

Generative AI

Driving supply chain leaders “crazy” with possibilities



As if CSCOs didn't already have enough disruption in their lives, consider this: it is estimated that changes in trade terms and regulatory guidance impacting global supply chains happen once every 12 minutes somewhere around the globe.

Supply chain executives have barely just caught their breath from the commotion of the global pandemic, regulatory changes are coming fast and furious, and now the generative AI hype cycle is at fevered pitch.

But CSCOs are nothing if not resilient, so they embraced this opportunity to experiment.

There's nothing more inspirational than a Think Circle meeting of CSCOs who shared real-time use cases of how generative AI is already improving productivity and delivering value for their organizations across industries and geographies.

“I literally can't sleep thinking about the opportunities that are ahead of us.”

“GenAI is driving me crazy—it's very disruptive to my thinking. I'm leveraging it as much as I can.”

“I've gone from generative AI enthusiast to skeptic to now, hopefully realist.”

“Generative AI is either hype or the best thing since sliced bread or it's the paranoid terminator coming to get you. And usually, the truth is somewhere in between.”



Here are their stories:

85% time savings in process mapping

Using text and code prompts in generative AI tools, one Thinker's organization fast tracked the creation of process models, decision trees, and visualizations across the organization using AI. They then shared them with business owners to assess their accuracy before widespread implementation. The business owners tuned and tweaked the AI-generated process models to confirm with their specific needs.

“The results were absolutely insane; in the sense that we got about 90% accuracy just out of the generative AI process models—and we dealt with exceptions from there. But the craziest thing was it normally would have taken a project team a few months to understand the errors, then do interviews with overcommitted stakeholders and produce a lengthy deck, so a 4–5 month project. Instead, we did it from scratch with one person in three weeks.”

And building on that, another Thinker highlighted the staying power of lessons learned, which might turn out to be the most lasting benefit of self-learning AI built on persistent large language models:

“It's not only creating the best practice, but now you don't lose it. Many times, you go through some study or project, find a best practice, and then two years later, it's not being used. Because people change or the binder gets put on a shelf. With generative AI tools, you don't lose it. It's going to be in the model for good—until your process changes. So it really stops that 'yo-yo' of fixing the foundation and fundamentals, and then practices changing over time,—then two years later, you're doing it all over again. Now we can store the process and improve it continuously.”

Real time incident prevention and reporting

We looked at how video data can be analyzed in real time, how commentary can be created and then how the narrative can be documented (in any language). Thinkers discussed how this was valuable in monitoring process compliance, providing safety feedback or for rapidly developing fact-based incident reports (which can often be time consuming and delayed).

“Innovation is seeing great technology used in an environment like the US Masters Golf and being translated into a warehouse operation for compliance and safety...”

The death of the control tower

“The control tower is dead—now we can use a natural language query to request—anything—anytime.”

The Thinkers agreed that the era of generative AI is enabling a very different relationship between technology and the workforce. They said the ability to use natural language to query anything at any time is now open to anyone. And that's what is going to kill the control tower “report and alert-type” process.

One example of this productivity benefit comes from using natural language queries instead of building hard-coded personas to find the right report, set of tasks, or operational processes. One Thinker described a world where they use generative AI to create composable models that can deconstruct processes into their smallest micro-tasks and re-compose them on the fly. All it takes is just asking a normal question (for example, “find and summarize the anomalies in this document”) and then taking the input from one process and using the outputs for an entirely different purpose.

Another example of this useful composability came from a Thinker whose interns used generative AI to create a report catalog that turned into a digital “co-pilot” for users looking for the right documents and processes after an ERP implementation. The tool made workers more efficient in their day-to-day tasks because they could ask a chat bot to find the best report based on a natural language question, rather than spending way too much time searching through folders or spreadsheets.

In supply chain we have hundreds of roles and thousands of tasks. We must focus on where AI can add the most value. Here are four possible steps:

1. **Assess** and eliminate unnecessary tasks
2. **Automate** dumb tasks (to quote a Thinker from earlier in the year)
3. **Assist** in core tasks
4. **Accelerate** or orchestrate high value workflows.

But how to start? Jump into a playground.

Thinkers who haven't yet started formally implementing generative AI tools are starting with a playground. They have squads of people who are experimenting with different use cases while finding the ways to make meaningful impact and deliver quantifiable benefit. They are starting small to achieve some quick wins in very tactical areas. For their organizations, this approach builds confidence in the tools, the LLMs, the data being used, and the benefits being delivered.

“We have, a responsibility to our shareholders and to regulators—the outcomes have to be more than 100%. You've got to be super confident. So, the data source, the models that we use, and the governance that we're putting in place is absolutely critical.”

One Thinker described an organization that is breaking boundaries in the use of other technologies but seems paralyzed by fear and trepidation when it comes to generative AI. Investigating use cases is secondary to managing risk for this enterprise. This highlights how pace of innovation is related to culture, risk propensity and operating/regulatory environments.

Another shared their organization's move toward combining traditional AI-based optimization algorithms with generative AI to enable predictive modeling—a hybrid AI approach. Can new technologies improve on age-old manual processes—for example, farmers in rural areas have historically been looking to the sky and feeling the ground to predict planting and harvest timing.

“This may get us to a kind of 'golden process'—traditional AI and machine learning interacting with generative AI, enhancing forecasting and providing proactive alerts.”

Early actions

To successfully implement generative AI solutions and achieve quick wins, the Thinkers recommend the following:

- **Start with a clear problem statement or use case:** Define the specific challenges or opportunities where generative AI can have a meaningful impact, focusing on areas with a high potential for ROI.
- **Assemble a diverse team:** Create a squad of people with diverse skills and backgrounds, including data scientists, engineers, domain experts, and business stakeholders, to collaborate on generative AI projects.
- **Leverage existing data:** Use available data sources to train and refine generative AI models, ensuring data quality and governance are maintained throughout the process.
- **Prototype and iterate:** Develop and test prototypes of generative AI solutions—iterating and refining—based on user feedback and performance metrics.
- **Scale and integrate:** After achieving initial success with a generative AI pilot solution, plan for scaling and integrating the solution into broader organizational processes and ecosystem partners' systems.

For more data and insight:

The CEO's guide to generative AI

A 13-part series (deep dive on generative AI in supply chain to come on 7 November 2023).

<https://ibm.co/ceo-generative-ai>

Seven bets

Our look at the trends shaping the world today—and the bets that can help propel business forward.

<https://ibm.co/seven-bets>

Automate to elevate

Using AI-powered process mining to gain insights from enterprise data, businesses are improving performance and accelerating automation.

<https://ibm.co/automate-business-processes>

Generating ROI with AI

Building six AI capabilities can drive ROI from AI.

<https://ibm.co/ai-capabilities>

What are generative AI models

A discussion from IBM Research on how to apply large language models to business applications.

<https://www.youtube.com/watch?v=hfIUstzHs9A>

How to build enterprise-ready foundation models

A discussion on what strategies you can employ to improve foundation model trustworthiness and efficiency in enterprise deployment.

<https://www.youtube.com/watch?v=eHPqfNLeous>