks". [https://www.enisa.europa.eu/news/enisa-news/understanding-the-increase-in-supply-chain-security-attacks] Accessed August 24, 2023.
30 Risk Ledger. April 18, 2023. "The State of Cyber Security in the Supply Chain: Data Insights 2023". [https://riskledger.com/blog/the-state-of-cyber-security-in-the-supply-chain-data-insights-2023] Accessed September 26, 2023.
31 The Wall Street Journal. August 10, 2023. "AI is Generating Security Risks Faster than Companies can Keep Up". [https://www.wsj.com/articles/ai-is-generating-security-risks-faster-than-companies-can-keep-up-a2bdedd4] Accessed August 24, 2023.
32 National Institute of Standards and Technology. February 2021. "Best practices in cyber supply chain risk management". [https://csrc.nist.gov/CSRC/media/Projects/Supply-Chain-Risk-Management/documents/briefings/Workshop-Brief-on-Cyber-Supply-Chain-Best-Practices.pdf] Accessed August 24, 2023.
33 Supply Chain Management Review. May 09, 2023. "Cybersecurity risk could soon become buying criteria for CSCOs". [https://www.scmr.com/article/cybersecurity_risk_could_soon_become_buying_criteria_for_cscos] Accessed August 24, 2023.
34 Interos. August 9, 2023. "Invisible Threats: Resilience 2023". [https://www.interos.ai/resources/supply-chain-survey-2023/] Accessed September 11, 2023.

Contents

Figure 6: Cyber-security is a top priority for organisational risk management, especially among smaller firms



Source: Economist Impact, 2023

Our survey found smaller firms are more likely to be struggling with cyber-security risks, with 32% citing it as a top risk-priority area over the next 12-18 months compared with 25% at large companies. Smaller organisations may struggle more since they are caught between complying with the security provisions of larger customers or supply chain partners and having to raise the standards of downstream vendors.

While there are many cyber-security software tools available that leverage the power of AI to spot breaches and anomalies, there is a change management challenge to integrating new technology or adding new cyber-security requirements in the procurement ecosystem, as these need to be communicated across the supply network.

Mr Mitchell says that organisations are often falling short in terms of how they convey risk requirements to suppliers to be fit for purpose, and in bringing new requirements to suppliers through new sourcing or supplier management practices. New cyber-security technology also requires cross-functional collaboration, notably between procurement and legal teams, as both are involved in any changes related to supplier expectations, which will likely change the material agreement and terms or incur costs on suppliers.

Contents


Our survey found smaller firms are more likely to be struggling with cyber-security risks, with 32% citing it as a top risk-priority area over the next 12-18 months compared with 25% at large companies.

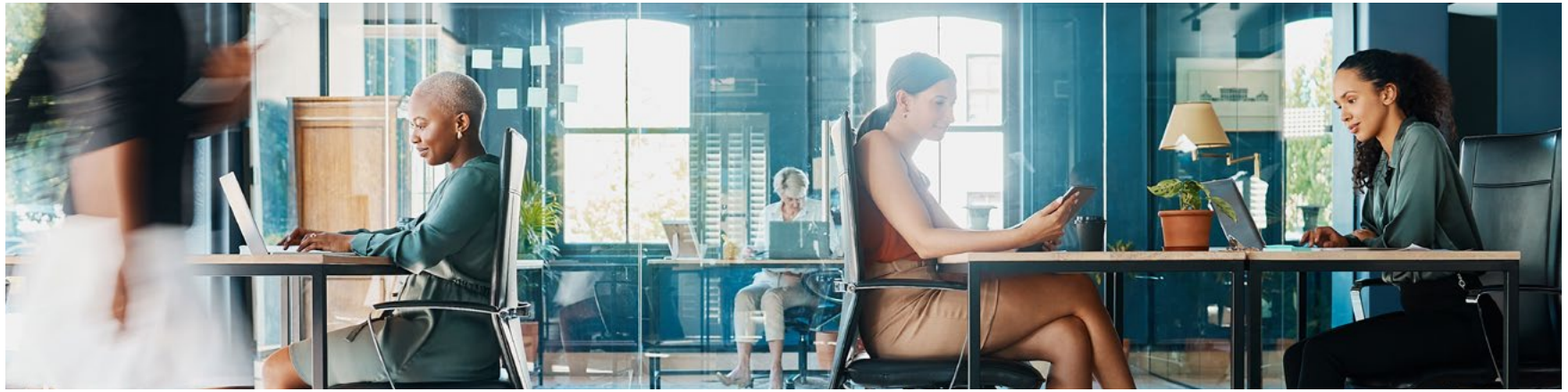
Conclusion

In an era of economic volatility, supply chain uncertainty and tightening regulations in domains like ESG, the procurement function is playing a central role in business resilience, compliance and innovation. This is forcing the function to build its clout within the organisation and shift perceptions from it being a cost to a profit centre.

To deliver on their mandate and help their businesses grow and respond to economic opportunities and risks, procurement leaders need to harness emerging technologies, from ESG monitoring and modelling to predictive analytics to inform proactive pricing and supplier negotiation.

Polling executives across industries and regions, our survey has found leaders are adopting digital transformation to improve efficiency, enhance analytics like category management and spend, and improve user experience. Evolving AI capabilities are introducing next-generation developments in automation, prediction, anomaly and fraud detection, and scenario modelling.

But digital transformation brings challenges, of which change management and ease of deployment are paramount. Adopting emerging technology requires corresponding investments in skills and training, including among supply chain partners; 'change champions' to encourage new practices; and a technology strategy that avoids an overly complex array of applications and solutions.



Contents

While every effort has been taken to verify the accuracy of this information, Economist Impact cannot accept any responsibility or liability for reliance by any person on this report or any of the information, opinions or conclusions set out in this report. The findings and views expressed in the report do not necessarily reflect the views of the sponsor.

ECONOMIST IMPACT

LONDON

The Adelphi
1-11 John Adam Street
London WC2N 6HT
United Kingdom
Tel: (44) 20 7830 7000
Email: london@economist.com

GENEVA

Rue de la Rôtisserie 11
1204 Geneva
Switzerland
Tel: (41) 22 566 2470
Fax: (41) 22 346 93 47
Email: geneva@economist.com

SYDNEY

Level 14, Unit #138,
5 Martin Place
Sydney
Australia
Tel: (61) 2 8551 0023
Email: asia@economist.com

NEW YORK

The 900 Third Avenue
16th Floor
New York
NY 10022
United States
Tel: (1.212) 541 0500
Email: americas@economist.com

DUBAI

Office 1301a
Aurora Tower
Dubai Media City
Dubai
Tel: (971) 4 433 4202
Fax: (971) 4 438 0224
Email: dubai@economist.com

GURUGRAM

Skootr Spaces, Unit No. 1
12th Floor, Tower B
Building No. 9
Gurugram 122002
India
Tel: (91) 124 6409 300
Email: asia@economist.com

HONG KONG

1301
12 Taikoo Wan Road
Taikoo Shing
Hong Kong
Tel: (852) 2585 3888
Fax: (852) 2802 7638
Email: asia@economist.com

SINGAPORE

8 Cross Street
#23-01 Manulife Tower
Singapore
048424
Tel: (65) 6534 5177
Fax: (65) 6534 5077
Email: asia@economist.com