Voice of the CSCO

Supply chain leaders consider the potential for emerging generative artificial intelligence technology

Generative artificial intelligence (AI) is one of the hottest topics across industries and functions, including supply chain. During our recent conversation with chief supply chain officers (CSCOs), we discussed how generative AI's ability to process and generate content can increase productivity by scaling execution of supply chain tasks. However, CSCOs are taking a pragmatic approach while they learn more about the developing technology and determine the best use cases and partners for implementation in their own organizations.

Key takeaways

- CSCOs highly value discriminative AI for predictive analysis but have yet to build the same level of confidence with newer generative AI technology.
- Pilots now underway at several companies provide use cases and help demonstrate the potential to others considering generative AI applications.
- Early promising solutions in the supply chain include improving and expanding employee access to information for customer service and organizing process and procedure content for consistent maintenance and training across facilities.
- Key barriers to implementation for many are the absence of a value-based strategy for where and how to apply generative AI to the supply chain and concerns around data security and integrity.
- Companies can avoid the trap of treating generative AI like "a bright shiny object" by first understanding the desired outcome, and then developing uses cases for easy wins.

Operations is among the top-three functions with the highest anticipated impact from generative AI, according to business leaders. Companies are exploring applications in:

78% Customer service

66% Process excellence

47% Production operations

44% Quality control and inspection

43% Inventory management

2023 KPMG Generative AI Survey

Separating hype from practical value

The key advantage of applying generative AI to supply chain operations is to boost productivity at scale, across the network. However, the excitement around generative AI is causing "shiny object syndrome," leading some to apply the technology without articulating clear value or determining whether generative AI is even the appropriate solution for scalable and sustainable improvement.

Relatedly, there's a common misunderstanding about the difference between generative AI, which "understands" and creates content for a broader organization, and discriminative AI or machine learning that many companies already have in place to analyze and predict a targeted outcome for a specific operation. For example, generative AI can be used to create work instructions for a manufacturing organization; discriminative AI is suited to forecast product demand volume.

To benefit from generative AI, organizations must address this lack of clarity and understanding around strategy, articulate the business case for operations improvement, and carefully invest in a technical approach that can evolve with the technology.

Generative AI in the supply chain

Business leaders have prioritized operations, including supply chain, for generative AI pilots and implementation, according to the 2023 KPMG Generative AI Survey,[1] along with technology, information technology, and sales and marketing. Investment dollars will likely concentrate in applications supporting operational excellence, such as customer service, process automation, and quality control.

KPMG identified several areas where generative AI could drive substantial value across the supply chain through productivity and scale:

- *Challenge:* Employees must handle high-volume interactions with customers, suppliers, and other network partners. *Opportunity:* A network service chatbot can improve employee ability to handle every query and exception, stabilizing customer service levels and reducing inbound supply risk.
- *Challenge:* Operations policies and procedures vary by function and location, leading to inefficiencies and ineffective performance. *Opportunity:* A continuous improvement assistant can help create and scale a center of excellence to institute standards across the entire organization, increasing operations throughput and accelerating employee onboarding.
- *Challenge:* Extensive and manual inventory inspection and counting at multiple locations leads to poor condition and replenishment. *Opportunity:* An inventory evaluation system scales the organization's ability to evaluate every product at every location, improving quality and productivity.

Real-world examples

Several publicly announced generative AI projects help demonstrate what the technology looks like in practice[2]:

- A multinational consumer goods company is using generative AI to identify external supply chain disruptions, prioritize response, and create alerts employees use to work with partners to mitigate risk.
- A global automotive manufacturer is piloting generative AI to help accelerate manufacturing quality and processing, replacing complex programming with a voice-based chatbot interface for faster data-driven decisions.
- A high-tech manufacturer is building an in-house generative AI service to help boost employee work efficiency and productivity. The service is customized for security and knowledge sharing, including automated guidance on policies and procedures and insights on supply chain operations and voice of the customer data.

Barriers to implementation: Concerns around strategy, risk, and data

CSCOs discussed the benefits of discriminative AI in supplier collaboration, demand planning and allocation, and other predictive analysis but some indicated that if generative AI was in use at their companies, then it had not yet made its way to the supply chain function. Others said their organizations weren't sure how or where to start.

Several CSCOs said they're working with consultants to establish a solid generative AI strategy and begin to consider key questions such as technology partners and workforce transformation needs.

Another challenge CSCOs said they're facing in introducing generative AI is concern around data security and privacy. There's a lack of confidence in how third-party generative AI tools use or share information and the potential to accidentally release proprietary data.

> We see generative AI helping us democratize—if you will—how many people can access data and get a head start on something like proactively creating a response letter to a customer.
>
> – Supply chain professional, food and beverage

> The most obvious use case is the ability to pose a question and have generative AI understand that question and mine through all the data being collected on varying platforms. But that makes an assumption that you've got the right data in place and that you've organized and structured it."
>
> – Supply chain professional, consumer and retail

[1] KPMG LLP, "2023 KPMG Generative AI Survey" (June 2023).

[2] Acceleration Economy, "Microsoft's Charles Lamanna on Generative AI Copilots, Productivity Accelerators" (August 16, 2023); Business Korea, "Samsung Electronics to Develop AI for Employee Productivity" (June 13, 2023).

One CSCO said their organization plans to put ground rules in place around data and AI before moving too far ahead with implementation. Another noted that even if they wanted to start applying generative AI, their companies' policies prohibit AI tools or usage on corporate devices.

Security concerns are starting to wane as people learn and understand more about generative AI, and it's socialized across the workforce. The type of use cases and information required for application—for example, internal data and usage only—makes a difference.

> "We're really still at the infancy stage of looking at how best to leverage generative AI. What are the easy wins?"
>
> – Supply chain professional, telecommunications

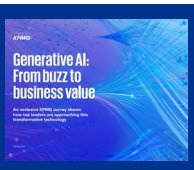
CSCOs are also cognizant of the level of supply chain data quality required to benefit from generative AI applications as with any other technology.

To build or to buy generative AI?

Companies are looking for guidance on where to focus their efforts and when technology will be advanced to the point that there's greater chance of attaining substantial return on investment. A number are turning to third-party generative AI technology providers rather than trying to build their own platforms.

Supply chain professionals also are watching to see if their existing technology partners begin to embed generative AI into their supply chain offerings. While the technology is still maturing, CSCOs may eventually have access to chatbots within their third-party network and software platforms that can perform tasks such as "listen" and contribute to sales and operations planning discussions.

Additional insights



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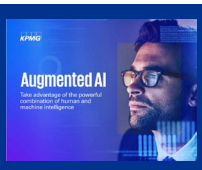

Our thinking: Augmented AI

Our thinking: The flip side of generative AI

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