

2025 Third-Party Logistics Study

# Navigating Change: Insights Into Evolving Dynamics in Supply Chain

The State of Logistics Outsourcing, Results  
And Findings of the 29th Annual Study



Rental  
Leasing  
Logistics



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# Executive Summary



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## Executive Summary

## Current State of the 3PL Market

The 2023 29th Annual Third-Party Logistics Study shows the continuation of positive, strategic relationships between shippers and third-party logistics (3PL) providers as they work together to increase efficiency and improve performance. Expectations and best practices within the supply chain continue to evolve as shippers and 3PLs adapt to changing market conditions and customer demands.

The supply chain continues to face several challenges, including delays due to geopolitical unrest, which could be affecting interactions between shippers and 3PLs. Even still, this year's study shows that most shippers (81%) agree their relationships with 3PLs have been successful. As in past studies, 3PLs typically respond more favorably, with 94% agreeing their relationships have been successful.

These relationships are delivering results. Among shippers, 82% report that 3PLs contribute to improved customer service, fewer (88%) say 3PLs provide new and innovative ways to improve logistics effectiveness and reduce overall supply chain costs.

The ongoing demands for reliable service, prioritization of supply chain resiliency and the need for technology-based solutions are

likely contributing to shippers' use of 3PLs. The percentage of shippers reporting they increased their use of outsourced logistics services rose to 87% — a 15% increase compared to the previous year.

Technology enables many of the supply chain innovations in use today. Capable IT services have always been a key factor in the value proposition of shipper/3PL relationships. The percentage of shippers indicating they're satisfied with the IT capabilities of 3PLs jumped to 87% this year, from 49% in the prior study.

Control tower visibility ranks as the top shipper must-have, with 68% rating it. The most frequently cited technologies that shippers request remain those that are execution- and transaction-based. These include transportation management planning (54%), transportation management scheduling (52%), and warehouse and distribution center management (52%). Shippers are also seeking advanced analytics and data mining tools (42%), cloud-based solutions (40%) and customer relationship management (40%).



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# Change Management in Shipper and 3PL Relationships

The ability to manage change has become an essential part of improving supply chain operations. It helps organizations support collaboration, deploy new technology, and adapt to internal and external market pressures. Shippers (61%) and 3PLs (73%) say the need for supply chain change management is either critical or significant.

Customer demands, economic factors and technological advancements are among the top drivers of change in shippers' and 3PLs' operations. The most identified area in need of change is supply chain visibility, with 55% of shippers and 68% of 3PLs citing it. Technology, planning and relationships also rank highly.

A structured change management process can reduce resistance to change, improve communication and increase the likelihood of success. Among respondents, 58% of shippers and 76% of 3PLs report using a change management framework. Although both shippers and 3PLs most frequently cite the Molinney 7-5 and the

ADKAR change management models, 36% of shippers and 29% of 3PLs use an in-house proprietary system.

Respondents also report varying degrees of receptivity to change. About one-fourth of both shippers and 3PLs say they are extremely receptive to change. Meanwhile, 45% of shippers and 53% of 3PLs say their organizations are moderately receptive to change.

Shippers are committed to the success of the broader, end-to-end (E2E) supply chain and recognize the need for alignment among multiple supply chain participants to create value for their end-user customers and consumers. Most shippers (54%) say their 3PLs share their commitment to the E2E concept, and 77% agree their 3PLs are enthusiastic about joint efforts relating to change management.



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# Artificial Intelligence in the Supply Chain

Technology is transforming supply chains, and artificial intelligence is helping shippers and 3PLs enhance efficiency, accuracy and resilience. Both groups are aligned on their views of AI as a tool that can automate data analysis, to identify patterns, or solve problems as well as and be a tool to for automating repetitive, mundane tasks.

Shippers and 3PLs agree that the greatest return on investment will come from service level improvements, cited by 40% of shippers and 37% of 3PLs, and as well as data accuracy, cited by 34% of shippers and 33% of 3PLs.

3PLs deploying AI solutions are gaining a competitive advantage. The majority of shippers say 3PLs' use of AI would influence their choice of a 3PL partner and that they would be very likely (13%), likely (29%) or somewhat likely (32%) to switch 3PL providers based on their AI capabilities.

As demand for AI-based solutions increases, 3PL offerings will evolve. This year's survey showed that the AI implementations shippers demand aren't necessarily aligned with 3PLs offerings. For example, 33% of shippers say they are seeking implementations related to supply planning and demand forecasting, while 19% of 3PLs reported plans considering implementations in this area. Similarly, 27% of shippers are demanding transportation and route optimization while 22% of 3PLs say they are planning to implement this capability.

Challenges to adoption remain. Barriers cited by 3PLs include integration with existing systems (28%), a lack of skilled personnel (25%) and high initial investment costs (14%).



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# The Importance of the Direct-to-Consumer Experience

Direct-to-consumer (D2C) sales have experienced significant growth as manufacturers and retailers focus on connecting directly with consumers. This shift is affecting the supply chain as shippers and their logistics providers prioritize speed, flexibility and resiliency.

Speed has become a top priority. Among respondents, 48% of shippers and 52% of 3PLs report customers expect deliveries in less than two days. For 27% of shippers and 20% of 3PLs, two- to three-day delivery expectations are the norm.

Although speed is important, costs are an issue, and 30% of shippers and 3PLs report they are not willing to absorb any costs related to shipping speeds. A higher percentage (44% of shippers and 38% of 3PLs) say they are willing to absorb a small percentage of the costs, just 5% of shippers and 3% of 3PLs are willing to absorb a significant portion of the cost.

Consumers are increasingly concerned about the environmental impact of their purchases. D2C brands are responding by integrating sustainable practices into their supply chains. These include reducing packing materials, incorporating recycled materials into packaging and increasing transparency. About half of shippers (47%) say their highest priority within the D2C customer promise is a general brand commitment to reduce environmental impact in the supply chain.

Given the importance of speed, it is not surprising that both groups cite it as one of the most likely differentiators. Others include increased delivery reliability and supply chain resiliency.



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## Contemporary Issues

Within the "Contemporary Issues" section, the study team evaluated critical issues shippers and 3PLs face in today's supply chains that will shape the future. This year's study focused on nearshoring and trends in real estate and labor.

Demand for nearshoring has increased as shippers work to balance resiliency, risk, speed and cost. About three-quarters of respondents (76% of shippers and 71% of 3PLs) say they are considering adjusting sources of supply to be more local or domestic. The most critical functions to nearshore include transportation, distribution and manufacturing.

The U.S. warehouse and industrial real estate market has experienced significant shifts in both demand and vacancy rates as shippers work to optimize networks, manage inventory

and improve speed. From 2021 through 2023, many locations experienced record rent growth. This has had a lasting impact on the industrial real estate market. While the current market has been friendlier to tenants, there are indications that rent growth could reaccelerate in late 2023.

At the same time, the U.S. warehouse labor market has experienced stable growth. A projected 8% increase over the next five years will be fueled by economic, consumer demand and the need for efficient supply chain operations.



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# Current State of the 3PL Market



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## Current State of the 3PL market

The 2023 29th Annual Third-Party Logistics Study offers the latest perspectives on shipper and 3PL relationships, priorities for both groups, services and solutions that are in demand and what makes relationships successful.

Supply chains continue to evolve rapidly due to increasing demands, ongoing global challenges and the growing need for agility. Shippers continue to have high expectations of their logistics and supply chain service providers. Both 3PLs and 4PLs are using advanced technologies, digital capabilities and visibility tools to help improve service levels and increase efficiency.

Historically, when participating in the study's global survey, shippers and logistics providers have overwhelmingly agreed that their relationships are successful and that both sides experience positive benefits. This year's results are no exception.

However, one issue to note is the possibility that lingering impacts of the pandemic may be continuing to slow some survey data. For example, shifts in available transportation capacity, changes in consumer demand and ongoing inventory management challenges. Researchers' interpretation of the study data is as objective and logical as possible. However, there is an understanding that some of the apparent trends may be influenced by external factors.

Inflationary pressures have driven prices higher for labor, logistics services, equipment and raw materials. Geopolitical unrest, including the Russia-Ukraine war and disruptions at the Suez Canal and on the Red Sea, has also caused disruptions and potential re-routing, which can increase costs and add transit time. A prolonged drought has caused delays at the Panama Canal, and several global ports have experienced slowdowns.

“These are huge issues no single company can solve by themselves,” says Mark Baxa, president and CEO of the Council of Supply Chain Management Professionals (CSCMP). “The inconsistency in the physical distribution of the supply chain worldwide has driven dissatisfaction.”



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**Figure 1.1** summarizes survey results pertaining to the current state of relationships between shippers and 3PLs. While 83% of shippers report their relationships with logistics service providers successful, this figure is down from 85% for the prior year, which could be related to ongoing supply chain challenges.

When asked about their relationship with shippers, 94% of participating 3PLs agreed they were successful. This is also down slightly from the previous year's result of 93%. While both shippers and 3PLs continue to evaluate their relationships as successful, both parties recognize opportunities to improve the quality of those relationships.

The existence of areas needing improvement is reflected in that 63% of shippers agree their 3PL partners can solve specific needs and challenges. This is the first time the study has asked this question. It was asked only of shipper respondents, so there are no previous results for comparison.

At face value, this doesn't appear to conflict with the overall success ratings. In a broader sense, it indicates the importance of and preference for strategic relationships between shippers and 3PLs that go beyond transactional services.

"If you have a solution-based relationship, more value is placed on the 3PL to identify and solve your problem. If you're more of a transactional buyer, this level of commitment may not be present," says Dr. John Langley, founder of the Annual Total-Forg Logistics Study and clinical professor of supply chain management at Penn State University. "Along with the changing supply chain environments, many organizations are contemplating change or alternative approaches to supply chain problems, which could be why both sides are taking a more critical look at their relationships."

**Figure 1.3: Shipper and 3PL Views of Relationship Trends**

Shippers agree %			General trends agree/disagree	3PLs agree %		
Strongly agree	Agree	Disagree		Strongly agree	Agree	Disagree
44%	48%	8%	The relationship between shippers and 3PLs generally has improved	88%	89%	9%
4%	48%	48%	3PLs provide new and innovative ways to improve supply chain	55%	66%	4%
20%	47%	33%	Some shippers are turning from one of our current 3PLs to another	47%	50%	3%
4%	47%	49%	Expectations of 3PLs are increasing or increasing while unmet	54%	59%	4%
14%	46%	40%	Expectations of 3PLs are increasing, reducing the overall logistics cost	54%	59%	4%
17%	47%	36%	Shippers are considering the role of 3PLs more closely	47%	60%	17%
10%	46%	44%	My 3PL partner can identify solutions to specific logistical challenges	54%	59%	4%

Change management is covered in greater detail in the "Change Management in Supply Chain" special topic.

### Expectations in Shipper/3PL Relationships

Most shippers (82%) say 3PLs contribute to improving service, down slightly from 89% last year (see Figure 1.1). Additionally, 66% of shippers say 3PLs contribute to reducing cost of logistics costs, down from 83% last year.

The decrease could be due to the number of external forces affecting transportation costs, which are subject to the demands of the marketplace. "We've seen situations where shippers have a contracted rate but can't get capacity," Bane says. "That has been part of the roller coaster ride we've been on."

It also should be noted that the existence of a contracted rate does not necessarily guarantee availability of capacity. A useful approach to dealing with this type of problem would be for shippers to consider a supplier relationship management (SRM) approach to working with their 3PLs.

The percentage of shippers reporting that 3PLs provide new and innovative ways to improve logistics effectiveness increased to 68% from 65% last year. "There is continuing education on how 3PLs can meet shippers' needs, and that is a priority for 3PLs," says Langley, adding that some shippers are probably looking for more significant innovation than others.

Two additional trends identified in **Figure 1.3** may provide useful perspectives on future approaches as shippers re-evaluate how they use outsourced logistics service providers.



First, 87% of shippers agree they're increasing their use of outsourced services. This is up significantly from the previous year's 62%. However, 37% perceive that shippers' use of outsourced services remained consistent with last year.

Finally, 57% of shippers and 58% of 3PLs indicate that shippers are consolidating the number of 3PL partners they use. While these

percentages are down significantly from the prior year for both shippers and 3PLs, the trend of shippers further consolidating their 3PLs appears to continue.

Figure 1.2 addresses survey results pertaining to shipper expenditures on transportation and warehousing. The average percentage of shipper freight transportation expenditures was 62%, and average warehousing expenditures were 61%.

### Shippers' IT Preferences and 3PLs' IT Capabilities

Technology has always played an essential role in the supply chain, and the demand for tech capabilities continues to increase. Shippers and their providers have high expectations of visibility and solutions that can turn data into usable information. 3PLs are investing in solutions, including artificial intelligence and machine learning, to improve asset usage, increase service, make predictions, and boost agility and resiliency.

Figure 1.3 (see next page) highlights shipper responses to the question: "Which information technologies, systems or tools

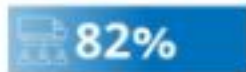
must a 3PL have to successfully serve a customer in your industry classification?" It also includes 3PL responses about the types of IT systems and tools they use to serve clients successfully.

Of interest, yet not surprising, Shipper respondents cite control tower visibility as the most frequently requested technology. Examples include visibility, tracking and asset management, and 68% of shipper respondents cite these capabilities, up from 48% last year.

The next most often cited technologies shippers value in their 3PL relationships are more execution- and transaction-based capabilities. These include transportation management planning and scheduling, of interest to 54% and 53% respectively. Warehouse and distribution center management is also of interest to 52% of shippers. Following these in terms of importance are advanced analytics and data mining tools (49%), cloud-based solutions (48%) and customer relationship management (46%).



Figure 1.2 Shippers' Outsourced Spending



Percent of shippers' freight transportation expenditures is outsourced



Percent of shippers' warehousing expenditures is outsourced



Several technologies experienced a decline in shippers' inclusion of them as "must-haves" from the previous year's study. These results do not imply a lesser importance for these technologies, only that they were cited less frequently compared to other capabilities.

The last column of **Figure 1.2** indicates the percentages of 3PLs that provide each of the listed technologies to serve their clients. While the use of most of the technologies will vary depending on the specific range of services each 3PL respondent offers, the details are interesting to review.

As with the "must-haves" rated by shippers, the most frequently provided 3PL capabilities also tend to be more execution- and transaction-based options. While 58% of shippers rate control tower visibility as a must have, 55% of 3PL respondents indicate their IT-based service offerings include the technology.

**Figure 1.2: Shipper IT-Based Capability Needs and 3PL IT Provision**

Information technologies	Shipper "must-haves"		3PL provided capabilities	
	2021	2022	% Change from 2021	2022
Advanced analytics and data mining tools	50%	48%	-1%	42%
Blockchain	2%	2%	0%	12%
Cloud-based solutions	11%	40%	3%	39%
Control tower visibility (visibility, tracking, and asset management)	49%	58%	18%	55%
CRM (Customer Relationship Management)	11%	48%	8%	49%
Customer order management	18%	17%	-6%	12%
Distributed order management	10%	14%	-5%	14%
Global trade management tools	10%	18%	-8%	17%
Inventory management	n/a	12%	n/a	49%
Network modeling and optimization	11%	17%	6%	18%
RFID	10%	21%	2%	17%
Robotics Process Automation (RPA)	7%	18%	11%	18%
Supply Chain Planning	13%	15%	7%	15%
Transportation Management (planning)	42%	14%	-8%	48%
Transportation Management (scheduling)	17%	12%	-6%	58%
Transportation tracking	47%	38%	-12%	53%
Warehouse/Cellar/Back-office management	10%	12%	-8%	18%
Warehouse optimization	11%	19%	8%	12%
Web portals for booking	10%	12%	8%	48%
Yard management	14%	15%	-1%	11%
Other	n/a	12%	n/a	48%





## Current State of the 3PL Market

## Key Takeaways



Shippers using logistics providers have a positive view of their relationships with 3PLs. Among shippers, 89% report their 3PL relationships are generally successful. However, this figure is down from 95% in last year's study.



3PLs reported more lawsuits than shippers, with 88% reporting their relationships with shippers are successful, down from 90% in last year's study.



Among shippers using 3PLs, 82% agree that use of 3PLs contributes to improved customer service, 66% say 3PLs contribute to reducing overall costs, and 68% say 3PLs provide new and innovative ways to improve logistics effectiveness.



The percentage of shippers reporting increased use of outsourced logistics services rose to 67%, a 25% jump over last year. However, the percentage of 3PLs saying shippers increased their use of outsourced logistics services remained steady from last year's 86%.



Just over half of shippers (57%) say they are consolidating the number of 3PL partners they use, down from 78% last year.



Shippers outsource several areas, including 82% of their freight and transportation expenditures and 51% of their warehousing expenditures.



Shippers' top technology must-haves include control tower visibility, transportation management planning, transportation management scheduling, and advanced analytics and data mining tools.





# Change Management in Shipper and 3PL Relationships



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# Change Management in Shipper and 3PL Relationships

In the current global business environment, businesses are unlikely to achieve or maintain success without the capability to manage change. Changes in operating environments are prevalent for many organizations. Those involved in managing supply chains have generally been overwhelmed with the need to address change.

Internal and external forces affect all aspects of the supply chain. Business leaders must react with new and innovative services as they respond to shifting market conditions and meet new expectations. New solutions are often needed for everything from sources of supply and inventory management to distribution, transportation and last-mile delivery.

For the past five years, supply chain professionals have been navigating unprecedented issues and adapting to constant change. The stakes associated with changes in the supply chain, as well as other

industries, can be immense. As Jack Welch, the late and former chairman and CEO of General Electric, said: "If the rate of change on the outside exceeds the rate of change on the inside ... the end is near."

Success in the current global business environment is only possible by managing change. The need for effective change management is highly applicable to supply chain stakeholders' relationships with their upstream and downstream supply chain partners. This is mainly due to the robust and sometimes volatile environments in which many organizations operate.

Supply sources can dry up, relocate to inconvenient places or be disrupted due to geopolitical forces. Customer and consumer preferences change. Logistics service providers may modify their business models, and new bundles of costs and services may not match a shipper's purchasing practices.



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At the same time, technology is advancing rapidly. Artificial intelligence and machine learning solutions create new opportunities to increase efficiency, improve decision-making and optimize operations.

AI can aid in demand forecasting, inventory management, warehouse operations, predictive equipment maintenance, supplier relationship management and more. As a result, AI may bring change to nearly every aspect of supply chain management and every level of employees. See the "Artificial Intelligence in the Supply Chain" special topic for a more thorough examination.

### What is Change Management?

There are numerous definitions of change management, and IBM's is among the most straightforward and understandable. It states, "Change management (CM) is the method by which an organization communicates and implements change. This includes a structured approach to managing people and processes through organizational change."

### Supply Chain Problems Require Effective Change Management

Figure 2.1 indicates that change is important on some level to both shipper and 3PL

organizations. Most respondents (81% of shippers and 73% of 3PLs) characterize the importance of change to their supply chain as critical or significant.

Earlier versions of the Annual Third-Party Logistics Study have addressed the importance of supply chain innovation and transformation. Figure 2.2 illustrates the connections between these two priorities and the concept of change management. Some heavy solutions to supply chain problems require the ability to manage transitions from current "as-is" to future "to-be" circumstances. The ability to manage change is one of the top requirements for success.

There are always problems and circumstances that require the implementation of change management capabilities. Recent supply chain examples include:

- Levi Strauss moving away from its primarily transatlantic logistics network in the U.S. to one based on using 3PL providers. This change was designed to better meet the needs of its direct-to-consumer channels while reducing fulfillment costs per unit. (Learn more about the DTC retail model in "The Importance of the Direct-to-Consumer Experience" special topic.)
- Companies shipping electric vehicles from China to Western Europe. They are experiencing significantly larger transit times and shipping costs due to routing around Africa's Cape of Good Hope to avoid areas of conflict in the Red Sea, which connects to the Mediterranean Sea via the Suez Canal.
- Sears Fifth Avenue acquiring Neiman Marcus, with Amazon taking a minority stake in the new entity.

More generally, the importance of effectively managing change has been

Figure 2.1: Importance of Change to Your Organization



Figure 2.2: Context for Change Management



Well-documented during organizational events, such as leadership changes, mergers and acquisitions, new technologies implementations, adoption of digital approaches to doing business and enhanced emphasis on sustainability.

## Change Management in the Supply Chain

Internal and external forces also trigger changes in the supply chain. Beyond new technologies, there are shifts in the workforce, ever-increasing customer expectations, geopolitical issues and overall challenges related to end-to-end supply chain management.

Shipper respondents say the biggest drivers of change in their supply chain organizations include customer demands, economic factors and technological advancements (see Figure 2.2). Other factors include supplier considerations, societal shifts and labor restraints. 3PL responses regarding drivers of change are similar to shippers' responses, except for labor restraints, which ranked fourth for 3PLs.

The supply chain has a range of specific areas where change may be beneficial.

Figure 2.4 identifies 12 areas potentially needing change and the percentages of respondents indicating their recognition of each.

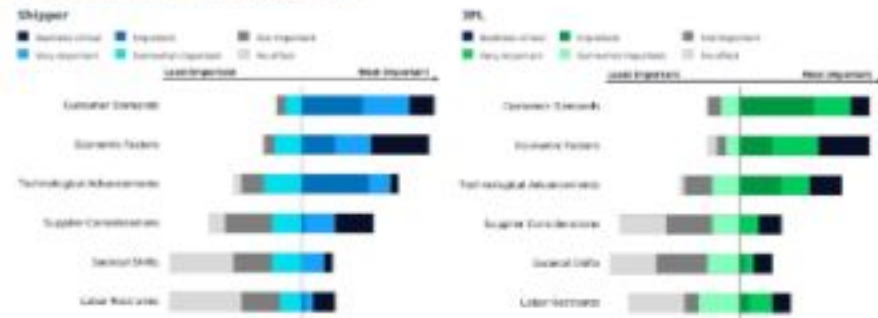
The most identified area needing change is supply chain visibility, which 89% of shipper respondents and 84% of 3PLs note. Coming in second was technology, including digital and AI, with 62% of shippers and 63% of 3PLs

listing it as a driver of change. In third place among shippers is planning, such as S&OP, BOP and IBM, among others, which 48% of respondents list. For 3PLs, relationships with suppliers and customers rank third, with 47% specifying it as a driver of change. While these results are not surprising, they do reinforce the importance of these areas as candidates for effective change management strategies.

## Change Management Strategies

The ability to manage change effectively is an essential form of competency. To be effective, change should always begin with confirming business and supply chain objectives. Critical elements of the change management journey include awareness, understanding, collaboration, commitment and advocacy.

Figure 2.2: Drivers of Change in Shipper and 3PL Organizations





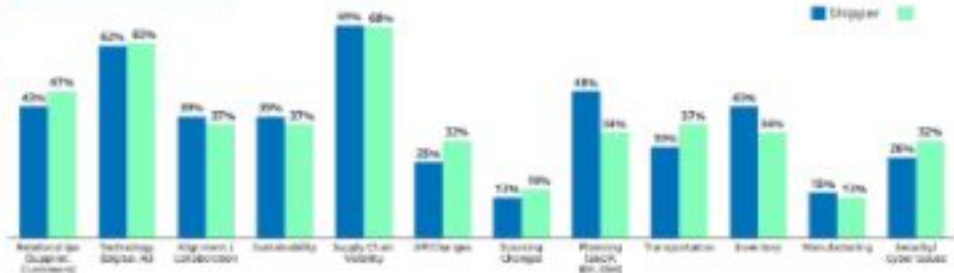
While the ability to manage change is critical to survival, so is the ability to determine when change may be needed. Identifying the need for change starts with assessing the current state and any opportunities for improvement, and then establishing the desired state and benefits of change.

"You have to cast the vision, and you have to be prepared to adjust your vision of where the business needs to go and how individuals, not just teams or functions, contribute so they can feel a sense of ownership connectivity," says CSCMP CEO Mark Rose. "Aligning around strategy is key."

Organizations can develop a change plan once the company has created a vision and identified solutions. For successful change to occur, stakeholders must work together to operate as a systematic supply chain rather than individuals with departmental goals that may not align.

Stakeholder engagement is essential. All stakeholders affected by change should be involved so they understand the vision and benefits. They can also share their feedback, concerns and solutions.

Figure 2.6: Areas in Need of Change



### Approaches to Change Management

To learn more about change management at shipper and 3PL organizations, researchers asked survey respondents about their usage or involvement with any structured change management process.

Figure 2.5 (see next page) indicates 58% of shippers and 76% of 3PLs report using a change management framework.

Numerous commercial approaches or frameworks apply to change management. Some of the more frequently used include McKinsey 7-S, Kotter's 8-Step Change Model, Hedgeberg, Saltz Change Model, Lewin's Change-Management Model and the ADKAR change management model. Alternatively, many organizations use in-house, proprietary approaches for the same purpose.

Of these respondents indicating use of a change management framework, Figure

2.6 (see next page) provides further insight into the types of approaches in use. Among respondents, 44% of shippers and 33% of 3PLs indicate they use one of the change management frameworks listed above.

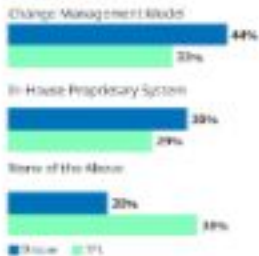
The two frameworks both shippers and 3PLs most frequently cite are the McKinsey 7-S (25% shippers and 15% 3PLs) and the ADKAR change management model (3% shippers and 12% 3PLs). Interestingly, 36% of shippers and 23% of 3PLs indicate use of in-



Figure 2.6: Use of Change Management Frameworks

	Yes	No
Shippers	58%	42%
3PL	76%	24%

Figure 2.6a: Preferred Change Management Frameworks



Focus proprietary systems for their change management initiatives.

Further information from some of these respondents suggests that in-house systems frequently represent customized or modified versions of some of the frameworks indicated above. Lastly, 20% of shippers and 33% of 3PLs indicate they did not use any of commercially available or in-house, proprietary approaches listed.

### Change Management Contributing Success Factors

In addition to being guided by a structured process or framework for change management, several other factors are critical to success. Figure 2.7 (see next page) details the most important contributing factors to a successful transformation. People and leadership rank among the most critical elements of success. As a result, it is essential to deal effectively with the impact of potential resistance to change.



While change is important to shippers and 3PLs, **Figure 2.8** suggests there are various degrees of receptivity to change. About half of respondents (40% of shippers and 33% of 3PLs) say their organizations are moderately receptive to change, and about one-quarter of each group says they are extremely receptive.

The likelihood of success of any innovation or transformation relates to how well people support or “buy into” the change initiative. So, a valuable step in any change management process is to successfully create a climate for change among those who may be involved. Educating stakeholders about the need for change, creating a clear vision of what the change will accomplish and outlining the benefits, can help build support.

Successful change management requires leaders to recognize that “change fatigue” can manifest itself when individuals or organizations experience an overwhelming amount of change in a short period of time. The constant pressure to adapt can lead to exhaustion, decreased motivation and low productivity.

Change fatigue may manifest as active or passive resistance to changes on the part of an employee. However, it is widely regarded as a serious situation. Currently accepted approaches to dealing with change fatigue should understand it does not reflect a “character flaw” but a form of mental or emotional distress.

**Figure 2.7: Contributing Factors of Success**

Factors	Shippers	3PLs
Empowerment of People	37%	24%
Leadership Alignment and Support	29%	18%
Involvement with People	20%	26%
Recognizing and Dealing with Resistance to Change	19%	11%
Use of a Change Management Model or Approach	10%	21%

**Figure 2.8: Shipper and 3PL Receptivity to Change**

Supply chain organizations receptivity to change	Shippers	3PLs
Extremely Receptive	23%	24%
Moderately Receptive	41%	53%
Somewhat Receptive	27%	18%
Not Receptive	9%	5%



Reactions to change notwithstanding, the critical need for smooth and efficient change management cannot be overemphasized. Many organizations recognize the critical need for smooth and efficient change management, especially as they adopt innovative and transformative solutions to enhance their supply chain capabilities. While there are numerous approaches to designing change-management processes, impactful aspects include:

- **Establish priorities for change.** Designate important areas for supply chain innovation and transformation and communicate effectively to those involved in designing and managing processes for change.
- **Design effective and comprehensive processes for change management.** Include a formal design for the overall change-management process. Identify key details and involvement, as well as the overall flow of key tasks and responsibilities over the process's scope.
- **Identify elements and priorities to keep people fully engaged and committed to success of the overall**

**change process.** It is essential to create an element of trust between those who are responsible for the success of the process and those who will contribute to achieving desired levels of success. Another key point will be to instill a sense of belonging among those involved with the process and see that they have a collective commitment to success.

- **Imperative for leaders to lead.** It is beneficial for those in leadership positions to have leadership and management capabilities that will contribute to successful change management initiatives.

CSOIP's Saxo recommends companies change how they incentivize their people, aligning earnings with objectives. "Tell me how you're paying somebody, and I'll show you what they're working on," he says. "It's that simple."

Those in leadership positions must be sure that the expectations for participants in the change management process align with the incentives designed to motivate and focus their efforts.

## Alignment and Collaboration Between Shippers and 3PLs

Shipper respondents have a positive view of their commitment to focusing on end-to-end (E2E) supply chains and working effectively with their 3PL partners on change management (see Figure 2.8).

With 80% of shippers reporting they are committed to the success of the broader, E2E supply chain, shippers sense a deep commitment to the broader concept of supply chain management. They also recognize the need for multiple supply chain participants to align to create value for their end-user customers and consumers.

Additionally, 64% of shippers report their 3PLs share this commitment to the E2E concept. Among shipper respondents, 69% indicate that some of their 3PLs are involved with their change management processes. It is also encouraging that 77% of shippers agree their 3PLs are enthusiastic about joint efforts relating to change management.

Figure 2.8: Shipper/3PL Involvement Relating to Change Management

Statement	Agreed %
We are committed to the success of the broader, end-to-end supply chain.	80%
Our 3PLs also are committed to the success of the broader, end-to-end supply chain.	64%
We involve some of our 3PLs in helping with our change management processes.	69%
Our 3PLs are enthusiastic about working with us on matters relating to change management.	77%



## Change Management in Shipper and 3PL Relationships

## Key Takeaways



Nearly all respondents agree that change is important to their organization on some level. Among shippers, 28% say it is of critical importance, 33% say it is of significant importance and 36% say it is of continuing importance. More than half of 3PLs (50%) say change is of significant importance, while 25% say it is of continuing importance and 18% say it is of critical importance.



Customer demands, economic factors and technological advancements inspire the biggest changes. Labor restraints, societal shifts and supplier considerations are among the least significant change drivers.



The areas shippers identify as most in need of change are supply chain visibility (30%), technology (32%), planning (38%) and inventory (42%). Sourcing changes (13%), manufacturing (15%) and 3PL changes (25%) rank as the lowest areas in need of change.



For 3PLs, they identify supply chain visibility (38%), technology (33%) and relationships (47%) as the most in need of changes. Manufacturing (13%) and sourcing changes (16%) rank as the lowest areas in need of change.



While 58% of shippers and 70% of 3PLs say they use a change management framework, only a small percentage say they use well-known techniques. More than one-third of shippers and 3PLs (30% and 18%, respectively) use an in-house proprietary system.



Contributing factors of success among shippers include empowerment of people (37%), involvement with people (21%), and leadership alignment and support (21%). The contributing factors of success 3PLs list include empowerment of people (24%), involvement with people (20%), and use of a change management model or approach (21%).



Barriers to change remain. Just 23% of shippers and 24% of 3PLs report their organizations are extremely receptive to changes. Among shippers and 3PLs, 45% and 53%, respectively, say their organization is only moderately receptive to change.





# Artificial Intelligence and Data in the Supply Chain



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# Artificial Intelligence and Data in the Supply Chain

The supply chain is becoming more complex. It has evolved from siloed, linear functions focused on the physical movement of goods to a connected ecosystem where data, end-to-end visibility and rapid decision-making determine success. Shippers and their logistics providers are investing in technology to increase agility, prevent and manage disruptions, and optimize networks. AI has emerged as a transformative technology for everything from sourcing and inventory to transportation and vehicle maintenance.

"Every aspect of the supply chain will have some aspect of AI in different areas. Starting with demand forecasting, every function within supply chain operations will be better, more efficient and productive by utilizing AI," says Ramu Pannala, vice president of supply chain technology at Penske Logistics.

AI creates an opportunity to operationalize data-oriented solutions. It can process data and identify patterns and repetitive

operational issues faster than a human can. This can improve forecasting, uncover inefficiencies, optimize processes, make predictions and increase resiliency.

"The hope is to make better use of data to make improved and informed decisions. That begins and ends with every function in the supply chain," says CSCMP CEO Mark Boss.

## Practical Applications for AI Solutions

Perceptions of AI and its capabilities vary, but shippers and 3PLs are aligned on their views of AI (see Figure 3.3). Among respondents, 46% of both shippers and 3PLs see AI as a tool that can automate data analysis to identify systems or solve problems. What's critical is the ability to use AI to its greatest extent to ensure that all data sources are accurate. Without that, a business is only accelerating decisions made from "bad data."

Figure 3.3: Respondents' views of AI

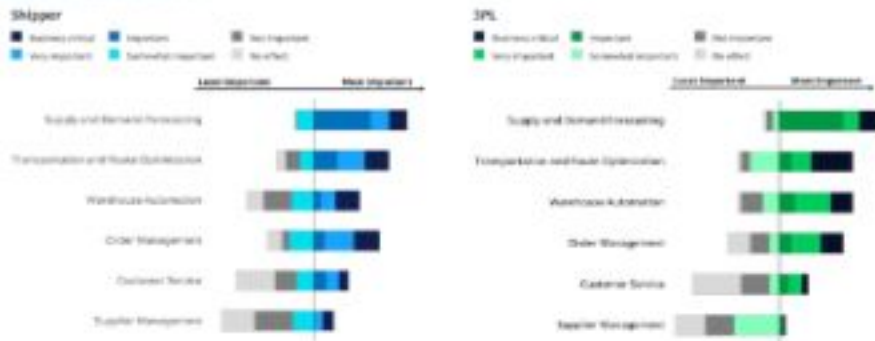
Statement	Shippers agree %	3PLs agree %
A tool for the automation of repetitive mundane tasks to free up work	20%	26%
Automation of data analysis is to identify patterns or solve problems	46%	46%
Replacement of human intuition in business process decision making	9%	14%
Other	9%	4%

Some of the most significant gains within the supply chain could come from optimizing networks and routes, anticipating inventory demands, and predicting and preventing disruptions. Machine learning (ML), a subset of AI, is expected to be especially useful for solving complex logistics problems. ML will refine predictions and recommendations over time to create more efficient operations.

Respondents also view AI as a tool to automate repetitive, mundane tasks to free up work. Much of the work in supply chain is still done with time-consuming and labor-intensive processes. Yard checks, for example, have traditionally relied on someone with a clipboard tracking trailer locations. Automating the task will reduce labor and increase accuracy. AI-powered robots can automate picking and packing, and chatbots can handle customer inquiries and provide tracking information. Both free up labor to focus on more complex tasks.



Figure 3.2: Common use cases for AI



Only around one in 10 respondents see AI as a tool to replace human intuition, indicating that supply chain talent will remain essential. While AI will be the tool to catch, capture and distill patterns within large volumes of data, it is the people across supply chain organizations who will use it.

Respondents identify several practical use cases for AI (see Figure 3.2). These include:

**Supply and demand forecasting.** Shippers and 3PLs agree that supply and demand forecasting are among the top use cases. Accurately predicting

demand is a key challenge in supply chain management. AI uses algorithms and machine learning models to analyze historical data, market trends and external factors, such as weather, consumer behavior and social media trends, to provide more accurate demand forecasts. Improved forecasts enable businesses to optimize inventory levels, manage capital, reduce overstock or stockouts, and accurately predict transportation needs.

**Transportation and route optimization.** AI and ML can analyze historical data, traffic patterns and external factors, including traffic, weather, and shipper to resolve delivery constraints, to optimize route planning and scheduling. More efficient routing can reduce fuel consumption, improve delivery times and cut costs. AI is also aiding in rate predictions, which can help shippers and logistics providers obtain the best rate for specific lanes.

**Order management.** AI-powered systems can track inventory in real time, predict inventory needs and automate reordering processes. This ensures that the right amount of product is available at the right time, reducing holding costs and improving cash flow.

"AI models can monitor in real time to actually manage the optimal stock levels," Pennala explains. "You're bringing in signals from point-of-sale data, orders and other sources to create a more optimal inventory management. It can even allow you to automate the reorder and reorder process, which reduces manual errors, speeds up the process and improves accuracy."



**Warehouse automation.** 3PLs place slightly more importance on AI in warehouse automation compared to shippers. AI can optimize the operation within a building's four walls to improve picking, packing and sorting tasks. It can also ensure order fulfillment accuracy and forecast labor needs. Data can enable dynamic slotting, creating the most efficient slotting pattern based on orders, seasonality or other factors. Additionally, AI algorithms can optimize picker routing, reducing travel time.

**Customer service.** AI's predictive and prescriptive nature has a direct effect on customer service. Better demand forecasting optimizes inventory levels, while real-time visibility and tracking provide status updates and minimize uncertainty. AI can also automate messaging tasks, which increases efficiency and reduces errors.

**Supplier management.** COVID-19 shed light on supplier risk. AI can help businesses identify the products, suppliers and sourcing locations that are essential to their operations. Next, it can analyze historical data and external factors to predict potential risks, such as financial instability, geopolitical issues in the region, possible natural disasters

or even concerns over ethical sourcing. Depending on the risk, companies may seek out additional sources of supply or explore nearshoring. AI can analyze data to evaluate supplier criteria, monitor key performance indicators (KPIs) or detect quality issues. It may also help detect fraud.

CSCMP's Saxe expects the industry verticals in which shippers and 3PLs operate to play a significant role in AI use cases. "Let's take, for example, a warehouse full of fresh tomatoes," he explains. "We could look at the date they were picked, the weather pattern at the time of harvest, how long it took to move the product into the cold chain, temperature

control to preserve the life of the tomato and even the genetics of the variety."

Now, supply chain planners can pinpoint the tomatoes that need to be shipped first, which may not be first in or last out. The cold chain or other time-sensitive industries may place greater value on optimizing routes.

### Tangible Results

Improving operational efficiency and decision-making can help drive the return on investment in AI technologies. Shippers (40%) and 3PLs (37%) expect a strong ROI from AI through service-level improvements (see Figure 3.3).

Figure 3.3: Greatest Expected ROI from AI



Better demand forecasting, inventory management, network optimization and risk management directly impact service. Generative AI can craft and transmit information faster than humans and reply to inquiries in a natural and relevant way to complex interactions and automate back-office tasks. “As a load planner, I have to look at the data, synthesize and write an email. Whereas generative AI can synthesize information and craft it like a human does,” Farnala says. “It will increase the efficiency of a supply chain operation.”

3PLs are also using AI to improve predictive maintenance, which improves uptime and prevents delays. Today’s vehicles share vast amounts of information. Engines, telematics devices, GLDs and safety technology all transmit data. One of the challenges with large amounts of data is that it can create noise. However, when analyzed, it can predict potential failures, when they will occur and the root cause of the failure so providers can get ahead of issues before they create more significant problems.

Another example is the addition of AI to robotic process automations (RPA) tools, which automate repetitive tasks. By adding AI, RPAs not only automate tasks but also have a decision-making engine. “The tool should be able to communicate and give you more rich information than a human can synthesize,” Farnala says. “That will help different aspects of supply chain, from customer

service tasks to exception follow-ups, that an operation needs to complete to ensure the supply chain is running smoothly.”

Both respondent parties also expect to get an ROI from data accuracy, with 3PLs ranking it slightly higher than shippers. Data integrity is essential for 3PLs when providing core KPIs, such as fill rates, orders shipped, inventory accuracy, and on-time or order shipped metrics.

Although they don’t own the data, 3PLs may still be affected by poor data quality. Accurate data can improve their ability to plan and secure capacity, optimize routes, plan and schedule labor, and maximize warehouse operations.

Last year, the 2024 Annual Third-Party Logistics Study identified the steps shippers and 3PLs take to protect data integrity. Among the findings, 3PLs were more likely than shippers to rely on end users and IT staff to check and resolve data quality issues.

### Areas of Investment

Shippers are looking for service providers that help them achieve reliable results. 3PLs that offer AI solutions are gaining a competitive advantage. Nearly three-quarters of shippers indicate a 3PL’s use of AI would influence their 3PL partner choice, saying they

are either very likely (33%), likely (28%) or somewhat likely (22%) to switch 3PL providers based on their AI capabilities (see Figure 3.6).

Figure 3.6. Likelihood to Switch 3PL Providers Based on AI Capabilities (Shipper Respondents)



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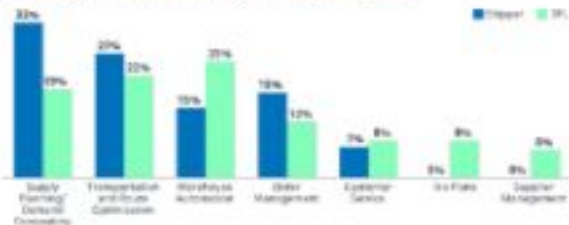
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Figure 3.3: AI Implementations Demanded by Shippers and Planned by 3PLs



There are slight discrepancies between the AI implementations shippers demand and those 3PLs plan (see Figure 3.3 next page). One-third of shippers (33%) are looking for implementations related to supply planning and demand forecasting. But only 19% of 3PLs report they are planning implementations in this area. Additionally, 27% of shippers are demanding transportation and route optimization. However, only 22% of 3PLs say they are

planning such implementations.

While there is a mismatch in expectations between shippers and 3PLs, that could be because the capabilities already exist. In the 2024 Annual Third-Party Logistics Study, 3PLs reported they had already invested or were currently investing in advanced predictive analytics (54%), supply chain control towers (32%), and warehouse automation and robotics (41%).

## Barriers to Adoption

Despite AI's benefits and promise, barriers to implementing the technology remain (see Figure 3.4). 3PLs rank integration with existing systems as the top challenge they face.

AI systems rely on data and, traditionally, information within the supply chain has come from multiple disparate systems. Trucking companies, for example, have years of data from transportation management systems and electronic logging devices. This information can provide valuable insights for route automation, predictive maintenance, driver performance and customer service improvements. However, it's often unstructured.

The supply chain is full of data-rich solutions, including order management systems, warehouse management systems, ERP systems, dispatching software and load or tracking devices. Valuable external data sources include market trends, economic indicators, weather forecasts, infrastructure failures, geopolitical events and potential labor disruptions.

Figure 3.4: Largest Barriers to Implementing AI (3PLs Responded)

Identified Barrier	% Identified
Data Integrity	11%
High Initial Investment Cost	14%
Lack Of Skilled Personnel	25%
Integration With Existing Systems	38%
Scalability Concerns	12%
Low Priority	13%



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Depending on the systems, integrating these disparate data sources so they feed information suitable for AI analysis can involve significant effort and create concerns over data integrity. Cleaning data, verifying its quality and consolidating data sets are crucial steps. Each can be resource- and labor-intensive.

3PLs rank a lack of skilled personnel as the second most common barrier to adoption. “To harness the power of AI, you need talent. One way to bridge the talent gap is to build it horizontally across the organization,” Farnalis says. “One of the things that we are doing is creating a culture of citizen data scientists.”

Communicating how data-driven decision-making improves operations, providing training on data literacy and the use of data analytics tools, and encouraging collaboration between IT professionals and other departments can empower employees to use data effectively. Farnalis says he expects organizations to also use external and internal education and online resources to train employees.

The introduction of AI can also create concerns that employees’ roles will change or become obsolete. Managing employee concerns was a priority for Leonard’s Express, a family-owned trucking company based in Farmington, New York. The company deployed an AI-enabled freight planning solution to help identify repetitive, operational issues and determine which freight to carry with its internal assets and which to send to brokerage.

Initially, professional drivers were worried the system could affect their miles and pay. Kyle Johnson, CEO of Leonard’s Express, says change management was critical. The carrier and its technology provider spent time onboarding staff, communicating the goals and benefits, and assuring drivers it wouldn’t take away from their work. In fact, the system can help by pulling to drivers’ preferred routes and home time.

The technology can also free up time for non-driving staff to focus on other needs. “We want to get our people working on the exception rather than the rule,” Johnson explains. “The machine can do it much faster than a human.”

## Future Growth

AI’s ability to rapidly analyze large data sets and uncover valuable insights is expected to continue improving supply chain effectiveness and increasing adoption. “There is a lot of hope that we will become much more competitive within supply chains and be better, smarter, faster and more cost-optimized than ever,” CSCMP’s Bass says.

Farnalis adds that AI can aid in sustainability and compliance, which are taking on more importance for many shippers and their supply chain partners. BSA, for example, has committed to using only zero-emission trucks and ocean vessels by 2040. The company also aims to reduce emissions 75% by 2030 compared to 2017 numbers. “Every organization is trying to be more sustainable, and regulatory requirements designed to improve sustainability are increasing,” he says. “As compliance needs change, AI can help in tracking and ensuring compliance.”



## Artificial Intelligence and Data in the Supply Chain

## Key Takeaways



About half of shippers and 3PLs (48%) see AI as a tool that can automate data analysis and identify patterns or solve problems. Slightly less of both respondents (39% of shippers and 36% of 3PLs) view it as a tool to automate repetitive, mundane tasks to free up work.



Shippers and 3PLs are aligned on the top use cases for AI, with supply and demand forecasting and transportation and route optimization ranking at the top. Order management also ranks highly for both groups, while 3PLs see a slightly higher use case for warehouse automation than shippers.



Among shippers, their greatest expected ROI from AI is through service-level improvements (40%), data accuracy (34%) and labor savings (16%). 3PLs expect to see the greatest ROI from data accuracy (38%), service-level improvement (27%) and control tower visibility (22%).



3PLs with AI capabilities will have a competitive advantage. Shippers say they are very likely (13%), likely (29%) or somewhat likely (32%) to switch 3PL providers based on their AI capabilities.



There are slight variations between the AI implementations shippers are demanding and those 3PLs are planning. One-third of shippers (33%) are looking for implementations related to supply planning and demand forecasting. Among 3PLs, 19% report they are planning implementations in this area.



3PLs' top barriers to adoption include integration with existing systems, which 26% of respondents cite. Other barriers include a lack of skilled personnel (25% of respondents) and high initial investment costs (16% of respondents).





# The Importance of the Direct-to-Consumer Experience



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# The Importance of the Direct-to-Consumer Experience

The ways consumers shop have changed dramatically over the past five years. Direct-to-consumer (D2C) sales channels are expanding rapidly. Manufacturers and retailers are using D2C channels to sell directly to consumers, react quickly to trends and control the shopping experience.

Brands that have traditionally relied on department stores, as well as those that have focused exclusively on the D2C model, are finding success by connecting directly with shoppers.

Levi Strauss announced in 2022 that it was targeting D2C sales and aims to have more than half of its revenue come from the channel within the coming years. In the second quarter of 2024, the 170-year-old brand reported that D2C sales accounted for 47% of its revenue.

Warby Parker, an eyeglass company, was founded as a D2C retailer in 2010 as an alternative to traditional retail channels. The company expanded to brick-and-mortar stores beginning in 2013. Its revenue increased 13.3% in the second quarter of 2024.

Growth in D2C sales is closely connected to economic growth, which spiked during the pandemic and continues to increase.

Supply chains are evolving to support the rapid growth in D2C

channels. Shippers and their logistics partners are investing in technology and analytics capabilities, optimizing their distribution networks, utilizing automation and forming connected partnerships to meet consumer expectations and tackle the supply chain challenges that came under the spotlight during the pandemic.

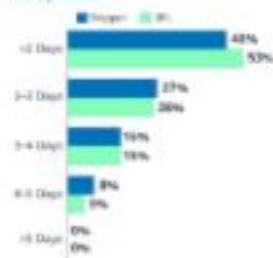
## Consumer Expectations

Speed is a critical differentiator in the D2C experience. Consumers overwhelmingly expect shipping in three days or less. This puts more pressure on shippers and their logistics partners to increase efficiency and deliver a seamless delivery experience.

"D2C always centers around the consumer promise," says Tim Brindley, vice president, Supply Chain Consulting at NTT DATA. "Shoppers want rapid click-to-deliver times, transparency and green packaging, but they don't want to spend extra."

Around half of respondents (46% of shippers and 53% of 3PLs) say customers expect deliveries in less than two days, just over one-fourth of both groups (27% of shippers and 26% of 3PLs) report customers expect deliveries in two to three days, as shown in Figure 4.1.

Figure 4.1: Customer Expectations for Delivery Periods



Although rapid delivery is a priority, 30% of shippers and 37% report they are not willing to absorb any costs related to shipping speeds. The highest percentage of respondents (44% of shippers and 38% of 3PLs) say they are willing to absorb a small percentage of the costs (see Figure 4.2). Just 5% of shippers and 7% of 3PLs say they are willing to absorb a significant amount of cost.

Sustainability initiatives are often an important consideration for consumers, especially younger consumers, and part of a brand's overall environmental strategy. Nike, for example, has a target to reduce its carbon footprint by 2030, with an absolute reduction of Scope 1 and 2 emissions by 65% and Scope 3 emissions by 30%.

3PLs say their highest priority within the DCC customer promise is the general brand commitment to reduce environmental impact in the supply chain (see Figure 4.3). Shippers are increasingly relying on their supply chain partners to help them reduce emissions. It could be why this priority ranks higher for 3PLs than shippers. A practical example of where this occurs is with shippers using 3PLs and setting up well-defined lead time rules in their order management system to reduce

the number of split shipments. Streamlining split shipments reduces packaging and the fuel required to ship customer orders.

Shippers rank their highest priority within the DCC promise as transparency into where products are sourced. Consumers are increasingly concerned about the ethical implications of their purchases and prefer to buy products made in a way that respects human rights and environmental sustainability. Transparency helps retailers build trust with their customers.

For both groups, reduction of packing materials ranks third, with 35% of shippers and 37% listing it as a priority. Using less packing can reduce the costs associated with materials, enable more efficient use of transportation and warehousing space, and decrease the volume of material sent to landfills.

3PLs prioritize the use of recycled materials in packaging slightly more than shippers do. This could be due to customer expectations and differentiating themselves within the logistics industry.

The supply chain plays a critical role in helping brands meet their sustainability

Figure 4.2 Shipper and 3PL Willingness to Absorb Cost

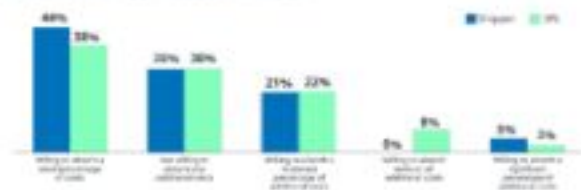
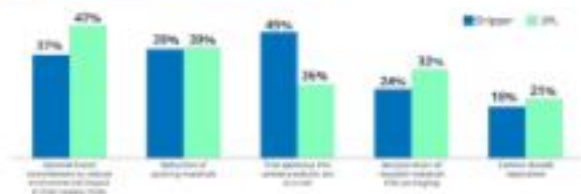


Figure 4.3 Highest Priorities within the DCC Customer Promise





goals, increasing efficiency within the supply chain through network and route optimization, consolidating shipments, monitoring and improving inventory management can not only reduce waste within the supply chain but also improve speed.

Shippers and 3PLs agree that delivery speed — two versus three days — is the top differentiator within the marketplace. Among both groups, 52% rank it as the most likely differentiator. For 30% of shippers and 41% of 3PLs it ranks as a very likely or likely differentiator (see Figure 4.4).

Both groups also rank increased delivery visibility as being “most likely” or “very likely” to differentiate them from their competition. For shippers, increased delivery visibility aids in inventory planning and fulfillment. It also helps ensure they can meet customer expectations for delivery windows. Visibility is an important tool for 3PLs as it helps them mitigate disruptions and provide timely updates to customers.

Shippers rank supply chain resiliency slightly higher than 3PL respondents. Shippers, not 3PLs, determine where they source and store products. They also feel the brunt of

out-of-stocks, lost sales and disappointed customers if products aren't available. This could help explain why shippers rate it at a higher percentage than 3PLs.

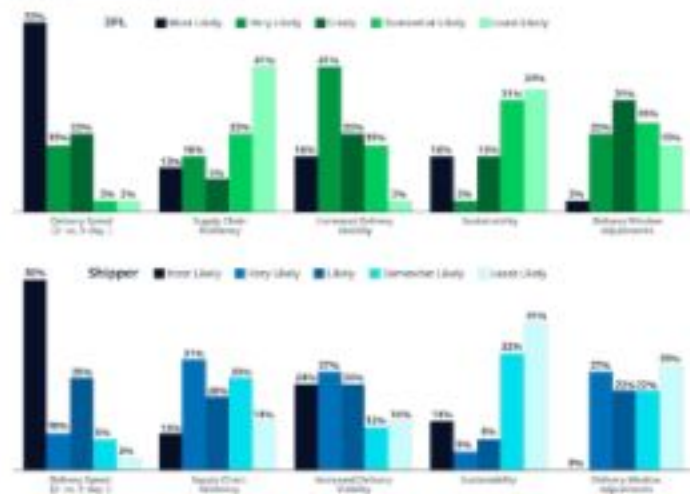
Finally, the ability to adjust delivery windows to accommodate customer requirements, including providing narrower windows, is an important differentiator for both sides. This typically goes hand-in-hand with delivery visibility as a particular customer pain-point. In general, customers want options, whether it's related to how quickly they receive products (same-day, next-day) or based on their availability, especially with white glove services, for weekend delivery.

### The Value of Data and Analytics

Visibility, reliable data and advanced analytics are improving the DDC experience in several areas. These include overall network optimization, demand planning and inventory management.

“The click-to-deliver timeframe is what consumers care about, so there are opportunities to speed up the fulfillment side without having to speed up the delivery side,” Brindley says.

Figure 4.4: Shippers' Customer Differentiators







Identifying the ideal location for warehouses and distribution centers can reduce the amount of time products spend enroute to customers and reduce the environmental impact of the supply chain. This includes positioning warehouses in major markets, using micro-fulfillment centers and, when possible, tapping into stores to fulfill customer orders, which give companies multiple last-mile options.

"In D2C, if you have a warehouse in a major market, you're replenishing your store faster and you can satisfy the customer in that market faster," Brinley says. "It has become a density play with potential revenue benefits for companies."

Micro-fulfillment centers can increase delivery frequency of fast-moving items, send 'floor-ready' cartons and pick up slow movers, including returns. They can also minimize the need to ship from-store by positioning inventory close to consumers. Use of micro-fulfillment centers has spiked as brands' supply chains have evolved. "There was an early response from COVID-19 saying, 'This is the way of the future,' but demand has leveled off," Brinley says.

Brands with retail stores can use their brick-and-mortar locations as local fulfillment centers for online orders. Doing so can essentially position inventory throughout the country and allow companies to ship from the location closest to the consumer. It also offers consumers more options, such as buy online, pick up in-store (BOPIS) or delivered from store. This enhances convenience for customers while optimizing inventory management for brands.

However, this can require companies to completely rethink their network, store design and the technology needed to use retail locations for fulfillment. Current challenges include:

- Lack of integration with D2C technology to receive orders or share inventory information.
- Ill-equipped back-of-house operations for warehouse-like operations, especially during peak times.
- Conflicting goals of focusing on in-store sales versus meeting omnichannel service levels.

- Still evolving upstream distribution centers to increase delivery frequency and order-to-delivery speed to ensure stores remain well stocked.

Visibility into inventory is essential to better fulfillment decision-making. For example, where to source products from and when to replenish to minimize the risk of stockouts or overstock situations.

Plus, when brands have reliable, real-time visibility into inventory levels, they can tap into deployment-driven demand and filter products presented to consumers based on those that can be delivered in two to three days. Essentially, the first products shoppers see are those available for the fastest delivery. This helps brands fulfill the customer promise while reducing their transportation costs.

Shippers and 3PLs agree that increased delivery visibility is a differentiator (see [Figure 6.4](#) previous page). Visibility into deliveries means products will arrive when they're needed, as well as allow locations to plan labor and shift inventory.



## The Evolution of the D2C Supply Chain

As shippers and their logistics partners adjust supply chains to maximize D2C shipments, they're investing heavily in technology and automation.

Artificial intelligence has the potential to improve demand planning. AI can analyze vast amounts of historical sales data, real-time data from point-of-sale systems, market trends and external factors, including weather, holidays and social media trends, to produce more accurate demand forecasts. AI and predictive analytics enable hyperlocal demand sensing and automated ordering to stores, which will increase efficiency and boost service.

AI, coupled with accurate data, is also a powerful tool to optimize networks and routes and to identify the ideal sourcing locations for products, including raw materials. Learn more in "Artificial Intelligence in the Supply Chain" special topic.

Automating the fulfillment process increases efficiency and speeds the picking and packing process. There are dozens of logistics technologies that are shaping the future of distribution center operations. They include:

**Autonomous mobile robots (AMRs) and robotic picking.** AMRs automate the movement, storage and retrieval of goods in a warehouse, greatly reducing the dependence on and cost of labor. Picking robots use robotic arms that mimic human picking motions. They can be fixed, with goods brought to them, or mobile, traveling to pick items.

**Multi-shuttle systems.** These consist of small carts that move along tracks, allowing the retrieval and delivery of containers or boxes. They are typically used with an automated storage and retrieval system that moves goods in three dimensions to store and retrieve items without human intervention.

**Optical recognition.** Sensors power advanced imaging systems and algorithms to identify, track and process items based on their visual characteristics. This technology enhances the efficiency and accuracy of various operations within the distribution center, such as sorting, inventory management and quality control.

## An Emphasis on Resiliency

The need for resilient supply chains gained global attention during the pandemic, and it continues to shape supply chains. Supply chains are complex ecosystems that are sensitive to unplanned events. Global disruptions can quickly cascade upstream and downstream. Even regional disruptions, such as major storms, transportation infrastructure failures or a problem within a manufacturing facility, can create significant supply chain delays. The expectation of rapid deliveries within the D2C channel is driving investments to reduce the risk of disruptions.

Visibility, which is already important to managing inventory, also increases resiliency. It allows those within the supply chain to get ahead of an interruption, potentially mitigating problems before they occur, and enables a rapid response and correction to keep operations moving when issues arise.

Shippers and their logistics providers may also want to add supply chain risk impact metrics as KPIs to improve strategy, direction and decision-making. Data on where raw materials components are sourced can help identify better finished goods resiliency, responsiveness and responsibility, how secure that supply is, and whether there is redundancy or flexibility for the materials.



Key stakeholders can work together to determine which materials matter most within the Tier 1, Tier 2 and Tier 3 providers, geographical areas at risk of transportation delays or political disruptions, and contingency plans. Factors to consider include:

**Staging:** Positioning inventory at various points to protect against demand volatility and lead time uncertainties.

**Planning:** Coordinating production cycles to drive efficiencies and enable lead time reduction as well as planning inventory replenishment cycles.

**Capacity expansion:** Expanding capacity at existing nodes to accommodate demand increases or create plans to flex capacity up as needed through pre-emergent agreements.

**Multi-sourcing:** Increasing and diversifying the number of suppliers/sources.

**Nearshoring:** Siting suppliers closer to the end consumer. Read more about nearshoring in the “Contemporary Issues” section.

3PLs can work with shippers to stimulate supply chain networks using different ports,

different routes, alternate suppliers, and varying levels of inventories and modes of transportation. The models help shippers determine which channels should be served by which locations, optimal supplier base locations, the best ports of entry and the ideal positions of brick-and-mortar warehouses.

### Returns as a D2C Differentiator

As the direct-to-consumer channel increases, the returns process can be a key differentiator to boost sales and increase customer loyalty. But it can also create new challenges that shippers have to navigate.

The process of moving goods from end users back through the supply chain involves multiple processes, stakeholders and decision points. The costs to do so can eat into overall profitability. *Nielsen's 2024 State of Returns* report estimates that each return can cost \$25-30 per returned order with a \$100 merchandise value for U.S. retailers.

However, brands must balance the cost of returns with the convenience consumers demand to capture sales and build loyalty.

NTT DATA's analysis of D2C brands over the

last three years shows that the more time spent setting up a return inevitably results in reduced consumer repurchasing over the next 120 days, see **Figure 4.5**.

Low contact, low-effort returns, which can be initiated via an app and don't require any labeling or packing, are the most likely to build customer loyalty. Those that require the customer to initiate contact, print a label and provide a box are the least likely to inspire consumers to buy again.

So how should a business consider the delicate balance between adding cost versus providing convenience with their customers? Like anything else, it takes a rigorous business case to justify investment in one's supply chain. Increased velocity in fulfillment and greater flexibility in returns must have a return on the investment, through customer loyalty, stickiness and, ultimately, increased sales over time.

The great enabler is having quality data to observe the value over an extended period. If a customer can return an item purchased online to a store, how often does that return result in a purchase at the store? These are things that must be evaluated to demonstrate and quantify the value in offering differentiators to customers.

**Figure 4.5: Consumer Repurchasing Patterns based on Return Types**



Source: NTT DATA





## The Importance of the Direct-to-Consumer Experience

# Key Takeaways



Customers have high expectations of delivery periods, with 48% of shippers and 53% of 3PLs reporting expectations of less than two days. Just over one-quarter of both groups (27% of shippers and 26% of 3PLs) report expected delivery periods of two to three days. None of the respondents reports expectations greater than five days.



Among respondents, 44% of shippers and 38% of 3PLs say they are willing to absorb a small percentage of the costs related to shipping speeds; 21% of shippers and 22% of 3PLs say they are willing to absorb a moderate percentage of additional costs. Just 5% of shippers and 3% of 3PLs say they are willing to absorb a significant amount of cost.



Just under one-third of respondents (30% of shippers and 3PLs) report they are not willing to absorb any costs related to shipping speeds.



The highest priorities within the D2C customer promise for shippers are transparency into where products are sourced (40% of respondents), followed by reduction of packing materials (39%) and general brand commitment to reduce environmental impact their supply chain (37%).



The highest priorities within the D2C customer promise for 3PLs are general brand commitment to reduce environmental impact in their supply chain (47% of respondents), followed by a reduction of packing materials (39%) and incorporation of recycled materials into packaging (32%).



Both groups see delivery speed and increased delivery visibility as the greatest areas of differentiation. 3PLs say it is most likely (57%), very likely (19%) or likely (22%) to be a differentiator. Shippers say it is most likely (53%), very likely (19%) or likely (25%) to be a differentiator.



Overall, shippers rank supply chain resiliency higher as an area of differentiation than 3PLs, with just 39% of shippers saying it is somewhat likely and 14% saying it is least likely to be a differentiator, compared to 22% and 41% of 3PLs, respectively.



# Contemporary Issues

Nearshoring in Supply Chain Management  
Trends in Real Estate and Labor



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## Contemporary Issues

## Nearshoring in Supply Chain Management

The global supply chain is being transformed as companies move sources of supply and production closer to home markets to help manage uncertainties, increase resiliency and manage costs. For years, shippers and their logistics providers have been grappling with supply chain disruptions, trade wars and global conflicts that have exposed the fragility of extended supply chains and made them rethink their overall network.

Nearshoring can help shippers and their logistics providers mitigate risk and streamline supply chains. The concept of nearshoring is not new, but it remains a contemporary topic. About three-quarters of respondents (70% of shippers and 71% of 3PLs) say they are considering adjusting sources of supply to be more local or domestic (see Figure 5.1).

This is similar to findings in the 2021 Annual Third-Party Logistics Study, when roughly 80% of shippers reported rebalancing production

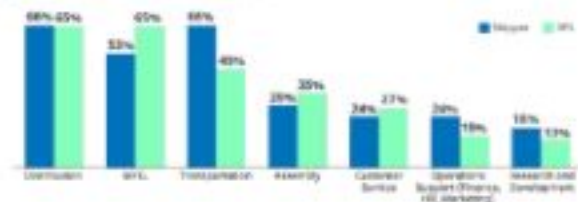
Figure 5.1: Percent of Companies Considering Adjusting Sources of Supply to be More Local or Domestic



locations to move toward more regional or domestic production networks.

Moving sources of supply and production closer to their destination enables a faster response to market demands and reduces the risk of delays. 3PLs and shippers align on the functions most critical to nearshore but at varying degrees (see Figure 5.2).

Figure 5.2: Functions Most Critical to Nearshore



Two-thirds of shippers say transportation and distribution are the most critical functions to nearshore, just over half of shippers (53%) say manufacturing is critical to nearshore, followed by assembly, which 29% of shipper respondents report.



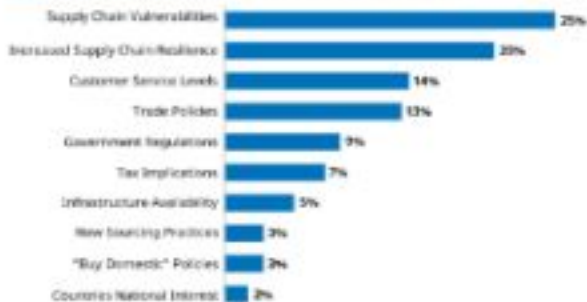


Among 3PLs, 65% list distribution and manufacturing as the functions most critical to nearshoring. Transportation is next (49% of 3PL respondents), and then assembly (20% of 3PLs).

Shippers report the top factors behind nearshoring are supply chain vulnerabilities, increased supply chain resilience, customer service levels and trade policies (see Figure 5.3).

Was contributing to nearshoring is the trade agreement known as the U.S.-Mexico-Canada Agreement (USMCA), which became effective in 2020 and replaced the North American Free Trade Agreement (NAFTA).

Figure 5.2: Top Factors Driving Organizations to Nearshore (Shipper Respondents)



Trade Agreement. In 2023, Mexico replaced China as the No. 1 trading partner with the U.S., which is the world's largest economy.

Mexico provides a nearshore option for the North American market. It can be more cost-effective for goods to come into Mexico's ports from around the world and then ship to the U.S. compared to going directly into the U.S. However, as trade in Mexico has increased, demand for labor, warehousing and industrial space has also increased, which can affect cost savings.

Regulatory, labor, government, city and state requirements in Mexico are also on the rise. "There are new regulatory requirements that we're seeing now, and we anticipate more coming as Mexico matures," says Bob Black, vice president of operations at Penize Logistics.

Nearshoring creates substantial growth opportunities for 3PLs in freight movement, network design and other ancillary services. "3PLs have market intelligence and play a huge part in helping shippers understand changing dynamics, lanes and how a shipper's business fits into the overall global model," says C3CMF CEO Mark Davis.

3PLs are turning to technology, including AI, which can help identify ideal sourcing locations, warehousing sites, modes and routes. Systems can also run what-if scenarios using various ports, routes, suppliers and transportation modes. Learn more about AI in the "Artificial Intelligence and Data in the Supply Chain" special topic.

Despite its benefits, nearshoring does create challenges. The initial costs of relocating operations can be steep and require adjustments on the shipper's end, including sourcing new suppliers and transportation providers. It also requires companies to navigate different regulatory environments and learn the intricacies of operating in a new country. Additionally, some of the initial advantages of a nearshoring location may change as demand increases and costs rise.

**Will shippers follow through with their plans to nearshore? What will redesigned supply chain networks look like? What role will 3PLs play in shippers' plans to nearshore?**



# Cross-Border Truck Traffic in the U.S.

Reshoring and the increase of trade between the U.S., Mexico and Canada have been positive for the trucking industry, increasing cross-border truck volumes in and out of the U.S.

Kaitlyn Holmecki, senior manager of international trade and security policy at the American Trucking Associations, says the value of truck transport trade to and from Mexico and Canada has increased more than 40% since the USMCA trade agreement took effect in 2020.

Reshoring to Mexico specifically has increased cross-border truck traffic. "As more companies locate in Mexico, that increases truck volumes into the U.S. and even back into Mexico for the production process," Holmecki says. "To this point, volumes crossing the southern border have outperformed the domestic freight market for the last few years."

In 2023, the top imports and exports transported by truck across the U.S./Mexico border were electrical machinery, equipment and parts, and computer-related machinery and parts. Along the U.S./Canada border, the top imports and exports in 2023 were computer-related machinery and parts and vehicles other than railway transportation equipment or tramway rolling stock designed solely for running on rails.

Holmecki says Laredo, Texas, is the busiest overland port of entry on the southern border and is sometimes even the largest port in the U.S., including seaports. "Seaport growth will continue to grow in the years ahead," she says, "but we can probably expect truck freight movements across the southern border to increase at a faster clip."


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## Contemporary Issues

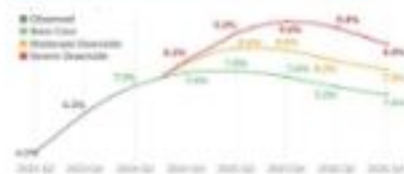
## Trends in Real Estate and Labor

COVID-19 created extreme market conditions that led to increased inventory holdings and strong economic growth. This, in turn, created a spike in warehouse demand. Warehouse capacity as well as labor was difficult to find in several U.S. markets and drove costs higher.

Since mid-2022, the U.S. industrial real estate market has experienced a steady increase in vacancy rates. Additionally, market conditions have shifted in favor of tenants, diminishing owners' ability to raise rents aggressively in some locations. (see [Figure 5.4](#))

Overall, rents increased at record levels from 2021 through 2023.

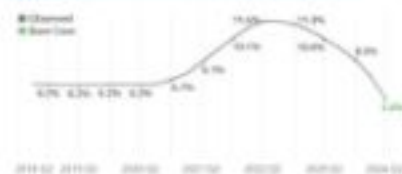
Figure 5.4: Logistics Vacancy Forecasts: Market Nationwide (10%)



This has had a lasting impact on the industrial real estate market, Mohr Partners has found. While there has been some relief for tenants, property owners in many markets can still command significant rent increases — upwards of 50% — when long-term leases expire. This historically high rent growth provides a buffer for property owners. It allows them to maintain their revenue streams amid fluctuating market conditions. (see [Figure 5.5](#))

Rent growth could reaccelerate in late 2023, according to Mohr Partners. A critical factor influencing this potential shift is the anticipated decline in new construction completions slated for mid-2023. As the supply of new industrial space diminishes,

Figure 5.5: Logistics Market Rent Growth Year: Nationwide (15%)



existing vacancy rates are expected to tighten. This will set the stage for a more landlord-favorable environment and subsequent rent increases. (see [Figure 5.6](#))

Amid these market fluctuations, several positive indicators for tenant demand are emerging as the year progresses. One of the primary factors is the gradual rise in overall retail goods spending, particularly in sectors such as non-store retailers and general merchandise stores. This uptick in consumer spending is largely attributable to subsiding inflation and the alleviation of some of the economic pressures households face.

In parallel, key industrial market indicators that experienced

Figure 5.6: Logistics Market Rent Growth by Economic Nationwide (15%)



declines in 2023 are showing signs of stabilizing in 2024. Employment in warehousing and storage, along with wholesale trade inventories, have leveled off. Both are indications of a steadier market.

Additionally, monthly U.S. imports, which declined in 2023, have been increasing at double-digit year-over-year rates since February 2024. This surge signifies a robust flow of goods through distribution centers across the country, reflecting a reinvigorated demand for industrial space. (see [Figure 3.7](#))

**Figure 3.7** Top Growth Markets Q1 2019-Q1 2024 Q1

Market	Growth Rate
1. Phoenix AZ	10.9%
2. Las Vegas NV	11.8%
3. Salt Lake City UT	11.9%
4. Birmingham AL	22.2%
5. Chicago Metro IL	11.6%
6. Dallas-Fort Worth TX	10.5%
7. Houston TX	10.5%
8. Memphis TN	10.5%
9. Nashville TN	11.8%
10. Orlando FL	16.1%

Source: Zillow, zillow.com/research

The broader U.S. economy has shown signs of resilience, manufacturing in the second quarter of 2024 after experiencing a notable slowdown at the beginning of the year. Real economic growth, measured at an annualized rate, reached 2.8% in the second quarter, doubling the 1.4% recorded in the first quarter. Strong household spending growth and solid business investment are primarily behind this economic boost.

As household spending and business investment continue to grow, the demand for industrial space is likely to increase. This heightened demand could further influence vacancy rates and rent growth, potentially accelerating a market shift favorable to property owners. To access the latest content for a more granular look at specific markets within the U.S., visit [www.Splerealty.com](http://www.Splerealty.com).

Supply chains rely on the availability of talent, but recruiting and retaining warehouse employees can be a challenge. However, both shippers and 3PLs in last year's Annual Third-Party Logistics Study said recruiting was improving. Labor availability and average wages can vary widely, depending on the market, type of warehouse or industry, and role.

As of 2023, the U.S. labor market for warehouse workers includes approximately 3,013,067 employees according to Lightcast, labor market

analytics company. The competition for hiring within this sector is moderate, reflecting an equilibrium between supply and demand. With 26,730 job postings per month, the demand for warehouse labor remains healthy, supported by various industry sectors.

The warehouse labor market is experiencing stable growth. According to Lightcast, the past five years have seen a modest 2% growth in employment, with a projected 8% growth over the next five years. This trajectory indicates a steady increase in demand for warehouse labor supported by the expansion of e-commerce, increasing consumer demand and a continuous need for efficient supply chain operations.

The risk of retirement within this workforce is about average, with approximately 534,013 employees aged 55 or older. This suggests a balanced age distribution that can sustain the labor supply while also presenting opportunities for new entrants as older workers retire.

The demographic profile of warehouse workers features notable representation across various age groups. The age distribution shows a workforce that is predominantly young to middle-aged, with 18.5% aged 18 to 24 and 24.9% aged 25 to 34. (see [Figure 3.8](#))

Essentially, the workforce is diverse. White workers constitute 48.8%, Hispanic or Latino workers 23.5%, and Black or African American workers 22.3%. This diversity highlights the inclusive nature of the warehouse labor market and its accessibility to various demographic groups.

**Figure 3.8** Warehouse Employees Age Ranges



Geographically, California, Texas, Illinois, Pennsylvania and Florida have the highest employment levels for warehouse workers. These states are major hubs for logistics and distribution, owing to their large populations and significant industrial activities.

Compensation for warehouse labor is in line with national averages, providing a stable income for workers. Compensation is also consistent with national benchmarks, with a median salary of \$21,648 per year. While compensation varies depending on the geographic location of a warehouse and the position, the median hourly wage is \$10.10, which is competitive within the broader labor market. (see Figure 5.8)

This stability in compensation is crucial for attracting and retaining talent in a sector characterized by high demand and workers' essential roles in maintaining operations. (see Figure 5.10)

The skills in demand for warehouse workers are reflective of the core responsibilities associated with the role. Key defining skills include warehousing, forklift operation, palletizing, and shipping and receiving. These are essential for the efficient handling and movement of goods within warehouses and

distribution centers. Demand for these skills continues to grow, with digital warehousing jobs alone showing a 12% growth rate.

Advanced or distinguishing skills, such as material handling, equipment operation, forklift certification and inventory staging, are also highly sought-after. These skills enhance a worker's ability to perform specialized tasks, increasing their value within the labor market.

**Will demand for warehousing space increase and push rents higher? Will growth within the ecommerce and direct-to-consumer channels increase warehouse labor needs? What role will automation and network optimization play in warehouse capacity and labor demands?**

Figure 5.8: Compensation For Warehouse Labor



Figure 5.10: Warehouse labor jobs and Growth

Job	Salary Earning	Job Postings Recurring	Projected Growth	Skills Available in Market
Material Handling Equipment	✓	25,276	+17.9%	Available
Forklift Certification	✗	21,466	+1.6%	Scarce
Inventory Staging	✗	24,792	+19.7%	Available
Shelf Re-stocking	✗	23,691	+17.9%	Available
Order Fulfillment	✗	22,668	+6.1	Available
Warehouse Operations	✓	21,692	+17.9%	Available
Warehouse Management Systems	✓	12,748	+19.7%	Available
Warehouse Truck (OTD) Operation	✗	14,587	+6.1%	Available

# About the Study, Respondents, and Sponsors



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# About the Study

The 2023 29th Annual Third-Party Logistics Study employed a variety of research streams to provide an objective look into the 3PL industry, from the perspective of both a user or purchaser of services (shipper) and a provider. Researchers also sought insights from leading organizations that don't currently use external services from a 3PL provider. These are noted in the study as non-users.

The study's goal is to investigate leading trends and uncover how shippers and 3PLs can better collaborate to improve service and increase value. It examines growth within 3PL as a whole and specific sub-segments of the industry. It also looks at overall growth and development, what shippers outsource and what 3PLs offer, why shippers outsource to 3PLs and the value they gain from those relationships. Additionally, researchers investigate trends and issues expected to alter the future state of logistics outsourcing.

When developing the research plan, the study team established topics of interest, developed the survey instrument, conducted the research, analyzed the results, compiled this report, and presented and

shared the findings.

As part of this year's research, the team engaged shippers, 3PLs and 4PLs with a worldwide email survey as well as focused interviews and virtual discussions with industry leaders.

Contributors from industry representatives, supporting organizations and sponsor firms are vital to the study and have sustained the report for the past 29 years. Shippers and 3PLs generously participate in the surveys and interviews needed to produce this year's study and, as in previous years, the 29th Annual Third-Party Logistics Study is dedicated to those who make it possible.

The Annual Third-Party Logistics Study serves as a resource for shippers and 3PLs and those seeking to understand and become familiar with the industry. The study has become a widely anticipated and referenced index on the state of the 3PL industry.

Since its founding by Dr. C. John Langley, the report has focused on people, processes and technology, relationship management and the end-to-end

supply chain. Through the lens of the shipper/3PL relationship, the results of the Annual Third-Party Logistics Study provide valuable perspectives and insight into the broader topic of supply chain management.

## The Annual 3PL Study Process

Steps and elements of the development of the Annual Third-Party Logistics Study include:

**Accessibility:** Links to the web-based survey were circulated to members and affiliates through organizations that support the Annual Third-Party Logistics Group. This year's survey closed in July 2024 and gathered responses from both users and non-users as well as providers of 3PL services. The study report and additional materials are also presented on its dedicated website, [www.3plstudy.com](http://www.3plstudy.com).

**Topics:** In addition to measuring core trends in the 3PL industry, the Annual Third-Party Logistics Study conducts in-depth examinations of supply chain topics that affect both users and providers of 3PL services. This year's topic focus on change management power dynamics, the growing role

of technology, artificial intelligence and supply chain data, and driver-to-consumer shipping expectations.

**Contributing Sponsors:** Sponsors of the 2023 29th Annual Third-Party Logistics Study include NTT DATA and Perle.

**Copyright:** Copyright for the 2023 29th Annual Third-Party Logistics Study is held by C. John Langley, Ph.D., and NTT DATA. Lead/Writer: Mindy Long.

**Supporting Organizations:** Each year, several supply chain organizations facilitate the research process by asking members and other contacts to respond to the survey. In addition to completing the survey, participating companies contribute by enabling executives to participate in focused discussions and providing subject-matter expertise. The study team would like to thank Major Partners for information within the "Year Issue and Labor Trends" contemporary issues.

**Multiple Research Streams:** A distinguishing feature of the Annual Third-Party Logistics Study is



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The inclusion of multiple streams of research undertaken by the study team to validate and clarify the findings in this report. The team utilizes survey topics above throughout the year from key industry participants and through desk research conducted by the team and IRT DATA, which also helps vet potential topics of interest. Survey topics and questions are designed to reflect major issues and trends facing both users and providers of logistics services.

**Wide Coverage:** The Annual Third-Party Logistics Study is presented and discussed in prominent supply chain industry venues, including:

- Presentations at leading industry conferences, such as the Council of Supply Chain Management Professionals (CSCMP) EDGE Conference and Exhibition and the International Supply Chain Forum hosted by IJOS.
- Analyst briefings conducted in the weeks following the release of the annual study in the fall.
- Magazine and journal articles in publications, such as Supply Chain

Management Review, Logistics Management, Inbound Logistics, Logistics Quarterly and Supply Chain Quarterly Digest.

- Webcasts conducted with media and publications, including Supply Chain Management Review, Logistics Management, SupplyChainBrain, Solid Network and others.

**Definitions:** Survey recipients were asked to think of a "third-party logistics (3PL) provider" as an organization that provides or manages one or more logistics services for its customers. A "fourth-party logistics (4PL) provider" is one that may manage multiple logistics providers or orchestrate broader aspects of a customer's supply chain. To ensure confidentiality and objectivity, 3PL users weren't asked to name any specific 3PLs they use. Correspondingly, the Annual Third-Party Logistics Study doesn't generate any information that could lead to ratings or rankings of 3PL providers.



## Components of the 2023 Annual Third-Party Logistics Study

Research and analysis for the "Current State of the Market" section set out to:

- Understand what shippers outsource
- Understand what services 3PLs offer
- Identify trends in both shipper usage and 3PL services
- Recognize key shipper and 3PL perspectives on the use and provision of services
- Determine how 3PLs add value to their customers' supply chains
- Understand the benefits shippers attribute to using 3PLs
- Assess the importance of 3PL capabilities relating to people, process, technology, implementation and execution
- Determine what types of technologies or solutions 3PLs need to offer to successfully serve customers

- Determine the extent to which 3PL technologies or solutions are successful in helping customers address their objectives
- Examine why shippers elect or don't elect to outsource
- Learn how both shippers and 3PLs see their relationships to improve and enhance their businesses and supply chains overall
- Update researchers' knowledge of 3PL/shipper relationships

The "Special Topics" section takes an introspective view of the future of the 3PL industry and shipper/3PL relationships. Topics were selected based on what was learned during the study process as well as trends in the industry. This year's sections include:

- Change Management in Shipper and 3PL Relationships
- Artificial Intelligence in the Supply Chain
- The Importance of the Direct-to-Consumer Experience

The "Contemporary Issues" section takes an introspective view of the future of the 3PL industry and shipper/3PL relationships. This year, researchers explored the ongoing effect of nearshoring on the supply chain and trends in real estate and labor.



## About the Respondents

Figure 6.1 shows the percentage of shipper respondents to the survey, including both users (44%) and non-users (2%) of 3PL services, and the percentage of 3PL or 4PL respondents (27%). The non-user responses are helpful because they provide valuable insights on why some organizations have elected not to use 3PLs, as well as their perspective on several other relevant topics throughout the study.

Respondents are typically vice presidents, directors, senior directors or managers and above from a mixture of different industries (see Figure 6.2).

Figure 6.1: About the Respondents

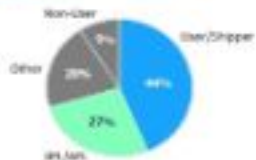


Figure 6.2: Respondent Levels



## Shippers

Figure 6.3 shows the 10 most prominent industries reporting use of 3PL services, including retail and consumer brands (28%), food and beverage manufacturing or distribution (24%), manufacturing and heavy machinery (23%), and automotive (17%).

Figure 6.4 groups shippers by geographic location. A high concentration of shippers operates in the U.S. (73%). Other top locations represented include Europe (18%), Canada (12%) and Asia (12%).

Shipper respondents are a diverse group based on total annual sales (see Figure 6.5). Among shippers, 37% report \$1 billion or more in sales.

Figure 6.3: Shippers by Industry

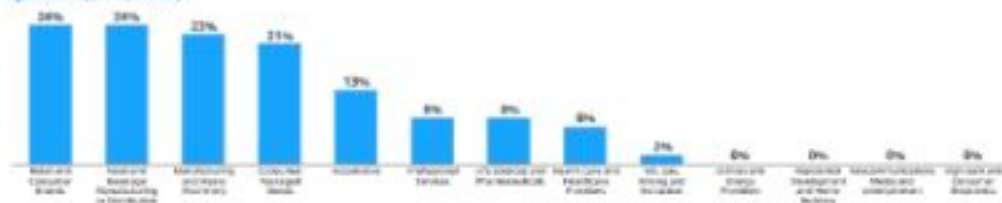


Figure 6.4: Shippers by Geography

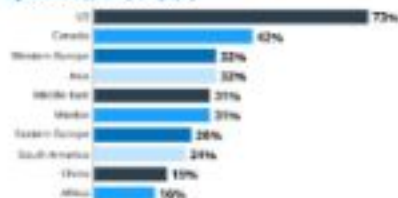
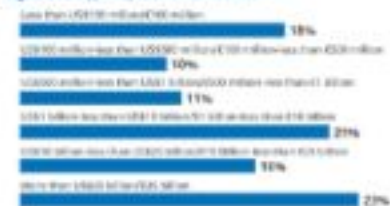


Figure 6.5: Shippers by Total Annual Revenue



## 3PLs

3PL executives and service leaders responded to a similar but separate version of the survey. Since most 3PL respondents service multiple geographical areas, the study team asked them to select all major geographies where they provide service (see Figure 6.4). All major regions are represented, but the top areas include the U.S. (88%), Europe (32%), Canada (20%), Mexico (18%) and the Middle East (18%).

Figure 6.7 shows that 3PL respondents serve a distinct collection of industries, ranging from retail and consumer brands (42%) to consumer packaged goods (42%) to consumer packaged goods (42%) and food and beverage manufacturing or distribution (34%).

3PLs report a wide range of total sales each year: 34% of made \$1 billion or more in total sales (see Figure 6.8).

Figure 6.4: 3PLs by Geography Served

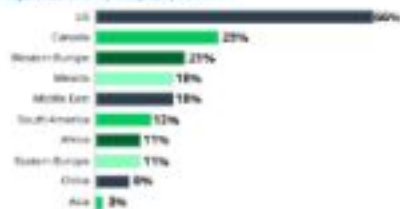


Figure 6.7: 3PLs by Industry Served

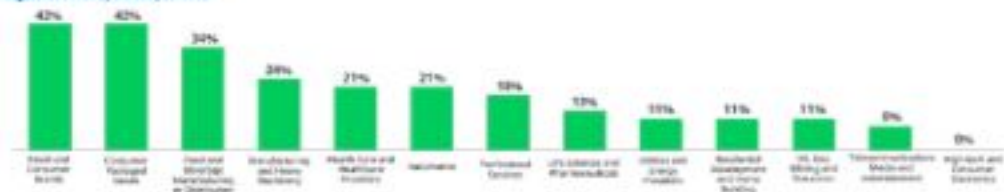


Figure 6.8: 3PLs by Total Annual Revenue





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## Penske Logistics

Penske Logistics is a Penske Transportation Solutions company headquartered in Reading, Pennsylvania. The company is a leading provider of innovative supply chain and logistics solutions. Penske offers solutions including dedicated transportation, distribution center management, fleet logistics, freight management, transportation management, freight brokerage and a comprehensive array of technologies to keep the world moving forward. Visit [penskelogistics.com](http://penskelogistics.com) to learn more.

## Founder of the Annual Third-Party Logistics Study Dr. C. John Langley, Jr.

Dr. C. John Langley, Jr. serves as Clinical Professor of Supply Chain Management in the Department of Supply Chain and Information Systems (SC&IS) at Pennsylvania State University. With more than 30 faculty members and over 800 students, SC&IS is one of the largest and most respected academic concentrations of supply chain education and research in the world. SC&IS offers supply chain programs for every educational level, including undergraduate, graduate and doctorate degrees. In addition to a popular online, 30-credit professional master's degree program in supply chain management, Penn State's broader involvement with and commitment to the supply chain business community is enhanced through the activities of its Center for Supply Chain Research and Penn State Executive Programs.



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