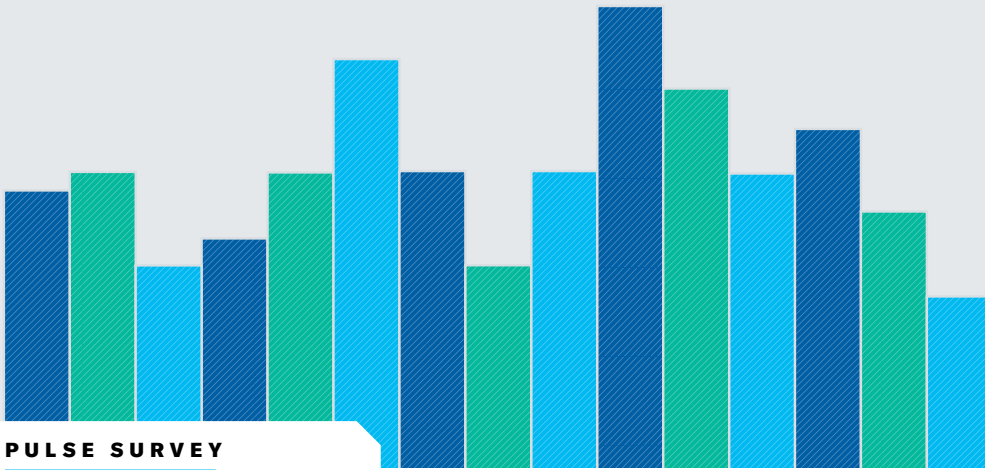


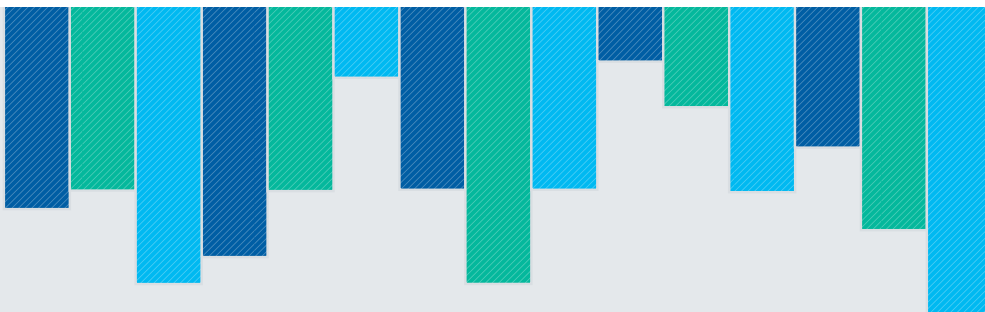


**Harvard
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ANALYTIC SERVICES



Digital Optimization Paves the Way to Strategic Supplier Management



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Organizations have increasingly focused on digitally transforming their operations to increase efficiency, make better data-driven decisions, and reduce costs. As organizations transform, procurement is often among the last operations to evolve. However, digital transformation is a growing priority for chief procurement officers, which prompts the question, to what extent are organizations using technology to achieve their procurement goals?

Leaders that have grown up purchasing consumer products online now expect that buying option going forward. Meanwhile, managers are realizing they can source supplies faster, from a wider base of vendors, often at lower prices, using e-commerce. Perhaps most important, digital solutions can ease the tactical, repetitive, and often manual work involved in purchasing processes, freeing procurement teams to play more strategic roles in their organization. Better data and analytics, for example, give procurement leaders the information they need to advance supplier diversity initiatives and drive progress toward sustainability goals while effectively managing spend through a complex web of vendors.

We've sponsored research by Harvard Business Review Analytic Services to uncover the challenges organizations face in their supplier management operations and the benefits of adopting the right technologies. Through deep interviews with thought leaders and organizations leading procurement transformation, this report details how digital dexterity is critical to stay in front of change and can elevate procurement's role as a strategic driver for the organization.

We hope you enjoy this report, and we invite you to learn more about how Amazon Business is equipping leaders to reshape their buying process, gain new efficiencies, and drive organizational growth using digital procurement solutions. Visit us at business.amazon.com to learn more.



Chris Costello
Executive Vice President
Amazon Business

Digital Optimization Paves the Way to Strategic Supplier Management

In the age of digital transformation, supplier management and procurement have been late bloomers. But organizations have learned in the past couple of years just how vulnerable global supply chains are to disruption, prompting renewed emphasis on digitizing supplier management and procurement processes. While reducing costs remains a top priority, procurement must be lighter on its feet and smarter in its strategy.

Organizations hope digital technology will help them reduce costs, increase efficiency, and improve data collection and analysis, according to a Harvard Business Review Analytic Services global survey of 271 respondents. Respondents were predominantly high-level managers from companies ranging in size from 100 to more than 10,000 employees across all industries. The survey shows that organizations are increasing investment in digital technologies—41% of respondents report that spending has increased this year, and 45% say it will rise over the next year. Respondents expect digital technology to not only increase efficiency and reduce costs but also improve data collection and analysis.

“It’s going to be increasingly difficult for organizations to remain competitive and agile if they continue to work in a nondigital model,” says Jim Kilpatrick, global supply chain and network operations leader for Deloitte Consulting. “The future supply chain is clearly digital.”

However, the survey findings strongly suggest that many organizations aren’t collecting enough data or the right kinds of data. This issue presents a bit of a chicken-or-egg problem. Businesses hope digital will help them improve data collection and analysis, but if they aren’t collecting the right data, that analysis probably won’t be very rich or useful. On the other hand, those that ensure they are collecting enough accurate data in the right categories will be able to use analytics to identify trends in purchasing that can help achieve their organization’s strategic goals. They’ll be able to not only quantify reductions in costs but also provide insights way beyond dollars and cents.

HIGHLIGHTS



73% of survey respondents say **reducing costs is a top priority** of their organization’s supplier management and procurement operations over the next year.



54% say the ability to **quickly switch suppliers in response to a disruption** is among their organization’s top challenges.



24% say they are **analyzing the majority of the supplier data they collect** in a way that aids decision making.



“It’s going to be increasingly difficult for organizations to remain competitive and agile if they continue to work in a nondigital model,” says Jim Kilpatrick, global supply chain and network operations leader for Deloitte Consulting.

FIGURE 1

Less Cost, More Speed, All Digital

Lowering costs and increasing agility lead respondents’ choices of supplier management priorities

What are the top priorities for your organization’s supplier management and procurement operations over the next year? (SELECT UP TO FIVE)



Source: Harvard Business Review Analytic Services survey, July 2021

And the benefits will be even greater with advanced technologies like artificial intelligence (AI) and machine learning. Digital technology can reduce administrative burdens and costs by, for example, accepting digital invoices while staff processes paper invoices as exceptions, Kilpatrick explains. “Artificial intelligence can sort through those paper invoices, identify any problems, and automatically resolve them with no humans involved.”

Cost and Efficiency of Online Stores

Gaining efficiency and cost savings has always been, and will likely remain, procurement’s number one priority. It is most certainly a top priority for Spring Branch Independent School District in Houston. “Every dollar I save is a dollar returned to the classroom to educate kids,” says Rick Gay, director of procurement services for the district.

For the past two years, Spring Branch staff has bought items including office supplies, computer peripherals, books, and other curriculum items through an e-commerce site. Gay estimates the district has saved more than \$800,000 so far, including more than \$400,000 on office supplies alone. That includes saving \$417,000 in hard costs—lower prices—and \$459,000 in soft, administrative costs, he says. In addition, the district saves significantly on shipping costs and lead times. The online store ships many items for free. Orders usually arrive in three days, compared to 15 days from traditional commercial sources, says Gay.

The district saves money, and the staff loves the convenience. Rather than teachers spending hours thumbing through catalogs, marking pages, and then going through a manual and time-consuming requisition and purchase order process, “I tell teachers they can sit at home Sunday evening in their pajamas and order supplies,” he says. “I would not be alive today if I tried to take it away from them.”

The importance of reducing costs is borne out by the Harvard Business Review Analytic Services survey. It was the most-cited priority for supplier management and procurement operations, selected by 73% of respondents, followed by increasing agility and speed of sourcing (54%) and digitizing procurement (52%). **FIGURE 1** Meanwhile, although survey respondents report satisfaction with ease and speed of ordering overall, they indicate that it could be more convenient. Some

45% of respondents strongly agree or somewhat agree with the statement: “Buyers can purchase online at work as easily as purchasing online at home.” However, a substantial 37% strongly disagree or somewhat disagree with that statement.

Business-to-business online stores can help reduce the cost of procurement and save on purchase price. They provide organizations with access to many suppliers in many categories, all in one place. They can also be used for tail spend—infrequent, low-dollar purchases for any organization’s day-to-day operations, says Patrick C. Connaughton, research director at Gartner, where he advises clients on procurement and strategic sourcing. Procurement has less control of this spend because it’s done by so many different people in an organization, and not necessarily through negotiated contracts, he says. Some online stores are starting to offer “the best of both worlds” by enabling more customization, he adds. “They allow procurement to build in basic policy checks and business rules that it wants to apply in certain situations. It gives procurement a little control [that it] didn’t have before while still allowing such purchasing to be self-service.”

Some e-commerce sites are curating goods for specific industries, and even specific organizations, in an effort to cater to businesses and public-sector organizations, says Connaughton. In the case of Spring Branch Independent School District, the site hosts one purchasing contract, which includes a variety of popular supplies across several categories, that has been vetted and approved by the district, according to Gay.

Indirect spending is a big headache even for large corporations. “We probably have eight to 10 times more indirect suppliers than we have direct suppliers,” says Torsten Pilz, senior vice president and chief supply chain officer at Honeywell. The Fortune 100 company, with \$32.6 billion in revenue and 200 factories around the world, manufactures everything from smoke detectors to aircraft engines. It uses an online store for indirect spending, including on office supplies; IT equipment; and maintenance, repair, and operations (MRO) materials, says Pilz. “This is a good way for us to consolidate this huge indirect spend.”

The company has used e-commerce as a procurement tool for years, but recently it integrated one of the stores with Honeywell’s planning tools as part of an integrated supply chain platform, creating a smoother, faster, and more efficient process. For example, Honeywell has the online store offering a collection of consumables, such as hydraulic fluid for MRO, curated for its facilities in a particular region of the world.

“In the old days, we had to wait till the truck showed up [with what was needed to repair or maintain a machine],” he explains. “Now we get notified when the order is received and get an advanced shipping notice on when it will arrive, so we can plan production accordingly.”

Such coordination requires not only a digital supplier portal but also a complete, integrated supply chain and procurement



“By the end of 2022, we’ll probably have 98% of our revenue on an integrated [digital] planning system. That gives us significant advantages in connectivity between suppliers, demand, sales, production, and logistics,” says Torsten Pilz, senior vice president and chief supply chain officer at Honeywell.

system, something that Honeywell is building as one of the company’s overall strategic goals. “Two to three years ago, we decided that the future of the supply chain was digital,” says Pilz. “By the end of 2022, we’ll probably have 98% of our revenue on an integrated [digital] planning system,” he asserts. “That gives us significant advantages in connectivity between suppliers, demand, sales, production, and logistics.”

Digital Disconnect

Despite the benefits, most organizations have been slow to digitize supplier management and procurement. There are several reasons for the slow pace. Procurement traditionally focused on the tactical and the transactional—sourcing materials and components at the best price and then holding suppliers to those price and delivery quotes. Suppliers have historically been reluctant to provide the rich data, digital or analog, that produce meaningful analytics. And procurement tends to be low on the list of IT priorities.

Even before the pandemic, that convention had started to change. Supply chain executives like Honeywell’s Pilz are getting the funding and management support to digitize supplier management and procurement. Companies have begun to tap a broader range of information sources—including third-party data providers—to identify supplier risk. And CEOs and boards are prioritizing IT for the supply chain.

The pandemic accelerated such efforts and prompted others to bump procurement up in their digital transformation priorities. Seven of 10 boards of directors have accelerated their business initiatives because of supply disruptions caused by Covid-19, according to a survey last year by Gartner.¹ “Covid-19 exposed a number of vulnerabilities in the extended supply



“Covid-19 exposed a number of vulnerabilities in the extended supply network, and that has put pressure on chief operating officers and CPOs like never before. It’s getting attention not just in the C-suite but at the board level,” says Jim Kilpatrick at Deloitte Consulting.

network, and that has put pressure on chief operating officers and CPOs [chief procurement officers] like never before,” says Deloitte’s Kilpatrick. “It’s getting attention not just in the C-suite but at the board level.”

Although survey respondents are satisfied with the overall quality of their organization’s supplier management and procurement processes, with 59% rating them as good or very good, they are looking to digital to optimize them. When asked to select the benefits their organization hopes to achieve through digitization, the top choices closely match their top

supplier management and procurement priorities for the next year. Increased operational efficiency was selected by 72% and reduced costs by 58%. **FIGURE 2** Another big priority for 40% of respondents is improved data collection and analytics, which 42% selected as a top benefit of digitization.

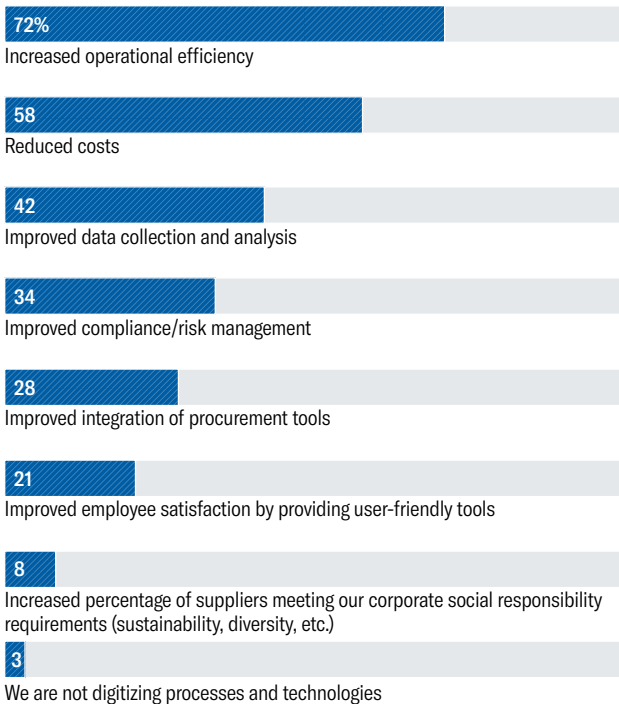
Organizations are starting to digitize and adopt technologies in a variety of ways, from the simplest to the most sophisticated. Large multinationals with global supply chains, like Honeywell, are headed toward full digitization with sophisticated IT infrastructures that not only collect detailed supplier data but also use AI to do prescriptive data analytics. On the other end of the spectrum are organizations that still use paper and manual processes and may be just starting to automate.

FIGURE 2

Digital: The Great Enabler

Efficiency and reduced costs are top benefits respondents hope to achieve through digitization

What are the top benefits your organization hopes to achieve by digitizing more processes and technologies? [SELECT UP TO THREE]



Source: Harvard Business Review Analytic Services survey, July 2021

Organizations Lack Data

Regardless of where an organization may fall along the digital adoption spectrum, the key to unlocking one of the greatest benefits of technology—analytics—is not just to have data but also to have the right data.

The survey shows that organizations aren’t that great at collecting and analyzing data, even though improving data collection and analysis is a top priority. Respondents rate their organization’s ability to track and analyze data lower than other aspects of their supplier management and procurement processes—only 41% rate their ability to do this as good or very good, while 26% rate it as poor or very poor.

At the same time, organizations hope technologies will help them improve their ability to collect and analyze data—42% of respondents pick it as a top benefit of digital. But collecting more data may be of little benefit unless they collect enough of the right kinds of data, which the survey indicates they may not be doing. Asked to indicate from a list of types of data their organizations collect and maintain on suppliers, 79% of respondents select basic supplier data (such as company name and address), 64% indicate current prices, 64% indicate contract terms, and 59% collect performance data (such as delivery times, flexibility, reliability, and accuracy of orders).

FIGURE 3 Only 54% of respondents say they collect and maintain total spend on each supplier, which would hobble any attempt to analyze spending patterns.

More importantly, organizations do not analyze what data they already have. Only one-quarter (24%) of respondents say they are analyzing the majority of the data they collect on suppliers in a way that aids decision making. Fifty-four percent say they usefully analyze half or less than half of



Organizations that control how purchasing is done, collect the right data, and deploy advanced technologies are seeing big benefits.

FIGURE 3

Name, Price, and Serial Number

Most organizations don't collect rich data from their suppliers

What data does your organization collect and maintain on suppliers?
[SELECT ALL THAT APPLY]



Source: Harvard Business Review Analytic Services survey, July 2021

their supplier data (23% of respondents say they analyze 26% to 50%; 31% say 25% or less of data is analyzed). A substantial proportion of respondents—22%—admit they don't know to what extent their supplier data is analyzed.

Perhaps they can't analyze the data because it's not digital, or at least not in a format that would enable analytics. Plenty of organizations still use paper and manual processes, especially for indirect spending. "One company I talked with cut 24,000 purchase orders for under \$5,000 last year," says Kilpatrick. That system adds up to a lot of time and money. In some cases, "it cost more to cut a purchase order than the value of the goods on the purchase order," he says.

E-commerce stores can analyze the data on what organizations buy. Gay can track school district orders on the platform over time—month by month, for example—and he can drill down and see what items were purchased by whom in particular categories. This feature enables him to identify more potential savings. It also enables him to verify that what's purchased through the store is only what's legally allowed under the contract. The district has purchased almost \$3 million worth of items on the site over the past two years, with more than a quarter of all purchase orders going through the online store, says Gay. The staff get what they need, and the schools save money and time. "They have so many items that I used to have to do separate bids or solicitations for," he says.

But the online store curates items on only one contract, representing just one purchasing method. Staff are not required to use that contract or the online store. The district continues to provide them flexibility to purchase in ways they prefer, and some staffers still prefer to order from paper catalogs, notes Gay.

Manage Resilience by Tracking Real-Time Supply Risks

Organizations that control how purchasing is done, collect the right data, and deploy advanced technologies are seeing big benefits. Large corporations generally have the detailed data, extensive IT infrastructure, and digital muscle to take



“In our operating reviews, we no longer need to use Excel or PowerPoint. We have a dashboard that can drill down to a single point of data if we need to,” explains Torsten Pilz at Honeywell.

advantage of the most cutting-edge technologies, including artificial intelligence and machine learning. “That gives them constant visibility across their supply base,” says Kilpatrick. “They know about risks as soon as they emerge.”

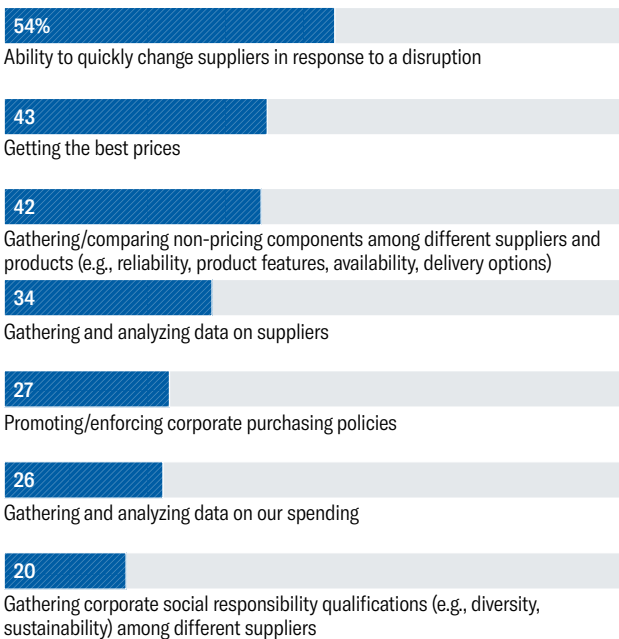
This type of analysis has become increasingly important given the supply chain disruption caused by the pandemic. It’s probably why 54% of respondents consider the ability to quickly change suppliers as one of their greatest challenges. **FIGURE 4** Meanwhile, 31% of respondents rate their organization’s ability to quickly switch suppliers in response to a disruption as poor or very poor.

FIGURE 4

Supplier Management and Procurement Challenges

The biggest supplier management challenges reflect the stress caused by Covid-19

What are your organization’s greatest supplier management and procurement challenges? [SELECT UP TO THREE]



Source: Harvard Business Review Analytic Services survey, July 2021

That inability to respond shows up in different ways. The organization may not have the visibility to spot existing supply risk, not to mention foreseeing it and taking proactive measures. Or, when disaster strikes, they may not have the information they need to react quickly. “When the pandemic hit, lots of organizations had to know which suppliers had force majeure clauses in their contracts,” explains Gartner’s Connaughton, but many had difficulty identifying them. “They realized how disorganized they were in how they store and manage contracts.”

Honeywell’s digital strategy helped it manage the pandemic disruption. As part of its integrated supply chain digitization program, the company built a data hub and analytics platform that span procurement, logistics, manufacturing, and planning. The platform incorporates detailed data, all the way down to shop-floor, machine-level data at Honeywell factories.

“In our operating reviews, we no longer need to use Excel or PowerPoint. We have a dashboard that can drill down to a single point of data if we need to,” explains Pilz. “We can map any potential shortage for every finished product we make. We can identify and prioritize the most critical components that drive maximum business outcome—like revenue or delivery to customers. I may know I have a shortage of certain parts, but what I really need is to identify the top 100 that really matter to us as a company so I can focus on that.”

The tool enabled Honeywell to spot a potential shortage early of a specific chip that went into its smoke alarms and to act to mitigate its impact, including negotiating with suppliers and launching its own engineering project to rapidly develop an alternative design that would not require the chip, he says.

Analyzing Data to Achieve Diversity and Sustainability Goals

Collecting and analyzing comprehensive data from suppliers is important in other ways. More companies, for example, want to favor suppliers that score highly on certain corporate social responsibility (CSR) factors. In a 2021 survey of CPOs by Deloitte, CSR rose 22% in priority from 2019—the biggest rise of any factor.² Digital transformation saw the second-largest rise in priority, at 20%. That rise puts CSR nearly on par with traditional procurement goals like reducing costs, increasing efficiency, and managing risk, asserts Kilpatrick.

However, in the Harvard Business Review Analytic Services survey, gathering and comparing non-pricing components among different suppliers does not rank as high on respondents' list of their organization's procurement challenges, with only 42% choosing it.

Less than half (44%) of respondents say their organizations even have diversity or sustainability requirements for suppliers; another 23% say they don't know. Of those that have requirements, half (49%) say they require documentation from the supplier, which likely means little more than collecting forms. Some 17% do their own research, manually gathering and confirming data. Another 15% say they don't validate that suppliers meet diversity or sustainability requirements, but adherence to requirements is either stated in the contract or they rely on the supplier's word. Only 11% gather, confirm, and analyze data on diversity or sustainability digitally.

Many organizations still struggle to collect the kind of data that can lead to strategic action. "They may have valid data, but what does it mean? What action should the organization take based on that data?" Connaughton asks.

With detailed data and the right analytics, Connaughton explains, procurement could go far beyond the basics of traditional spend analysis. "You could make better supplier recommendations and thereby earn the trust of business stakeholders and not just be viewed as the procurement police," he says. "For example, the analysis could find that when the organization uses suppliers that qualify as more diverse or more sustainable, it actually saves money and receives higher-quality goods. It's a wonderful opportunity for procurement to show how it can impact these overarching corporate goals."

Escaping the Tyranny of the Tactical

Procurement operations that collect more granular supplier data, and that have the technology in place to analyze it in useful ways, will be poised to play a more strategic role in their organizations. Despite its progress, the field is still dominated by the "tyranny of the tactical," says Kilpatrick. Procurement employees still spend 74% of their time on transactions and operational activities, according to the Deloitte report.

Nevertheless, the Harvard Business Review Analytic Services survey indicates that organizations are forging ahead and deploying more advanced digital technologies in their supplier management and procurement processes. Some 59% of respondents report their organization currently uses at least some advanced analytics: 27% say their organization has pilots and experiments, another 21% report early adoption, and 11% have significant adoption, meaning the organization uses the technology in a significant portion of its operations. Asked about plans for the next year, 18% say they have implemented advanced analytics and plan to broaden its use. Another 24% say they have proofs of concept and will expand their use.



"It's a culture shift for procurement to take a seat at the table and be viewed as contributing something beyond controlling costs," says Patrick C. Connaughton, research director at Gartner.

Respondents report lower rates of adoption of robotic process automation and artificial intelligence/machine learning, although respondents suggest that use of both will expand in the coming year.

Breaking out of tactical mode and into strategic mode requires more than just good technology, however. "It's a culture shift for procurement to take a seat at the table and be viewed as contributing something beyond controlling costs," says Connaughton.

To become more strategic, organizations also need to close big skills gaps in procurement. "The biggest challenge is that many procurement people don't have the skills needed to take advantage of the technology," says Connaughton. "CPOs tell us they can have the best analytics tools on the planet, but if they don't have the people that know how to interpret the results and use the data, then it's not going to do any good."

Kilpatrick agrees. "It's one thing to automate the tactical work through integrated systems and digital technologies. It's another thing to be able to dig into a massive terabyte database and mine that for information that helps you better understand the dynamics of your supply base."

Conclusion

While organizations seem optimistic about what digital technologies can do for supplier management and procurement, they may have to do some heavy lifting before they see all the benefits they hope to attain. That effort means redesigning processes, investing smartly in the right technologies, and ensuring they have the right people with the right skills.

Organizations that invest in technology and upskill their people enable supplier management and procurement to more strongly support corporate strategy. "They can start to get in early as solutions are being designed, perhaps challenge the specifications based on their knowledge of the supply base,



The good news is that nearly any organization, whatever its size or budget, can make a start toward a digital future.

or they can identify opportunities to reduce the number of component parts needed to build a product,” says Kilpatrick. “That is significant strategic value.”

The good news is that nearly any organization, whatever its size or budget, can make a start toward a digital future—perhaps by buying through an online store that by its very nature offers many of the advantages of technology—and build on that foundation.

Gay’s district has seen strong returns and has plans to continue to expand into more sophisticated capabilities so that procurement can integrate and analyze data from a variety of sources—including the district’s bid solicitation system, enterprise resource planning system, multiple sourcing contracts, and even supplier catalogs. “We need to analyze data in ways that can show where we are getting the best value,” he says. “With more extensive analytics, we can become more strategic.”

Endnotes

- 1 Gartner, “Gartner Says 69% of Boards of Directors Accelerated Their Digital Business Initiatives Following Covid-19 Disruption,” 2021. <https://www.gartner.com/en/newsroom/press-releases/2020-09-30-gartner-says-sixty-nine-percent-of-boards-of-directors-accelerated-their-digital-business-initiatives-folloing-covid-19-disruptions>.
- 2 Jim Kilpatrick, Jennifer Brown, Ryan Flynn, and Aaron Addicoat, “Deloitte Global 2021 Chief Procurement Officer Survey: Using Agility to Address Changing Chief Procurement Officer Priorities,” Deloitte, April 2021. <https://www2.deloitte.com/us/en/insights/topics/operations/chief-procurement-officer-cpo-survey.html>.

METHODOLOGY AND PARTICIPANT PROFILE

A total of 271 respondents drawn from the HBR audience of readers (magazine/ newsletter readers, customers, HBR.org users) completed the survey.

Size of Organization	Seniority	Industry	Job Function	Regions
35% 10,000 or more employees	22% Executive management/ board members	24% Manufacturing	17% General/executive management	34% North America
11% 5,000–9,999 employees	45% Senior management	13% Technology	12% Sales/business development/ customer service	30% Asia Pacific/Oceania
24% 1,000–4,999 employees	25% Middle management	8% Financial services	10% Operations/ production/ manufacturing	22% Europe
9% 500–999 employees	7% Other	8% Health care	8% Logistics/ purchasing/ procurement	8% Latin America
20% 100–499 employees		All other sectors less than 8% each	All other functions less than 8% each	6% Middle East/Africa

Figures may not add up to 100% due to rounding.



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