Industry Talk

Regular Industry Development Updates, Opinions and Talking Points relating to Manufacturing, the Supply Chain and Logistics.

How industrial AI & next-gen data management can support future-proofing the supply chain

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In a year dominated by supply chain constraints that have had ripple effects across industries and countries, it's easy to question whether these challenges were solely COVID-related and will resolve as we become more accustom to navigating the global pandemic — or, if the problem goes much deeper and has been a long time coming.

Some of the current supply chain challenges are, ironically, a consequence of highly optimized pre-COVID supply chains. That high level of optimization meant that supply chains operated on low inventory levels, so that as product came into ports and warehouses, it almost immediately went out to distribution and, ultimately, to customers. Low inventory levels meant low inventory costs, which organizations incentivized. In the past, high levels of inventory were required for high levels of customer service, but supply chains became so fine-tuned that inventory and customer service were decoupled. The complex global supply chain was taken for granted – the trucks were always heading out, the ships were always coming, the containers were always being unloaded at ports. Supply chain disruptions were planned for, but usually on a regional basis, like a hurricane impacting gulf coast operations or a single supplier being unable to meet shipping requirements. This approach made the system fragile, lacking the resilience to weather disruptions of entire segments of those supply chains, such as those caused by COVID-19.

There's no going back to a pre-COVID supply chain, and that shouldn't be the goal. The way forward entails correcting the mistakes of the past — in other words, building additional resiliency into the system. This means, for example, weighing inventory and related costs against considerations like customer demand.

As the metrics around what makes an effective supply chain have changed, the way we think about supply chains should change, too.

Diminished human relationships exacerbates supply chain struggles
It's not just the lack of resiliency that's creating supply chain problems; it's also the loss of human relationships and corresponding knowledge and expertise, brought on, in part, by retirement and the Great Resignation.

The manufacturing sector is the second-most impacted industry by the Great Resignation, and its effects on the supply chain have been profound. When critical employees like dock workers and truck drivers leave their jobs, it has an obvious effect on the supply chain. But the same is true for mid-level managers, like plant and logistics managers: these roles are also being vacated. As important as technology is, people are just as critical. Supply chains rely on relationships to work, and the loss of all these employees means a loss of relationships that are foundational to the supply chain.

Managing and shipping inventory efficiently relies just as much on knowing the right people to call for managing distribution schedules and logistics as it does the actual goods and products themselves. When organizations lose people, from the ground-level employees to mid-level managers, those relationships disappear. The loss of those relationships contributes to those supply chain gears grinding to a halt, as we're seeing in some cases now.

The loss of relationships also negatively affects an organization's capacity for digital transformation. Most organizations are still on the road to becoming digitally mature, and lack the tools for the supply chain trade-offs or other changes needed to create a more resilient supply chain. It's a dangerous feedback cycle: The less tech-savvy organizations have a harder time building technical capabilities into their operations, and that lack of investment compounds over time, putting the company further behind the tech curve and making it more difficult to take the necessary steps for managing crises.

Building resilient and future-proofed supply chains with the help of industrial AI
AI, and in particular industrial AI applications, can play a role in both alleviating current supply chain problems and future-proofing global supply chains against future shocks.

Resiliency and employee retention are critical to rebuilding the supply chain. But they can only be achieved by providing people with the tools to streamline daily tasks and succeed in their roles. Cutting-edge technologies that demonstrate how organizations are making an effort to make their employees' jobs easier, more productive and more innovative, are valuable recruiting tools. Even more, the role these tools and industrial AI applications can play — democratizing data and data-driven insights, and unlocking new levels of value from unoptimized data sets — helps facilitate resiliency. The more data and domain expertise that can be made widely accessible and actionable across the organization, the higher the chances that operations are more visible, transparent, and able to change. With industrial AI, for example, an entry-level supply chain manager has the tools and insight to work alongside a veteran with 20 years of experience and knowledge.

Building resilient and future-proofed supply chains requires implementing technology that can bring people and processes closer together. Industrial AI can lay down the infrastructure needed to break down team and technology silos, democratize data and decision-making power, and ultimately provide people with the tools they need to be successful. A more resilient supply chain doesn't start with just opening shipping containers faster. It starts with enabling human relationships and strengthening expertise, all the while using technology like industrial AI to democratize data and empower workers at all levels.

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