



5 Ways Artificial Intelligence Supports the Global Supply Chain

Here's how AI is already being used to make the supply chain smarter, more efficient and more predictive.

As artificial intelligence (AI) continues to make its way into a wide variety of business functions, the supply chain has become a focal point for technology that helps organizations run their complex, intertwined global networks.

“Virtually every supplier of supply chain solutions is eager to explain the ongoing investments they are making in artificial intelligence,” ARC Advisory Group’s Steve Banker writes in *Forbes*. “Any device that can perceive its environment and can take actions that maximize its chance of success at some goal is engaged in some form of artificial intelligence. AI is

not a new technology in the supply chain realm; it has been used in some cases for decades.”

Here are some of the ways that AI is being used to make the world’s supply chains smarter, more efficient and more predictive:

1. Optimization of supply planning, factory scheduling, supply chain design and transportation planning. Optimization is all about creating plans that help organizations achieve service levels and other goals at the lowest cost. When AI is used to optimize plans and schedules, for exam-

ple, companies can do a better job of meeting demand without over-producing or dealing with under-stocked situations.

2. Machine learning that assesses outputs, observes their accuracy and then adjusts accordingly. “Demand planning engines have natural feedback loops that allow the forecast engine to learn,” Banker writes. “The forecast can be compared to what was actually shipped or sold.” Demand planning applications based on ML can also enhance forecasting by incorporating competitor pricing data, store traffic and weather data.

3. Natural language processing (NLP) that selects commodity classification for use in imports and exports and in real-time supply chain risk solutions. “Using the right product classification allows companies to pay the correct tariffs,” Banker points out. “Paying the right tariffs is necessary to avoid government fines and calculate the true landed cost of products.” By combining NLP and advanced systems, organizations can automate and improve that classification process.

4. More accurate predicting of customer behaviors, requirements and experiences. In “[The Role of AI predictive analytics in supply chain management](#),” Manoj Kumar says knowing customer behavior helps companies better understand those buyers and their needs. This is yet another area where AI is helping organizations improve and enhance their supply chain operations. “Businesses can optimize their marketing and sales efforts by using AI-powered predictive analytics to anticipate their customers’ behavior,” Kumar points out. Companies can then use customized services and recommendations to improve the customer experience and keep those buyers coming back for more.

5. Identify and address disruption before it happens. Artificial intelligence may not technically be a “crystal ball,” but it does help organizations recognize and manage potential disruptions and complex situations before those issues actually emerge. Take the recent Red Sea attack that impacted the shipping industry, for instance. The situation drove route times and shipping costs up and impacted about 15% of global shipping traffic. “Currently, AI demand predictions allow businesses to adjust shipment volume until situations such as the Red Sea attack improve,” Rick LaGore writes in “[How Will AI and Automation Affect the Future of Supply Chains?](#)” “AI can analyze the market, identifying opportunities to shift modes, and offer solutions based upon how markets have reacted to similar issues previously.”

More to Come

Based on this short list of business use cases, AI is clearly revolutionizing supply chain management, enhancing operations and optimizing the planning process. It can also help predict customer behaviors, address looming disruptions and help organizations create more agile, anti-fragile global supply and distribution networks. As AI continues to advance, expect its impact on supply chains to expand exponentially and drive even more innovation and transformation in the future.