



2026 TRENDS

Supply Chain Optimization Trends in Wholesale Distribution

TREND 1

Network Design

TREND 2

Total Cost to Serve Analysis

TREND 3

Digital Twins

TREND 4

Artificial Intelligence (AI) and Machine Learning (ML)

Supply chain optimization has become the most critical capability within the wholesale distribution industry. [Continued margin pressures](#), a constantly changing marketplace, geopolitical instability, and new or modified regulatory and compliance requirements create an environment where advanced technologies become mandatory methods to improve operations and gain efficiency.

Disruptions, whether from COVID-19, [extreme weather](#), ships stuck in the [Suez Canal](#), or labor strikes, have proven to be constant, with today's trade environment adding yet another layer of uncertainty. Moving into 2026, distributors must be proactive and nimble, leveraging advanced technologies to [predict, resist, and respond to disruption](#).

Eric Hoplin, CEO of the National Association of Wholesale Distributors, warned that tariffs could heavily impact distributors, especially smaller ones, forcing them to raise prices, cut staff, or risk closure. While long-term U.S. sourcing and incentives may strengthen the economy, near-term trade uncertainty is creating supply chain delays and [potential shortages](#), making optimization essential for distributors to stay agile.

In this report, we review some of the primary advanced optimization technology trends in wholesale distribution.

TREND 1

Network Design

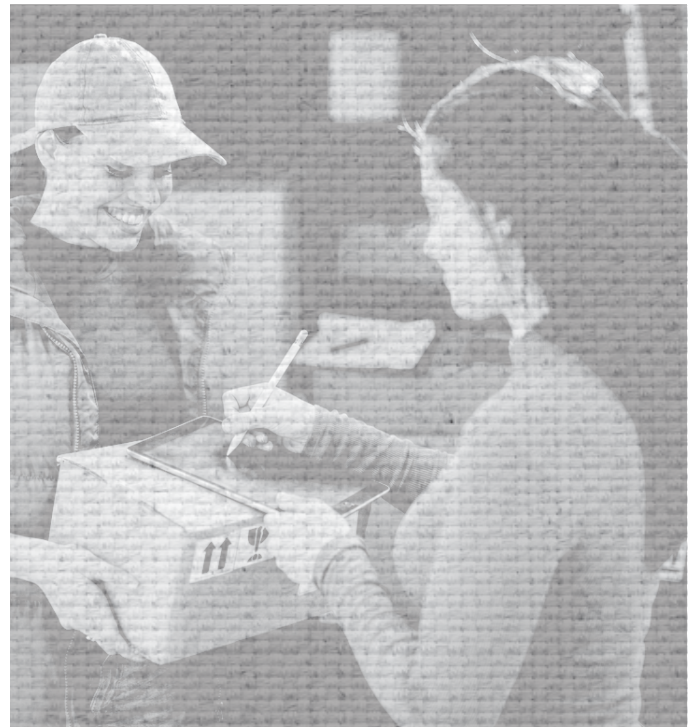
[Network design](#) leverages advanced modeling tools to look at the end-to-end supply chain to analyze network configurations and optimize the supply chain. The methodology considers the natural competing priorities of cost, service level, efficiency, and agility and allows them to operate together to define the optimized design for your organization.



But what does “optimized” mean for your company?

Start with assessing your customer value proposition and business strategy, then utilize the network design to model source of supply, distribution center locations, and transportation routes to configure your network to align with your strategy. Wholesale distributors should evaluate their networks regularly. Network design used to be a long, involved process, conducted every few years or once in a decade – but in today’s dynamic environment, that’s not sufficient.

Network design should be a more frequent activity, depending on the nature of the business and the analysis, that should be reviewed quarterly, or even monthly, to ensure the network is meeting current business needs; at the very least, it should be “sensing” tipping points. This will provide the distributor with the opportunity to continually assess and address if inventory is positioned in the right location to meet customer service levels and stock requirements, if capacity is appropriately balanced across distribution centers, and if cost efficiencies have been realized while improving lead times across the network.



TREND 2

Total Cost to Serve Analysis



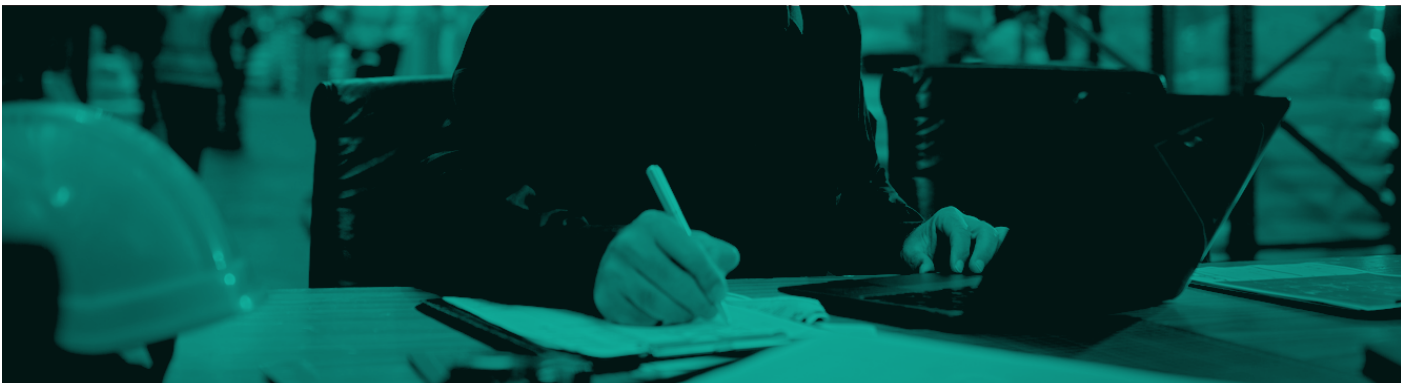
Cost to serve looks at the complete end-to-end network and determines the landed cost of sourcing a product and delivering it to the customer.

The analysis accounts for procurement prices, transportation rates, labor, [inventory management](#), time value of money, and facility expenses, to name a few.

Internal department objectives often compete, and with total cost to serve, collaboration between operations, [procurement](#), and commercial drive organizational objectives and targets as opposed to competing departmental targets. The criticality of trade-offs must be understood relative to the total cost to define appropriate decisions, such as minimum order quantity, safety stocks, delivery modes, and replenishment frequency.

The total cost can then allow decisions on how to manage customers or customer segments, identify opportunities and efficiencies in the warehouse operations, or drive changes within sourcing or transportation based upon non-siloed objectives – basically, managing trade-offs.

Overall savings can be realized by making data-driven decisions using modeling that accounts for cost and service. With constant changes in the current trade market (*new trade deals, tariffs, and the end of de minimis exemption for direct shipping to customers*), the ability to quickly model and understand end-to-end cost implications is critical.

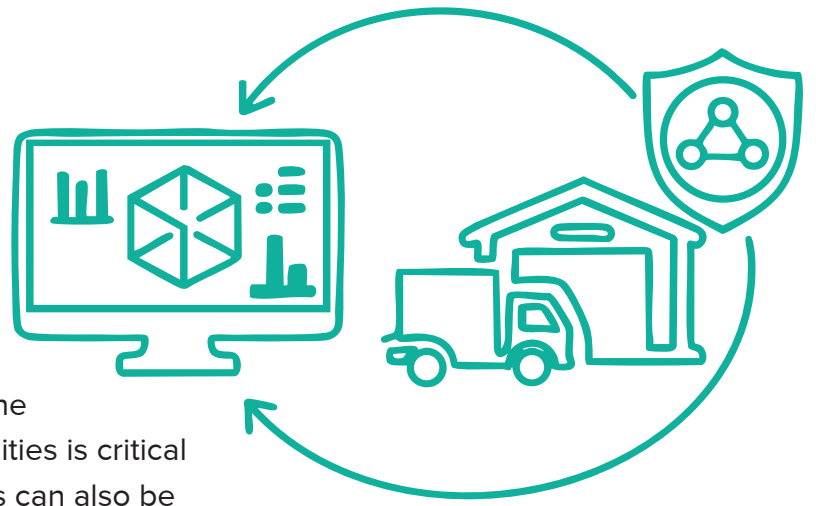


TREND 3

Digital Twins

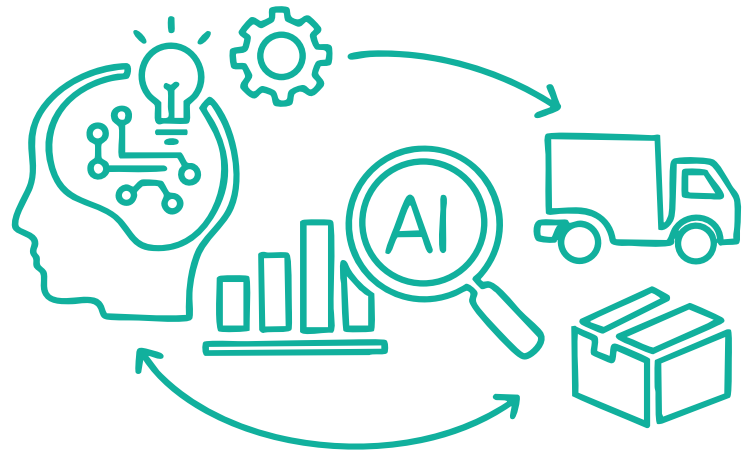
A [digital twin](#) allows an organization to generate efficiency by running simulations of warehouse operations or end-to-end supply chain, identify challenges, and perform predictive modeling. But identifying the opportunities is only the first step. The ability to mobilize an effort to address the opportunities is critical to attaining efficiency and improvements. The gains can also be realized short-term using predictive modeling to quickly adjust to the fast-changing supply chain world which currently exists.

Digital twins are an emerging capability that organizations across industries are beginning to explore to reduce unnecessary costs, optimize operations, and improve planning in the face of uncertainty. While not every organization needs this technology today, digital twins offer a powerful opportunity to enhance decision-making and drive more efficient, resilient operations over time.



TREND 4

Artificial Intelligence (AI) and Machine Learning (ML)



Artificial Intelligence (AI) and Machine Learning (ML) have moved quickly into wholesale distribution. With a focus on demand planning, inventory management, and logistics, [AI can enable efficient and agile supply chains](#) by improving demand forecast accuracy, inventory levels, and transportation costs. In turn, this supports preventing stock out situations beyond tolerance, overstocks that impact capacity and capital, or delays in transportation.

Let's take a moment to look at current challenges in each of these areas:



Demand Planning: AI and ML models can look at historical sales, seasonality, market conditions, and real-time data – such as [weather and economic indicators](#) – to provide improved forecast accuracy. This is the first step in preventing poor inventory requirement signals that can negatively impact sales, profitability, and cash flow.

Additionally, improving communication and data exchange with your retail and manufacturing partners is key to unlocking the value of AI. By engaging retailers and gaining better visibility into inventory levels and [point-of-sale data](#), you can provide more real-time inputs for demand forecasting. Collaborating with retailers in the demand planning process and aligning with their forecasting models allows for more nuanced forecast adjustments based on customer feedback and social media insights.

At the same time, sharing data upstream with manufacturers enables schedule adjustments that better reflect real-world retail demand, ensuring



supply aligns with market shifts and opens lines to [better understand supply forecasts](#) that may impact baseline demand. By connecting upstream and downstream partners and sharing data, optimization tools can enhance real-time forecasts and maximize the value of the entire supply chain.



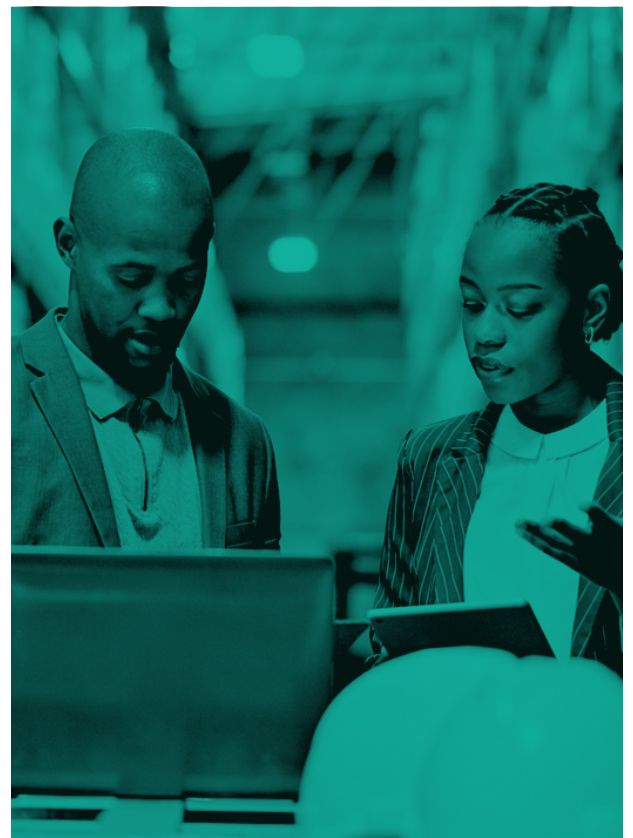
Inventory Optimization: [AI can manage](#) the delicate balance of setting inventory levels in response to sudden shifts in demand or supply disruptions. Maintaining appropriate stock is critical for readiness and flexibility. For example, AI can support safety stock calculations, helping prevent stockouts or overstock situations and avoiding lost sales or excess inventory costs.



Logistics and Transportation Management: AI can assess transportation routes – taking into consideration shipment volume, fuel costs, and even real-time traffic and weather – to avoid shipment delays, minimize costs, and improve reliability for delivery to the customer. It can also support real-time disruption response, [suggesting re-routing or alternative supply options](#) to prevent supply chain disruption that impacts the customer.



Data Quality: The critical element to ensure success is data quality. It's imperative that data being used to [drive supply chain decisions](#) is well-defined and clean, as inaccurate data will lead to unreliable results. Start with a pilot and verify the results to ensure the data is accurate and that the calculation model is acceptable and aligned to expectations. With improved inventory and logistics accuracy, wholesale distributors can reduce waste, increase agility, and maintain service levels to meet customer demand.



Looking Ahead

At the 2024 Gartner Supply Chain Symposium/Xpo, it was shared that "82% of CSCOs believe their organization will increase their investment in supply chain technology over the next two years."

As we move into 2026 and beyond, optimization capabilities will be vital to lean your operations, move and manage products faster, and adjust to changing customer demand. The leaders in wholesale distribution will be those who use data, automation, and visibility to act before problems escalate, turning uncertainty into opportunity and resilience into a standard practice.

If you're looking for guidance in this space, or if you'd like to discuss any of the above trends or other challenges in the wholesale distribution space, [connect with our team today](#).

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