

The AI Paradox in Supply Chain: Why Strategy Alone Is Not Enough

AI investment in supply chain is rising fast. Boardrooms are talking about autonomous planning, agentic AI, predictive decision-making and digital control towers. Yet many organizations are still stuck in the same place: strong ambition, promising pilots and limited enterprise-scale value.

That gap is the central story of a recent webinar of BCI.

It is not a story about whether AI matters. It clearly does. It is a story about how companies choose to turn AI ambition into operational impact. In particular, the webinar contrasts two representative journeys from two different markets. One company chose to build much of the capability internally, investing in its own data science teams, internal product capability and AI-enabled ways of working. The other company chose a more accelerated route, adopting an off-the-shelf solution as part of its digital roadmap and focusing its energy on implementation, adoption and business value.

Both paths can work. Both also expose the same truth: AI does not create value simply because it is deployed. It creates value only when it is embedded into decisions, processes, governance and measurable outcomes.



From AI hype to operational reality

The first important message from the webinar is that AI's biggest challenge in supply chain is no longer the availability of technology. The tools exist. The platforms are maturing. The market has moved quickly.

The real problem is execution.

Many companies have an AI strategy, but far fewer have moved beyond experimentation. BCI's AI adoption pulse check shows a striking gap between ambition and maturity. A large majority of organizations report having a stated AI strategy, yet only a minority have production use cases running at meaningful scale. Even fewer can point to measurable ROI from AI investments made during the last 24 months.

This is the paradox: companies are investing, but many are not yet converting that investment into repeatable value.

The reasons are familiar to most supply chain leaders. Data quality remains a persistent blocker. Teams often struggle to determine where to start. Pilots look promising in controlled environments but fail when exposed to operational complexity. ROI is difficult to prove because decisions, actions and outcomes are not always traceable.

That is why the webinar does not treat AI as a technology topic alone. It frames AI adoption as an operating model challenge.

The two strategic choices: build internally or adopt off the shelf?

The two representative company stories make the issue concrete.

The **first company, operating in a complex, fast-moving market**, chose to build significant internal capability. It invested in data science talent, embedded digital expertise across functions and regions, and focused on creating AI-enabled solutions that employees could use across the enterprise. Its ambition was not simply to automate existing tasks, but to reimagine how work gets done.

This path offers control. It allows the company to tailor AI-enabled products to its own operating model, culture, data landscape and decision processes. It can build proprietary capability and institutional learning over time. But it also requires patience, governance, strong leadership alignment and sustained investment. Internal capability does not scale automatically. It must be connected to business decisions and measured against real operational outcomes.

The **second company, operating in a more constrained and compliance-heavy market**, took a different route. It chose to use an off-the-shelf AI solution as part of its supply chain digital roadmap. Instead of building

the technology foundation from scratch, the company focused on adoption, process change, team capability and measurable business impact.

This path offers speed. It can help organizations accelerate from aspiration to deployment, particularly when internal digital capacity is limited. But it also requires discipline. An off-the-shelf solution still needs clean data, clear use cases, role clarity, process integration and trust from users. Buying technology does not eliminate the transformation of work; it changes where the work needs to happen.

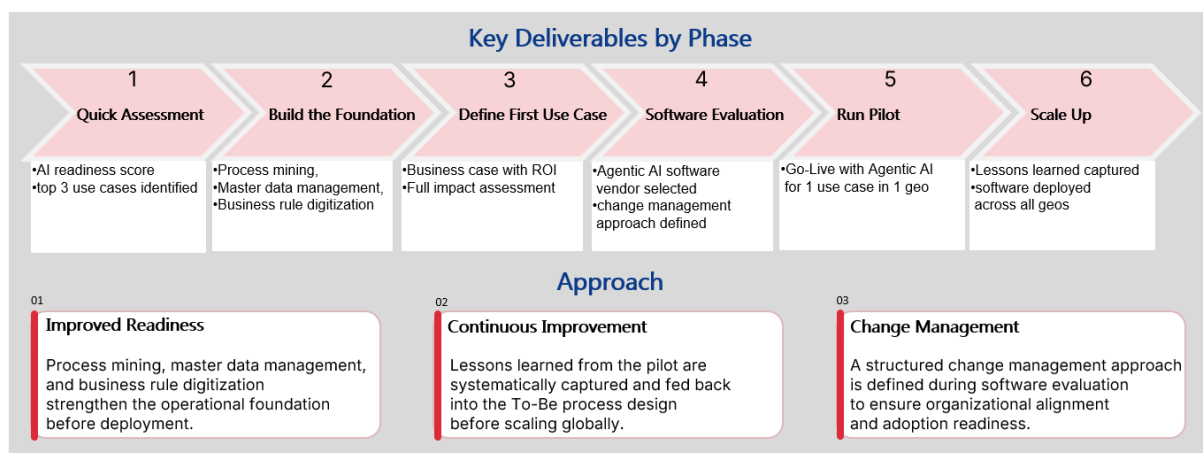
The lesson is not that one model is superior. The lesson is that both models require the same fundamentals: readiness, prioritization, deployment discipline and value measurement.

Why BCI starts with method before technology

This is where BCI's role becomes important.

BCI does not position AI adoption as a leap of faith or a platform-first exercise. Its method begins with a structured view of the journey: assessing readiness, identifying the highest-value use cases, building the foundation, evaluating software, running a focused pilot and scale what works.

Figure 1: BCI's framework for Strategic Digital Transformation



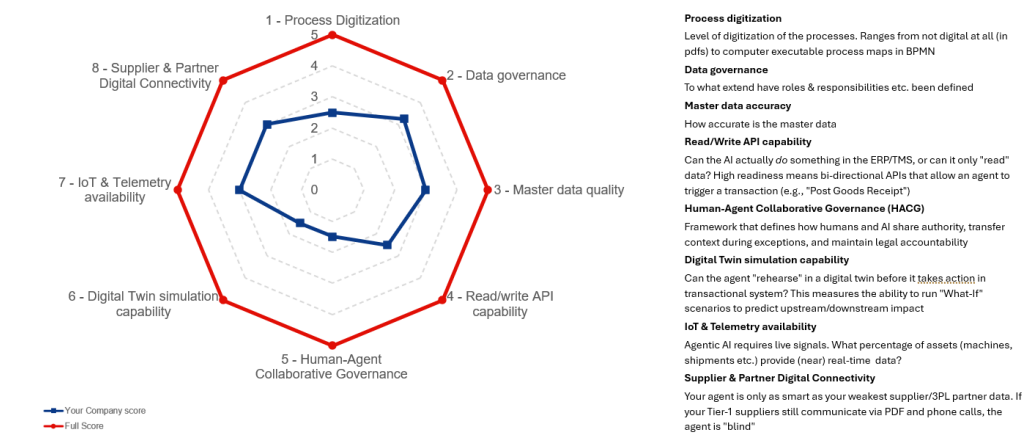
Source: BCI Global, 2026

The webinar's strategic digital transformation slides present this as an end-to-end journey from readiness assessment to global-scale deployment. The structure is deliberate. It recognizes that organizations need more than a use case list. They need a sequence of decisions that protect investment and increase the probability of adoption.

BCI's role is also distinct because it combines supply chain domain expertise with a practical digital transformation toolbox. The firm acts as a subject matter expert and transformation partner, helping organizations shape the business case, assess readiness, select enabling technologies, govern implementation and ensure the operating model changes with the technology.

This is critical because supply chain AI is not generic. Demand forecasting, inventory optimization, production synchronization, logistics routing, supplier risk sensing and stock rebalancing each require different data, workflows, decision rights and performance metrics. Without supply chain context, AI programs risk becoming impressive demonstrations that never change the business.

Figure 2: Start your journey mapping your AI readiness (BCI Global)



Source: BCI Global, 2026

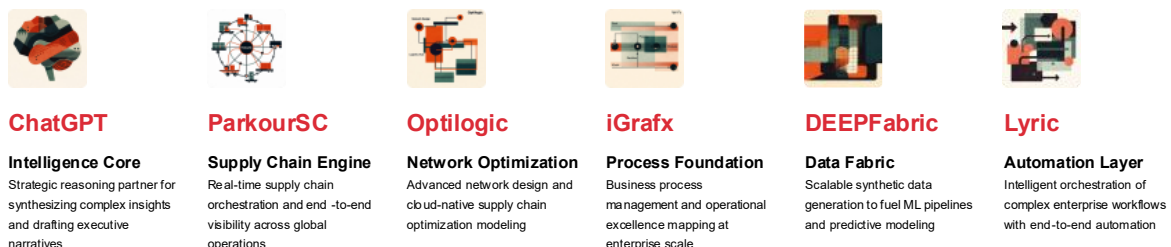
The BCI toolbox: best-in-class building blocks

One of the strongest messages from the webinar is that BCI has developed a practical toolbox for digital supply chain transformation.

The toolbox brings together selected platforms that address different parts of the transformation challenge: network design, scenario modeling, advanced planning, labor optimization, data orchestration, process intelligence and simulation. Rather than promoting a single technology answer, BCI's approach recognizes that different problems require different building blocks.

This matters because supply chain transformation is not one-dimensional. A company may need to redesign its network, improve master data, simulate alternative flows, optimize labor, build stronger planning logic and integrate AI into execution processes. No single tool solves all of that.

Figure 3: 40+ years of BCI Global Supply Chain consulting distilled into one integrated stack enabling the architecture of the future of enterprise transformation



Source: BCI Global, 2026

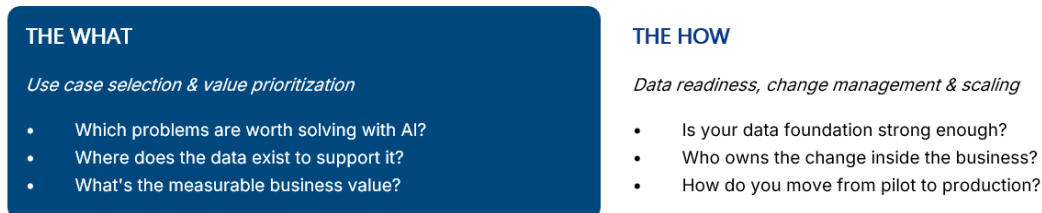
The value of the toolbox is that it gives companies a more structured way to connect problems, methods and technology. It also allows BCI to remain pragmatic: start with the business decision, then select the right digital enabler.

In other words, the toolbox is not the strategy. It supports the strategy.

The What and the How

BCI's acceleration framework is especially useful because it separates two questions that are often mixed together. The first is "the what": which problems are worth solving with AI? Which use cases have the strongest business value? Where does the right data exist? Which decisions, if improved, would create a measurable impact? The second is "the how": is the organization ready to deploy? Is the data foundation strong enough? Who owns the change? How will users adopt the new way of working? How does the company move from pilot to production?

Figure 4: The What and the How



Source: BCI Global, 2026

Many AI initiatives fail because they overemphasize one axis and neglect the other. A company may choose an attractive use case but underestimate the data, governance and adoption requirements. Another company may invest heavily in data and platforms but fail to focus on the decisions that matter most.

The two representative company stories on the webinar show that both axes must move together. The one company building the solution with internal resources needed to connect its digital products to real process adoption and measurable value. The second company was using an off-the-shelf solution needed to ensure the technology was embedded into the operating rhythm of the supply chain team. Both companies used a data warehouse, or a data lake, where multiple unstructured data was gathered and left by all parties participating in the workflows. Using prompt-style python scripts to get the required information combined and presented to the user by the agent to make its decision was common between the two companies. We observed that writing down the way the decisions are made in either company followed the same framework. Of course, the content and execution being tailored to the company's specific process.

Setting up a framework therefore becomes a practical leadership tool. Find below several examples of real-life use cases of both companies in their AI journey:

Figure 5: A focused set of agentic AI solutions designed to replace manual logic, reduce working capital, and accelerate decision-making across a decentralized distribution network

-  **Agentic Stock Rebalancing**
Optimizes inventory positioning across a decentralized distribution network of more than 50 nodes. Replaces manual rebalancing logic with cost/benefit optimization algorithms, delivering faster decisions, higher customer service levels, and reduced stock imbalances.
-  **Dynamic Safety Stock Setting**
Uses decision intelligence to continuously optimize the inventory-versus-service trade-off. Dynamically recalibrates safety stock levels based on demand signals and supply variability, tracking policy adherence to drive lower working capital and higher fill rates.
-  **CMO Call-Off on Purchase Orders**
Automates the call-off process against open purchase orders based on demand signals and confirmed production schedules, reducing lead times and improving supplier communication accuracy.

-  **Transport Management Agents**
Plans and tracks inbound shipments in real time, automating exception management for delays, discrepancies, and carrier non-conformities. Reduces manual follow-up burden and improves inbound visibility across the supply chain.
-  **Freight Audit & Payment Agents**
Automates the end-to-end freight audit and payment process, taking care off validating carrier invoices, flagging non-conformities, and resolving discrepancies. Reduces overpayment risk and frees up finance and logistics teams from manual reconciliation tasks.
-  **Sales Order Follow-Up**
Proactively monitors and follows up on past-due or at-risk sales orders, alerting account managers and operations teams to gaps before they impact customer commitments or revenue recognition.

Source: BCI Global, 2026

The strategic conclusion: AI exposes the operating model

Listening to the two companies the strategic conclusion became clear: AI will not replace the supply chain operating model. It will expose whether one exists.

If master data is weak, AI will amplify inconsistency. If decision rights are unclear, AI will create friction. If processes are not digitized, AI will remain a recommendation engine that people work around. If value is not traceable, leadership will struggle to justify continued investment.

And the opposite is also true. If organizations build readiness, prioritize the right use cases, embed AI into real decisions and industrialize scaling, AI becomes a compounding advantage. It enables faster decisions, better service, lower cost, stronger resilience and more engaged teams.

The strategic risk is waiting for perfect conditions. Competitors that start now will build data discipline, adoption capability and organizational confidence that will become harder to catch up with later.

What leaders should take away

The webinar ultimately offers a practical message for supply chain executives.

- Do not start with technology. Start with the decision that matters.
- Do not confuse a pilot with adoption. Adoption means the solution is used inside the process, by the people who make or execute decisions.
- Do not measure AI by activity. Measure it by operational and financial outcomes.
- And do not assume the journey must look the same for every company.

Some organizations will build more capability internally. Others will accelerate through off-the-shelf solutions. The right path depends on context, maturity, urgency, available talent and strategic ambition. What should remain consistent is the method.

BCI's approach gives companies a structured way to move from AI hype to AI reality: assess readiness, prioritize use cases, select the right tools, govern implementation, manage change and scale what proves value.

The executive imperative

The AI paradox in supply chain is solvable. But it will not be solved by technology investment alone.

It will be solved by companies that combine clean data, focused use cases, strong governance, leadership alignment and disciplined execution. The companies that move fastest will not be those that chase every new AI possibility. They will be those that translate AI into better supply chain decisions and build the operating model to make those decisions repeatable.

For C-level leaders, the message is clear: AI belongs on the supply chain agenda, but it must be managed as a value and transformation agenda. The question is not whether to start. Most companies already have. The question is whether today's initiatives can scale into a measurable business impact.

BCI Global supports companies in making that shift from AI ambition to operational value. Through readiness diagnostics, use case prioritization, process and data foundation work, technology evaluation, pilot design and implementation support, BCI helps supply chain leaders move beyond experimentation and build AI capabilities that are practical, scalable and value driven.

In a market where uncertainty is increasing and performance expectations are rising, the ability to make faster, better and more trusted supply chain decisions will become a source of competitive advantage. AI can enable that shift - but only for organizations prepared to do the operational work behind the technology.

More information on our recent webinar: '**De-mystifying the AI hype for supply chain - The What and The How - Learn from real life case studies on HOW to accelerate your AI adoption**' is available via: [De-mystifying the AI hype for supply chain](#). Here you can also request a personal copy of the presentation.

If you want to have a one-on-one discussion on what this all means for you, your company and your supply chain please don't hesitate to contact:

- Patrick Haex, Managing Partner, contact Patrick at patrick.haex@bciglobal.com
- Frank Hofstee, Partner, contact Frank at frank.hofstee@bciglobal.com