

Data, AI and the supply chain

AI will be everywhere

If **AI is going to be everywhere** and promises many benefits, how are shippers and 3PLs using AI? What investments are they making and how are they dealing with challenges?

Find answers in our **2025 Annual Third-Party Logistics Study**, which includes best practices for AI adoption.

Perceptions of AI and its capabilities vary, but both shippers and third-party logistics providers (3PLs) agree on the definition: AI is a technology tool that can automate data analysis to identify patterns or solve problems.

AI performs better than humans when...



Optimizing networks and routes



Automating picking and packing



Predicting and preventing disruptions



Automating yard checks to reduce labor and increase accuracy



Anticipating inventory demands



Handling customer inquiries and providing tracking information

...But AI will not replace humans

Only about **1 in 10**

respondents see AI as a tool to replace human intuition, so supply chain talent will remain essential. AI will continue to be a tool to catch, capture and distill patterns within large volumes of data.

Top use cases for AI



Supply chain forecasting

#1 use case for shippers and 3PLs



Order management

#1 use case for shippers



Transportation

#1 use case for 3PLs

Improved demand planning with analysis of historical and real-time data, market trends and external factors

Increased efficiency and better service with hyperlocal demand sensing and automated ordering to stores

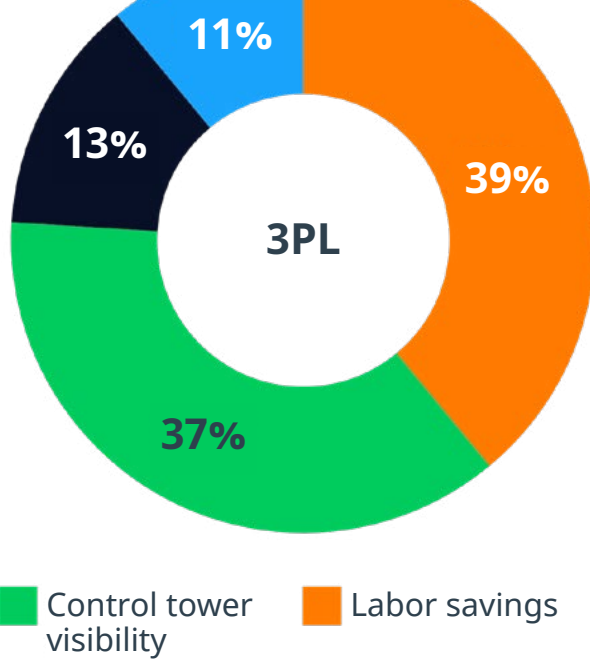
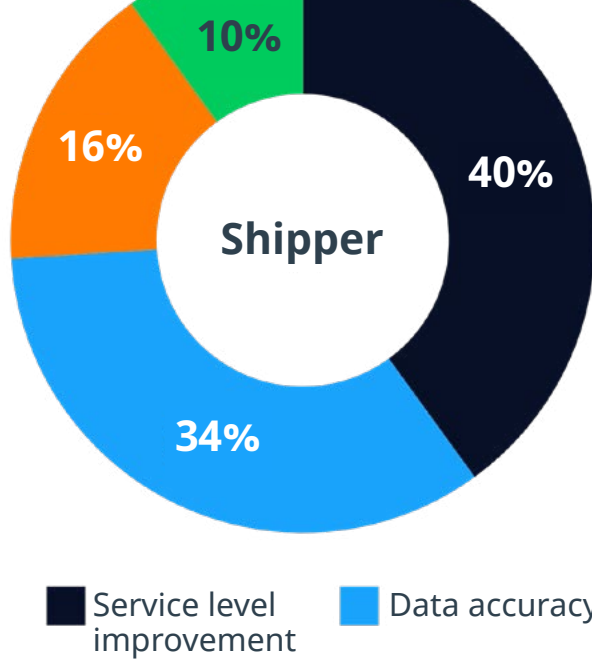
Improved networks and routes, and to find best places to source products, including raw materials.

AI: Expectations, demands and implementation, and investments

AI is expected to improve service levels

Shippers and 3PLs expect a strong return on investment from AI through **service-level improvements** and **data accuracy**.

Improving operational efficiency and decision-making can help boost the return on AI technology investments.



■ Service level improvement ■ Data accuracy ■ Control tower visibility ■ Labor savings

Skewed demand vs. implementation

Shippers want service providers that help them achieve reliable results. Can 3PLs deliver?



33% of shippers are looking for implementations related to supply planning and demand forecasting, but only **19%** of 3PLs are planning such implementations



27% of shippers are demanding transportation and route optimization, but only **22%** of 3PLs are planning these implementations



Only **15%** of shippers are demanding warehouse automation, but **25%** of 3PLs are planning these implementations



18% of shippers are demanding order management, but only **12%** of 3PLs are planning such implementations

Our latest survey found a mismatch between shipper demands and 3PL implementations. However, the 2024 Annual Third-Party Logistics Study revealed that 3PLs had already invested — or were currently investing in:

54%

Advanced predictive analytics

50%

Supply chain control towers

41%

Warehouse automation and robotics

28%

Integration with existing systems

25%

Lack of skilled personnel

14%

Initial investment costs

Integration and lack of skills stymie AI adoption

Despite investments in AI, and its much-touted benefits and promises, implementation barriers persist. 3PLs say their biggest AI adoption challenges are:

3PLs invest for competitive advantage

3PLs are prioritizing AI solutions to achieve a clear competitive advantage.

Up to **74% of shippers** say they would switch 3PL providers because of their AI capabilities.

Three strategies for successful AI adoption



1 Data accessibility, accuracy and integrity

- Successful AI starts with accessible, reliable and clean data. Without proper infrastructure, data can become siloed, making it difficult to share and use across teams.
- Another challenge is that large amounts of data can create 'noise.' Ensuring that data is accurate will guarantee integrity down the line — which is essential for AI success.
- When data is analyzed, organizations can predict potential failures, when they will occur and the root cause. This helps companies get ahead of issues before they create more significant problems.
- Accessible and accurate data in the supply chain can also improve an organization's ability to secure capacity, optimize routes, plan and schedule labor, and maximize warehouse operations.



2 Data governance

- Managing supply chain data is a continuous process. Master data changes as new suppliers, vendors, products, customers and plants are added to the overall flows. The volume and extent of data explodes exponentially as this new master data flows through transactional systems and is enriched with details that can be used provide context, trends and status.
- A strong data governance process with line of sight and commitment from not only an IT organization but also the key stakeholders within the supply chain who use the data will create a better foundation for AI-supported business processes and systems.



3 Data literacy

- By prioritizing data literacy, organizations can make better strategic decisions and increase innovation.
- Encourage a culture of curiosity and empower employees to use data effectively.
- Provide training on data literacy and how to use data analytics tools.
- Encourage collaboration between IT professionals and other departments.

Download the 2025 Annual Third-Party Logistics Study

and discover more about AI in supply chain. This study, powered by NTT DATA, Penske and Penn State University, offers the latest perspectives on the shipper and 3PL market.