Insights from IBM Think Circles

Hype or herald?

Thinking through the role of generative AI in supply chains

When new technology generates a new cycle of hype, business leaders face a tricky conundrum of balancing FOMO (fear of missing out) with a more deliberate approach to corporate adaptation. Members of the IBM Chief Supply Chain Officer (CSCO) Think Circle recently focused discussion on generative AI, the latest technology which is impacting business and society with unprecedented speed, scope and scale.

This technology promises to transform the way work gets done across the business community. With so much chatter, the Thinkers shared sentiments, potential use cases, and possible business benefits that generative AI might deliver to supply chain operations.

As expected with a broad set of industries and geographies, leaders are taking different approaches based on their organization’s appetite for risk. Some said they will not use Gen AI because it could undermine core differentiating processes. Some are open to trialing AI in an open manner, while others are tightly restricting the use of Gen AI behind firewalls.

Overall, the group was extremely optimistic about the potential, while also recommending the guardrails they would like to see in place to take full advantage of this now inescapable technology.

“The ultimate utopia is to put generative AI in front of our data lake and let people just ask questions and get all these amazing answers. Someone who understands the data can ask informed questions.”

“Gen AI accelerates discovery. So, discovery becomes the competitive advantage.”

Generative AI is at a significant inflection point. In a recent study on AI and Automation from the IBM Institute for Business Value, 85% of executives reported that a key ingredient for their investments in automation will be the implementation of generative AI capabilities.[1] Twenty percent of them said that Gen AI is *critically important* to their automation futures.

However long the hype cycle lasts, CSCOs see potential for generative AI, automation, foundation models, and large language models (LLMs) to boost enterprise productivity, augment employee performance, and improve service levels, efficiency and profitability.

The Thinkers see three main areas where generative AI can deliver results, and most are already testing, trialing, and experimenting with the technology

1. No regrets

In the area of supply chain support and productivity, some organizations are experimenting with Gen AI tools (not all) and are seeing uptake in areas such as:

- Developing market research, opinion papers, trend analyses, and story narratives.
- Automating tasks in areas such as human resources and customer, field and employee call centers.
- Using generative AI to accelerate basic coding.

“Data engineering and programming are huge accelerators. We have seen 90% improvement in speed of coding. With AI, we could take something that can take three months down to a few hours and get real time analytics.”

“We made the decision not to constrain the use of ChatGPT. We wanted to see organically how it would progress and get visibility into how it would be used. Presentation creation, programming and other modes of content creation are the natural areas of experimentation.”

“External research is low hanging fruit in our organization—it is a time saving activity for investor relations.”

2. Supply chain workflow enhancement

Fewer organizations have trialed specific use cases, but the Thinkers identified several potential benefits, such as leveraging ERP tools to drive end-to-end decision support and issue management. They are also exploring support for sourcing and optimization, including:

- Next Best Action analysis based on large internal and external data sets of similar processes.
- Natural language (and multi-language) communication across global supply chains.
- Complex decision support optimization on topics such as service levels, cost, working capital, security, and sustainability.

“With our control towers, we can pinpoint where issues are—generative AI will help drive decision making faster by augmenting our digital twins to understand what is happening in supply chain in three areas—manufacturing, transportation, and pipeline. What took three months should happen much faster.”

“Although optimization right now is a bit of a joke because planners are just unable to make consistent, reliable decisions, maybe generative AI can deliver a new model of S&OP so planners can use more complex data to make better decisions.”

“After every proposal, whether we win or lose, there is a ‘lessons learned’ opportunity. With generative AI, we can process these differently. Right now, it goes into a PowerPoint that goes into SharePoint and no one ever looks at it again. With generative AI, you could track lessons learned from previous experiences and bring them into the next one, so we could improve our win rate.”

“My dream is that generative AI becomes a digital advisor for supply chain professionals—a better Personal Assistant.”

3. Industry collaboration

Some of the most significant future generative AI value may likely come from global sharing of AI-generated intelligence across ecosystems and industries. One Thinker offered an example from the aviation industry and the International Air Transport Association (IATA), which develops global commercial standards, simplifies processes, reduces costs, and improves efficiency across a large and diverse ecosystem. Could generative AI help supply chain leaders find a similar way of sharing data for an overall positive impact on the industry?

“No one is looking at disruption across the whole supply chain to assess physical and financial impact. This way we could test scenarios and interdependencies across the supply chain, not just within one node. Could we look at data in a ‘steady state’ and then model what happens when you get a blip?”

“How can we look at a global incident—like a shipping crisis—and see if there is industry-wide data that we could use to improve the way that we respond to these challenges?”

“Each of us creating our own large language model would be very costly. It also perpetuates millions of errors, because it reflects past bad decisions. The beauty is bringing ecosystem data together to cancel out the errors that remain in one data set.”

“Generative AI technology could play a very interesting role in sustainability if it becomes the platform for collaboration rather than competition.”

Staying real and grounded with multiple types of AI

As they experiment and test, they also acknowledge the need for guardrails and governance. All Thinkers believe their organizations will use multiple types of AI—machine learning, automation, generative intelligence and others—across disparate legacy systems. They stressed being practical and pragmatic; the consensus was to “not run before we can walk”. They cautioned against jumping right into generative AI for everything, which they termed “gen washing”—a nod to avoiding the kind of misleading “greenwashing” impressions that can emerge around sustainability.

“If I use ChatGPT for crafting a thank you note it may be 80% accurate. 80% accuracy is not good enough for enterprises. We need to be closer to 100%.”

“We are putting a cross functional task force across the organization, including legal and consumer divisions to ensure we are considering internal guardrails as well as regulatory ones.”

“It’s important to determine how to converge the intel available on regulations and connect those to the aspirations of the data and analytics team.”

“We’re trying not to stifle innovation—our interns are wanting to use generative AI at work like they do at home—what guidelines can we give them?”

“In a highly regulated space, we don’t want people doing their own things because at some point we are going to be asked how we are sure we are getting the right answer by regulators. Are we comfortable having generative AI code in a national defense system, for example? Maybe. But we’ve got to go step by step.”

“We are trying to explore the professional frame. While we may give certain tasks to AI, we will never put our designs into an AI model. Our design is our brand and if we go to AI, we lose our differentiation.”

Managing risk and reward: The role of supply chain leaders

We must ensure that we protect the profession and individuals. We must also adopt generative AI in a responsible and considered manner to enhance the human experience—to make employees better versions of themselves and help drive better, faster, and lower cost outcomes.

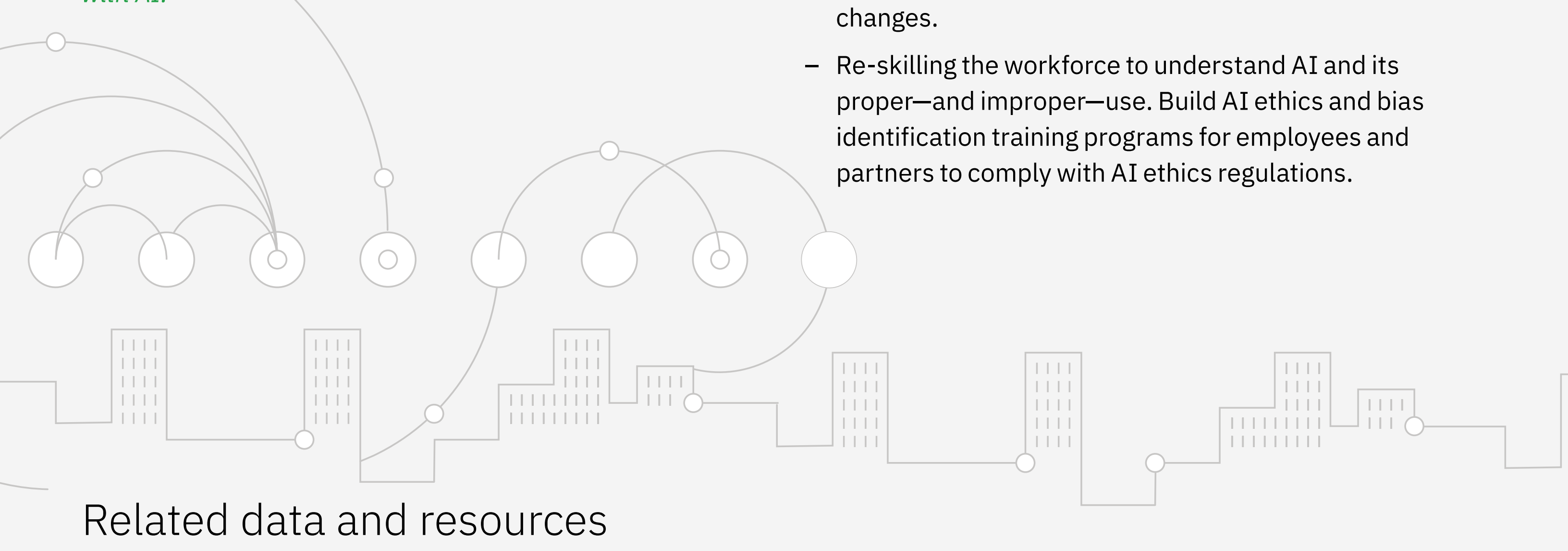
We must also focus on the increased risks associated with data privacy, data provenance, and data integration. Building policies and controls into data usage will be important to protect the individual and the integrity of the operation.

“Turn your thinking around. Instead of adding AI, start with AI.”

Manage the now, the new and the next of technology disruption

Here are some actions that can help CSCOs embrace the opportunities, while minimizing the risks.[2] First, change the enterprise mindset from “adding AI” to “starting with AI”. Next, reinvent processes, workflows, and job roles to deliver productivity improvements by:

- Making sure use cases are easily explainable, that AI-generated artifacts are clearly identified, and that AI training is transparent and open to continual critique.
- Managing risks by documenting—with fact sheets—every instance of AI use in the organization and the current governance around it. Ensure AI-generated assets can be traced back to the foundation model, dataset or other inputs, and be prepared to adjust according to regulatory changes.
- Re-skilling the workforce to understand AI and its proper—and improper—use. Build AI ethics and bias identification training programs for employees and partners to comply with AI ethics regulations.



Related data and resources

In the current IBM Institute for Business Value AI and Automation study, we asked 1,000 C-Suite executives, in ten industry sectors and 21 countries, how they planned to invest in generative AI and what outcomes they anticipated.[3] Here is what they said:

- 83% of organizations say they are investing in generative AI in support of automation strategies and initiatives.
- 81% of organizations say that the benefits of using generative AI are worth the potential risks.
- 81% of organizations say that generative AI will fundamentally change how people do their jobs.
- 80% of organizations say that generative AI will fundamentally transform their organization’s workflows.

For more data and insights, see these highly relevant IBV reports, including:

- Seven bets, our look at the trends shaping the world today—and the bets that can help propel business forward.
- AI-powered process mining to gain insights from enterprise data and from businesses that are improving performance and accelerating automation.
- Six AI capabilities that can drive ROI from AI investments.

For more background about Generative AI and foundation models, see these videos:

- What are Generative AI models: https://www.youtube.com/watch?v=hfIUstzHs9A
- How to Build Enterprise-Ready Foundation Models: https://www.youtube.com/watch?v=eHPqfNLeous

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1. “Automate to elevate.” IBM Institute for Business Value. May 2023. https://www.ibm.com/thought-leadership/institute-business-value/en-us/report/automate-business-processes

2. “Seven bets.” IBM Institute for Business Value. May 2023. https://www.ibm.com/thought-leadership/institute-business-value/en-us/report/seven-bets

3. “Automate to elevate.” IBM Institute for Business Value. May 2023. https://www.ibm.com/thought-leadership/institute-business-value/en-us/report/automate-business-processes