

2024 GEP PROCUREMENT & SUPPLY CHAIN **TECH TRENDS REPORT**



KEY TAKE-AWAYS

- Generative AI is revolutionizing the supply chain and procurement industry, and succeeding in an AI-first economy requires action now. Augmenting human ingenuity, generative AI will be able to proactively generate solutions, anticipate challenges and invent entirely new pathways for procurement and supply chain leaders.
- Low-code/no-code development removes barriers and democratizes innovation. It removes development solely from the realm of IT, enabling users to quickly and easily build custom workflows, analyze data and automate processes to enhance supply chain resilience.
- Legacy ERPs with bolted-on S2P functions struggle to keep pace with modern platforms in terms of innovation, agility and user experience. Consider a two-tier approach with a modern S2P platform for best-in-breed source-to-pay functionality alongside your existing ERP for core tasks.
- Supply chain convergence is key for building resilience. Siloed procurement and supply chain practices lead to information gaps, inefficiencies and higher costs. Modern technology can bridge the gaps, enabling real-time insights, data-driven decision-making and enhanced resilience.
- Without proper tools and processes for managing data, enterprises will find themselves at a severe disadvantage in an AI-first economy that is fueled by data. A seamless, end-to-end analytics platform empowers procurement and supply chain with AI-driven insights, centralized data management and self-service capabilities, unlocking agility, cost efficiency and informed decision-making.

Procurement and supply chain leaders face a daunting challenge in getting products and services to their customers in an efficient and cost-effective way – a challenge made more complicated by an uncertain macroeconomic climate, extreme weather phenomena, geopolitical upheavals and other supply chain disruptions.

Leaders have attempted to harness the power of technology to navigate their organizations through these storms. Digital supply chain transformation and supply chain modernization have accelerated, and in general, the pace of technological progress has been swift, be it low-code/no-code development, artificial intelligence (AI) and machine learning (ML), or generative AI such as ChatGPT.

So, what technologies are leaders leveraging to achieve their aims of cost optimization, efficiency and resiliency? What's next?

We've researched the five biggest trends in the supply chain space this year, and, drawing on our expertise in procurement and supply chain, we'll share our perspective and recommendations as well as explore best practices for applying those trends to gain the biggest advantage.

1. THE AI REVOLUTION

Though artificial intelligence (AI) has proliferated over the last decade, what we're witnessing now with generative AI, especially through such large language models as ChatGPT, is nothing short of a revolution. Whether an organization wants to be on the cutting edge or to simply not get left behind by the competition, rarely has executive leadership so quickly and thoroughly advanced an innovation as they have done by driving adoption of AI.

Generative AI is expected to spark significant creativity and innovation, ushering in a new era of enterprise intelligence. That creativity is likely to unleash tremendous value, quickly. According to Grand View Research, the global AI market will expand at a CAGR of 37.3% from 2023 to 2030, reaching approximately \$1.8 trillion in value by 2030¹.

The rise of AI app marketplaces, such as OpenAI's GPT Store, which enable developers to create and sell AI apps, highlights this creativity and innovation. These marketplaces mark a turning point in the evolution of AI technology, signifying a fundamental shift in how technology is developed and consumed. By democratizing access, reducing barriers to entry and fostering collaboration, these platforms are poised to unleash a surge of innovation and create new opportunities across diverse industries, including procurement and supply chain.

As AI app marketplaces continue to evolve, we can expect to see even more transformative applications emerge and revolutionize the way we work and live.

In a global business environment where organizations must quickly make sense of complexity, generative AI will likely have a deep impact on every business function, including procurement and supply chain. AI will power an efficient and sustainable flow of goods, and research firm IDC predicts that by 2026, 55% of the Forbes Global 2000 original equipment manufacturers will have redesigned service supply chains based on AI.

A recent survey of senior IT leaders conducted by Foundry, in partnership with GEP, found that 65% of senior tech decision makers believe AI/ML-based tools can significantly augment or revolutionize human decision-making within supply chain and procurement. The survey further noted that 65% of senior IT leaders expect their organizations to integrate an AI chatbot (such as ChatGPT) into supply chain operations over the next 12 months.

In a dynamic and data-driven supply chain landscape, leaders recognize the potential of AI-based technology. They automate routine and repetitive tasks, enabling people to handle more complex, strategic work, as well as enhance data-driven decision-making and streamline communication and collaboration — ultimately increasing efficiency, agility and resilience.

Reshaping Procurement and Supply Chain with AI

Given their complexity and interconnectedness, supply chains are a perfect setting for applying generative AI technologies that help create synthetic data and models and facilitate

¹ "Artificial Intelligence Market Size Worth \$1,811.75 Billion By 2030," Grand View Research, June 2023 | <https://www.grandviewresearch.com/press-release/global-artificial-intelligence-ai-market>

simulations, scenario planning and risk analysis, thereby improving supply chain resilience and adaptability. Enterprises can apply generative AI tools for a number of purposes, including:

- **Knowledge capture and information retrieval:** Generative AI, like ChatGPT, starts from a broad knowledge base and learns from interactions, absorbing and expanding insights to refine responses for accuracy and relevance.
- **Contextual understanding and supply chain cross-domain knowledge:** ChatGPT comprehends and retains context, referencing previous messages to enable coherent interactions. This extends to supply chain cross-domain knowledge, enabling it to gather insights into logistics, sourcing, procurement and more, which it can then leverage to provide relevant responses for effective communication and decision-making in complex supply chains.
- **Creativity and language generation:** ChatGPT generates creative and contextually appropriate responses, going beyond facts. It engages in imaginative discussions, fostering innovative thinking and creative problem-solving.

To stay competitive, organizations need to prioritize evaluating and implementing AI solutions quickly — as AI is here to stay, watching on the sidelines is no longer an option, and any delay presents a competitive disadvantage. Organizations must also think strategically, beyond just bolt-on plug-ins and applications or force-fitting solutions without determining how they meet requirements. By taking an AI-first approach and considering where and how they can apply AI's potential to bring real value, organizations can implement intelligent-by-design solutions that are scalable, flexible and future-proof.

Generative AI is poised to become a creative collaborator — working alongside people to amplify their skills — transitioning past automation and analysis to generating solutions, anticipating

disruptions and challenges and inventing entirely new pathways for procurement and supply chain leaders. The technology simplifies supply chain management, mitigates supply chain disruption, evaluates and selects suppliers, decreases supply and supplier risk, drives sustainability and ESG (Environmental, Social and Governance) initiatives and furthers ethical and sustainable sourcing. But beyond that, it will simulate disruptive scenarios and develop action plans, create contracts with legal nuance and specific requirements, optimize inventory levels based on data, trends, and forecasts, and reshape supply chains for constant optimization — all quickly and seamlessly.

By embracing experimentation, organizations can explore the application of generative AI in these areas. They must equip themselves with the knowledge and skills to navigate the landscape, engage with AI effectively and make informed decisions. By doing so, companies can avoid potential risks and leverage the power of generative AI to enhance human creativity and optimize production while maintaining human control and oversight.

2. LOW CODE/NO-CODE TECHNOLOGY — SOFTWARE DEVELOPMENT FOR THE MASSES

Today, enterprises need resilient, agile supply chains that can cope with sudden, drastic disruptions. Supply chain and procurement leaders need visibility into the entire supply chain ecosystem and the capability for agile and quick responses.

However, to quickly change workflows, leaders must rely on often-overworked IT departments, meaning long delays for implementation.

In a recent survey by GEP and Foundry, 97% of experts surveyed agreed that putting the ability to build or adjust workflows in the hands of non-technical end users would boost supply chain modernization efforts. Organizations have established centers of excellence, where procurement can integrate citizen developers who drive change in a cost-effective and agile way. Low-code/no-code development empowers them with interchangeable, modular components and tools to quickly compose and recompose applications and make quick adjustments. Low-code/no-code tools unlock the potential for innovation while also freeing up time for IT teams to focus on more intensive development tasks.

According to Gartner, the market for low-code development is rapidly growing: from a forecast \$32 billion in revenue for 2024², projections suggest the market could swell to over \$67 billion by 2027. Furthermore, Gartner notes that by 2024, developers outside of IT will account for up to 80% of low-code development tools³.

Supply Chain Resilience and Agility Through Low-Code/No-Code Functionality

Low-code/no-code development, which had already been gaining momentum in the last few years, accelerated during the COVID-19 pandemic and various global challenges. It's become a crucial strategy in the industry, as it enables non-technical individuals — who possess domain expertise but lack software engineering training — to contribute to business agility.

It offers a user-centric, personalized design environment where users can easily drag and drop pre-existing components to create business workflows or design new screens without writing code. Low code does not aim to replace traditional coding but leverages the expertise of a broader range of people, enabling organizations to adapt and iterate quickly in response to external changes and competitive demands. Low-code/no-code platforms provide extensibility and empower firms to focus on critical capabilities while benefiting from a larger user base that can contribute to technological evolution.

Low-code/no-code capabilities offer immense value in data analytics, particularly when bolstered by AI. With dynamic and diverse data sources, connecting and deriving insights can be challenging, yet senior leaders are recognizing that low-code/no-code can overcome these obstacles by facilitating and speeding up data connection and analysis to empower informed decision-making and prompt actions. Speed and agility in the face of disruption are critical to avoid supply shortages and supply chain bottlenecks.

Low-code/no-code development gives users the resilience-building agility to respond quickly and innovate faster — doing in weeks what used to take months. It allows users to build flexible workflows and embed AI, machine learning and analytics capabilities in an adaptable and scalable way — all to drive process improvement, system and data integration, and greater data-driven decision-making and automation for more resilient, higher-performing and sustainable supply chains.

² "Gartner Forecasts Worldwide Low-Code Development Technologies Market to Grow 20% in 2023," Gartner, 13 December, 2022 | <https://www.gartner.com/en/newsroom/press-releases/2022-12-13-gartner-forecasts-worldwide-low-code-development-technologies-market-to-grow-20-percent-in-2023>

³ *ibid*

3. ERP LIMITATIONS

ERPs have their place in running your business, but they don't provide good visibility into source-to-pay (S2P) processes, which results in inefficiencies, data silos, barriers to workflow and higher costs. They are also rigid, inhibiting responses to disruptions or proactive adjustments, and they are often encumbered by poor UX/UI. Modern S2P platforms bridge the gaps between source-to-contract (S2C) and procure-to-pay (P2P) functions that ERPs create – enabling seamless workflow, greater efficiency, better supply chain execution and planning.

Two key trends

Cloud ERP

Organizations are making a concerted effort to move from on-premises ERP solutions to cloud-based services to improve their agility, flexibility and security. Such an approach also has the benefits of lower costs, scalability and ease of use.

However, the focus on cloud ERP may have drawbacks. ERPs with S2P functions that are focused on moving clients to the cloud risk falling behind on innovation and product updates for S2P. They'll also be playing catch up, as leaders in the S2P space have had a head start, with a focus on S2P innovation.

Two-Tier ERP

Organizations have been hampered by ERP's one-size-fits-all approach, where a single ERP system has to meet the needs of corporate headquarters as well as subsidiaries that may have specific needs. Thus, some firms are taking a two-tiered approach, where the first tier is typically more comprehensive and manages core business processes, such as financials and manufacturing, and the second manages the unique needs of a particular location or subsidiary.

Moving Beyond ERPs Toward a Modern Procurement Platform

An ever-changing market requires enterprises to be able to adapt quickly. However, many rely on traditional ERP systems, which are inflexible and siloed, making them inefficient and vulnerable to disruptions.

Future-proofing with modern procurement platforms

Modern procurement platforms are more flexible and easier to use, enabling enterprises to drive adoption and achieve the promised benefits of digital transformation. They provide three key advantages:

- **Improved user experience:** Modern platforms empower users to extend applications through low-code/no-code capabilities and adapt workflows without draining IT resources or creating laborious workarounds in an inflexible ERP. Through technological capabilities, AI-driven insights, personalization and a user interface geared toward usability, they promote adoption, foster innovation and drive user engagement, making employees more effective and supporting better, faster decision-making.
- **Greater visibility and control across business units:** Modern platforms enable enterprises to integrate their end-to-end supply chains into a cohesive whole, allowing them to mitigate disruptions in real time.
- **Increased agility and resilience:** Modern platforms connect data sources and systems so that users see all their data in one place, eliminating silos, which enables firms to respond with greater speed and agility, improve resilience and accelerate the digital transformation journey.

The sooner, the better

Rather than remodeling legacy ERPs, businesses should choose modern digital platforms that provide greater resilience, agility, visibility and an up-to-date UX. By doing so, they would be able to have faster time to value as well as respond to disruption or introduce process changes with much less lag time, enabling them to achieve a competitive advantage. Considering how quickly the business environment shifts, the sooner businesses start future-proofing procurement, the better.

4. GREATER RESILIENCE BY ALIGNING SUPPLY CHAIN AND PROCUREMENT

Procurement and supply chain, the two operations that enable an organization to acquire goods and services and then ensure their flow to customers, have experienced a cascading series of unforeseen, unprecedented events over the last few years, exposing gaps in process, priorities, information flow and technology between them that often result in a drag on the supply chain's productivity and optimization. This misalignment, furthered by a lack of visibility and resilience, exacerbates the effect of supply chain disruptions on supply, suppliers and the supply chain.

And leaders agree, with 59% seeing these gaps as a major issue and claiming they result in higher costs, longer cycle times and less resilience⁴. Specifically, 58% of supply chain executives reported that the gaps can result in higher costs, 47% were concerned the gaps result in longer cycle times, and 42% reported the gaps negatively impact resiliency⁵.

Enterprises have recognized the need to align their procurement and supply chain operations to address these key pain points and build resiliency. Doing so requires supply chain convergence — a uniting of the critical processes and information flows across the organization and supply chain. The foundation of better alignment is greater supply chain visibility and collaboration through technology.

Supply chain convergence enables seamless cross-functional collaboration, increases resilience to disruptions, mitigates supply chain risk and drives innovation. It eliminates functional silos, adapts to customer requirements and improves customer satisfaction.

The Unified and Streamlined Procurement and Supply Chain

Organizations must take a unified, holistic view of their supply chain and procurement operations to make sense of supply chain complexity, draw meaningful, actionable insight from data and build the resilience necessary to respond to disruption.

Procurement and supply chain alignment is essential for resilience. Resilient supply chains require a convergence of critical processes and information flows across the organization and supply chain, which can only be achieved through technology.

Technology solutions

- **Supply chain visibility:** Providing real-time insights and transparency into how goods and information flow, these solutions help firms track inventory, monitor shipment status, identify bottlenecks and make informed decisions. With end-to-end visibility, they help users identify savings opportunities, optimize costs, enhance performance and efficiency, recognize and proactively respond

⁴ "Supply Chain Convergence in a Disruptive Environment," GEP | <https://www.gep.com/white-papers/supply-chain-convergence-in-a-disruptive-environment>

⁵ ibid

to trends with agility, and identify, assess and mitigate risks related to supply, suppliers and supply chain — allowing users to balance risk, resilience and sustainability.

- **Intelligent category management:** These tools enable organizations to manage all category-related activities in one place and gain total enterprise-wide visibility, deep insights with market information, and strategic direction for every category throughout the procurement lifecycle. By leveraging critical market insights, real-time AI capabilities and data aggregation, these tools empower category managers to understand trends, control risks, optimize costs and foster valued supplier relationships, resulting in a positive impact on both bottom line and top line.
- **Unified direct and indirect material procurement:** Through a unified platform that provides end-to-end visibility into processes, workflows and data, companies can seamlessly integrate direct and indirect material sourcing for greater convergence. This can eventually lead to more effective orchestration of procurement activities across all functions, and beyond.
- **Collaboration networks:** Orchestrating upstream sourcing functions with downstream supply chain functions, these solutions enable seamless and transparent multiparty, multitier and multidimension collaboration and integration as well as deliver the centralized visibility, shared business processes, AI-driven insights and market intelligence to make informed decisions.
- **ESG measuring, tracking and reporting solutions:** These tools help organizations transform ambitious ESG goals into action.

They leverage end-to-end visibility, advanced analytics, machine learning, big data and automation capabilities to drive data-driven decisions and enhance the efficiency, effectiveness and agility of ESG management and reporting.

- **Workflow flexibility:** Through demand forecasting, resource planning, shift scheduling and skill matching functionality, organizations can adapt to specific requirements and changing demands, optimize labor use and ensure efficiency.
- **Knowledge and information management:** These solutions capture, organize and disseminate knowledge, facilitating data sharing, collaboration and analysis to aid in decision-making. Also, they enhance visibility, improve communication and optimize overall performance.
- **Data management and reporting solutions:** Offering streamlined processes for collecting, organizing and analyzing data, these solutions enable businesses to identify trends, draw actionable insights and make data-driven decisions to optimize performance.

The best-in-class of these technology solutions allow firms to go beyond procurement and supply chain departments to multitier and multienterprise collaboration. They drive convergence by closing supply chain gaps and aligning priorities within the enterprise, enabling organizations to operationalize resiliency across their supply chains and ecosystems as well as increase productivity, enhance efficiency and reduce costs.

5. THE CRITICALITY OF DATA-DRIVEN INNOVATION

Data, and how best to analyze and leverage it, is no longer a competitive advantage but rather a critical element for an organization's survival. For supply chain and procurement leaders, whose operations are increasingly reliant on data-powered insights to optimize efficiency, mitigate risks and drive informed decision-making, this is especially true. Without proper tools, processes and governance in place, organizations risk being left behind in a rapidly evolving AI-first, data-fueled economy and unable to capitalize on the immense potential of this transformative technology.

Various data-related concepts and technologies have emerged, presenting valuable opportunities for organizations to effectively manage and leverage data. For example, data as a service (DaaS) allows users to access and leverage data without complex IT pipelines, benefiting supply chain and procurement operations. In addition, AI/ML-powered augmented analytics automates analytics report generation, providing instant insights for decision-making in these domains.

Further data-related technologies include:

- Data mesh treats data as a valuable asset, democratizing access to enterprise data and fostering collaboration across business lines. While challenges may arise in areas like data virtualization and federated governance, adopting data mesh enhances data accessibility and utilization in supply chain and procurement.
- ESG data integration has become crucial, especially within an organization's supply chain ecosystem — approximately 80% of an organization's emissions occur outside of their direct control. Firms need to develop

net zero, carbon-negative strategies, utilizing ESG metrics to set targets, measure progress and model sustainable approaches. ESG data enables the creation of comprehensive sustainability reports, promoting responsible practices in supply chain and procurement.

- Data fabric and data mesh adoption offer agile data architectures, facilitating legacy integration and end-to-end connectivity without extensive changes, compiling data across the organization into one unified source, with a single point of access for every user. These technologies enhance responsiveness and adaptability in a dynamic business environment, simplify data management, and empower faster, more informed decisions that balance cost, risk and sustainability.
- Embedded control seamlessly integrates automated controls into data management systems, allowing them to continuously monitor data flows and prevent errors and inconsistencies at each transaction and decision-making point. It enforces security and privacy, automates governance tasks, and ultimately increases data trustworthiness, enabling smart decisions and enhancing reliability.
- Data observability monitors data flow, offering insights into application information. By acting on metadata, it enables faster issue resolution, cost reduction and scalable data value. Supply chain and procurement can improve efficiency and effectiveness by ensuring data reliability and quality.

These data-driven concepts and technologies present significant potential for optimizing supply chain and procurement functions. They enhance decision-making, promote collaboration, support sustainability efforts and improve data management and utilization.

Putting Data to Work in Supply Chain and Procurement

Without proper data and analytics management, leaders have limited supply chain visibility and must rely on IT for data access. Data is often scattered in disconnected silos, and valuable resources are sidelined due to data quality issues. Deriving insights from data becomes cumbersome, with long lead times for even simple requests. Additionally, there is limited adoption and integration of advanced analytics or AI capabilities, hindering efficiency and preventing organizations from harnessing the full potential of their data for informed decision-making.

To counter these challenges, organizations should consider a platform with the following:

- An end-to-end analytics workflow to streamline the entire analytics life cycle
- Data intake and consolidation capabilities
- One centralized data model, accessible to any user who needs it
- AI-powered data preparation and cleansing tools
- An extensive library of AI-driven analytics modules
- Quick publishing and reporting features that seamlessly integrate with other applications
- A configurable and centralized dashboard
- A user-friendly interface that accelerates the analytics workflow
- Low-code/no-code capabilities that allow for visual development

Such a system significantly enhances data analytics capabilities by making it possible for organizations to swiftly convert data into actionable insights. Moreover, it lowers costs by centralizing data and analytics management, reducing effort and expenses through self-service functionalities.

Having a holistic view of data analytics provides a comprehensive understanding of the entire business landscape. Enhanced visualization options improve business communications, making analytics more accessible and applicable to day-to-day activities. AI and ML give users a competitive advantage by rapidly applying advanced analytics techniques to data processes and reporting. By integrating analytics seamlessly into workflows, it enables robust and repeatable data-driven processes that can be automated and scheduled. Supply chain teams gain greater control and ownership of data and analytics through user-friendly low-code/no-code tools. Ultimately, the system drives resiliency by increasing visibility, speed, and agility, empowering organizations to navigate challenges with greater confidence and adaptability.

SUMMARY

Technology and digital transformation have a tremendous impact on procurement and supply chain operations by providing the visibility and agility to provide a holistic view of a dynamic market as well as build resilience and enhance overall performance. Whether it's bringing out the power of development from IT into the hands of non-technical users for speed to market or leveraging the transformational capabilities of generative AI and machine learning to automate tasks and enable teams to focus on creative strategy and innovation, emerging technologies set up supply chain and procurement teams to drive growth, increase productivity and efficiency, gain and sustain a competitive edge, and pursue unimagined advances in the field.



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