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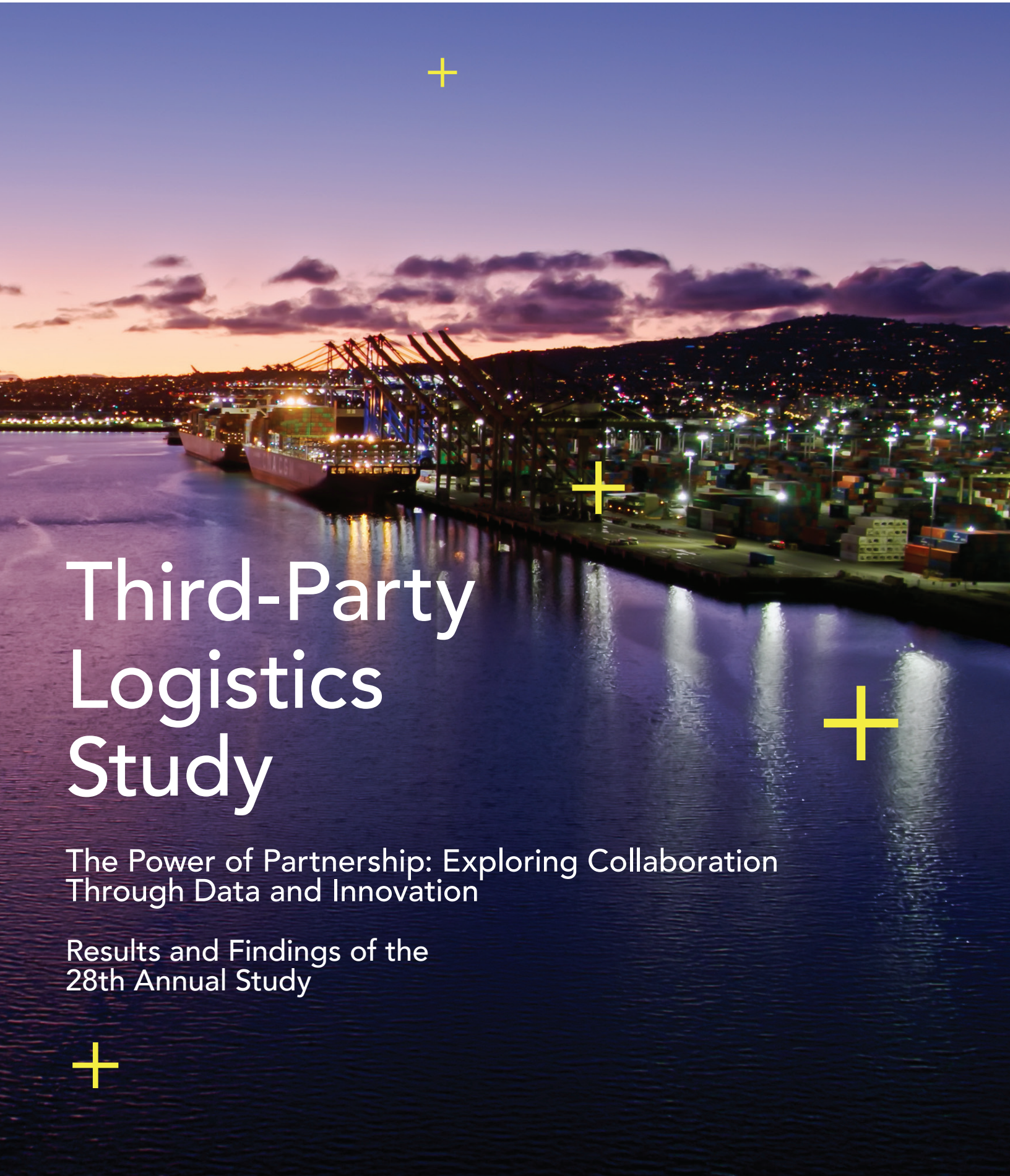

Third-Party Logistics Study

The Power of Partnership: Exploring Collaboration Through Data and Innovation

Results and Findings of the
28th Annual Study

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Executive Summary

Current State of the 3PL Market

Relationships, collaboration and customer service are at the center of today's supply chains. Shippers and their logistics providers are forming strategic partnerships to add value, enable better decision-making and manage costs while providing agility and resiliency.

This year's study shows that most shippers (95%) agree their relationships with 3PLs are successful. As in past studies, 3PLs typically respond more favorably, with 99% agreeing their relationships are successful.

More importantly, relationships are driving results, with 89% of shippers reporting that 3PLs contributed to improving service and 80% saying 3PLs helped reduce overall logistics costs.

Warehousing was the most often outsourced activity, followed by domestic transportation, customs brokerage and freight forwarding. Companies tend to outsource strategic and customer-facing activities, including IT services and customer service, somewhat less than those that are more tactical and operational.

Technology is behind many of the innovative solutions in the supply chain. Capable IT services have been a key factor in the value proposition in shipper/3PL relationships, but the percentage of shippers indicating they're satisfied with the IT capabilities of 3PLs decreased slightly this year, dropping to 49% from 54% last year.

However, 3PL capabilities appear to be well matched with the "must haves" shippers expect. The most frequently cited technologies remain those that are execution- and transaction-based. They include transportation management-planning (62%), warehouse/distribution center management (59%) and transportation management-scheduling (57%).

The Power of Partnerships Now

Dependable, successful relationships are essential to dynamic and effective supply chain partnerships, but the power dynamics in relationships — the different ways partners behave to influence each other — can shift over time.

Given the disruptive and significant shifts in capacity experienced in recent years, this year's study looked at how

the power dynamic in 3PL and shipper relationships has changed over the past three years. Both parties said shifting power dynamics impacted them, with 39% of shippers and 3PLs agreeing that shippers have gained leverage.

That shift can be apparent during contract negotiations. Many shippers (89%) said cost savings were a top priority when negotiating new terms. During negotiation, both parties also value service-level agreements (SLAs) and flexible terminations. The length of contracts is on the rise in some areas, with 38% of shippers and 3PLs reporting an increase in average contract length.

More than half of 3PLs (63%) said they've adjusted their proposal qualification process. Reasons for declining potential business opportunities include low profit margins, requested services didn't align with their capabilities and a lack of confidence in a potential customer's RFP process or maturity levels.

The Flow of Data

Data, analytics and intelligence are optimizing supply chain performance, and the amount of data flowing between shippers and 3PLs continues to grow. The most common data shared with external supply chain partners relates to transportation/logistics performance, inventory levels, supplier performance and order history.

Data sharing can have its challenges, with 57% of shippers and 32% of 3PLs citing issues with data quality as a top concern. Other challenges include integration and technology barriers, data standard issues and cost. However, both parties said they take several steps to protect data quality.

3PLs are focused on driving operational value out of supply chain data, and a greater percentage of 3PLs reported using dashboards, organizing and assessing real-time data, and collecting data compared to shippers.
Data can also help automate supply chain decision-making. Shippers derive value from automated supply chain planning, demand forecasting and inventory management. 3PLs cited the greatest value in route optimization, inventory management, and freight invoicing and billing.

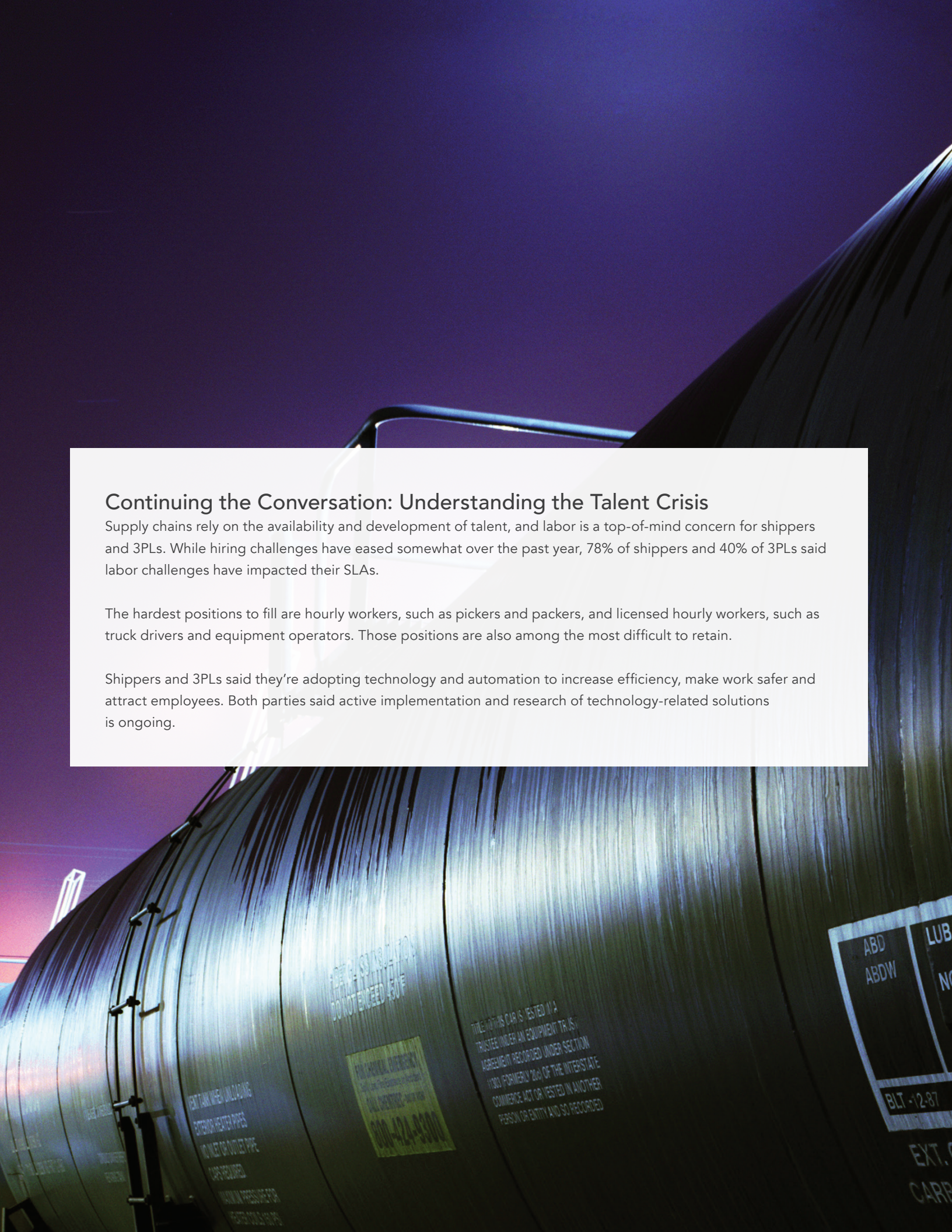
Looking Beyond the Hype of Technology

Technology serves as a competitive differentiator, and nearly all respondents (87% of shippers and 94% of 3PLs) agree that emerging technology adoption is critical to future growth and overall success. Adoption is underway, with 83% of shippers and 39% of 3PLs reporting they're either already working together or plan to in the future.

Both parties pointed to specific technologies that hold value. For 3PLs, it's a higher priority on predictive analytics, warehouse automation, and wearables and mobile technology. Both parties also align on the useful role of supply chain control towers.

The top reasons for investing in technology are to improve process efficiency and productivity, reduce operational costs and improve visibility. However, barriers to adoption remain. The most common challenges include the lack of a clear business case, capital and talent.

The increased adoption of technology is generating more data throughout the supply chain. This data will lend itself to using advanced technologies, such as artificial intelligence (AI) and machine learning (ML). When coupled with human expertise, these types of approaches are poised to further transform trucking, maintenance and logistics.



Continuing the Conversation: Understanding the Talent Crisis

Supply chains rely on the availability and development of talent, and labor is a top-of-mind concern for shippers and 3PLs. While hiring challenges have eased somewhat over the past year, 78% of shippers and 40% of 3PLs said labor challenges have impacted their SLAs.

The hardest positions to fill are hourly workers, such as pickers and packers, and licensed hourly workers, such as truck drivers and equipment operators. Those positions are also among the most difficult to retain.

Shippers and 3PLs said they're adopting technology and automation to increase efficiency, make work safer and attract employees. Both parties said active implementation and research of technology-related solutions is ongoing.

Contemporary Issues

Within the contemporary issues section, the study team evaluated critical issues shippers and 3PLs face in today's supply chains that'll shape the future. This year's study focused on the balance between efficiency and resiliency, the continued growth of the cold chain and the changing landscape of online sales.

Supply chain resiliency is a fundamental principle that's gained more attention since the pandemic. Shippers are working to balance the need for resiliency with inventory holding levels, sources of supply and cost. Information helps shippers and 3PLs make data-driven decisions, craft continency plans, and optimize networks to help manage direct and indirect costs.

Demand for fresh and frozen logistics remains strong. Cold chain logistics providers are adopting automation to help increase efficiency, meet regulatory record-keeping requirements and achieve greater visibility. Supply chain optimization within the cold chain has several potential benefits, including controlling costs, minimizing food waste and meeting customer expectations.

Direct-to-consumer online sales that spiked during the pandemic have started to ease, and shippers and logistics providers are trying to meet end users' ever-evolving needs. Real-time visibility, predictive data analytics and collaboration tools provide value as companies optimize brick-and-mortar locations, manage inventory and control costs while also providing an exceptional customer experience.

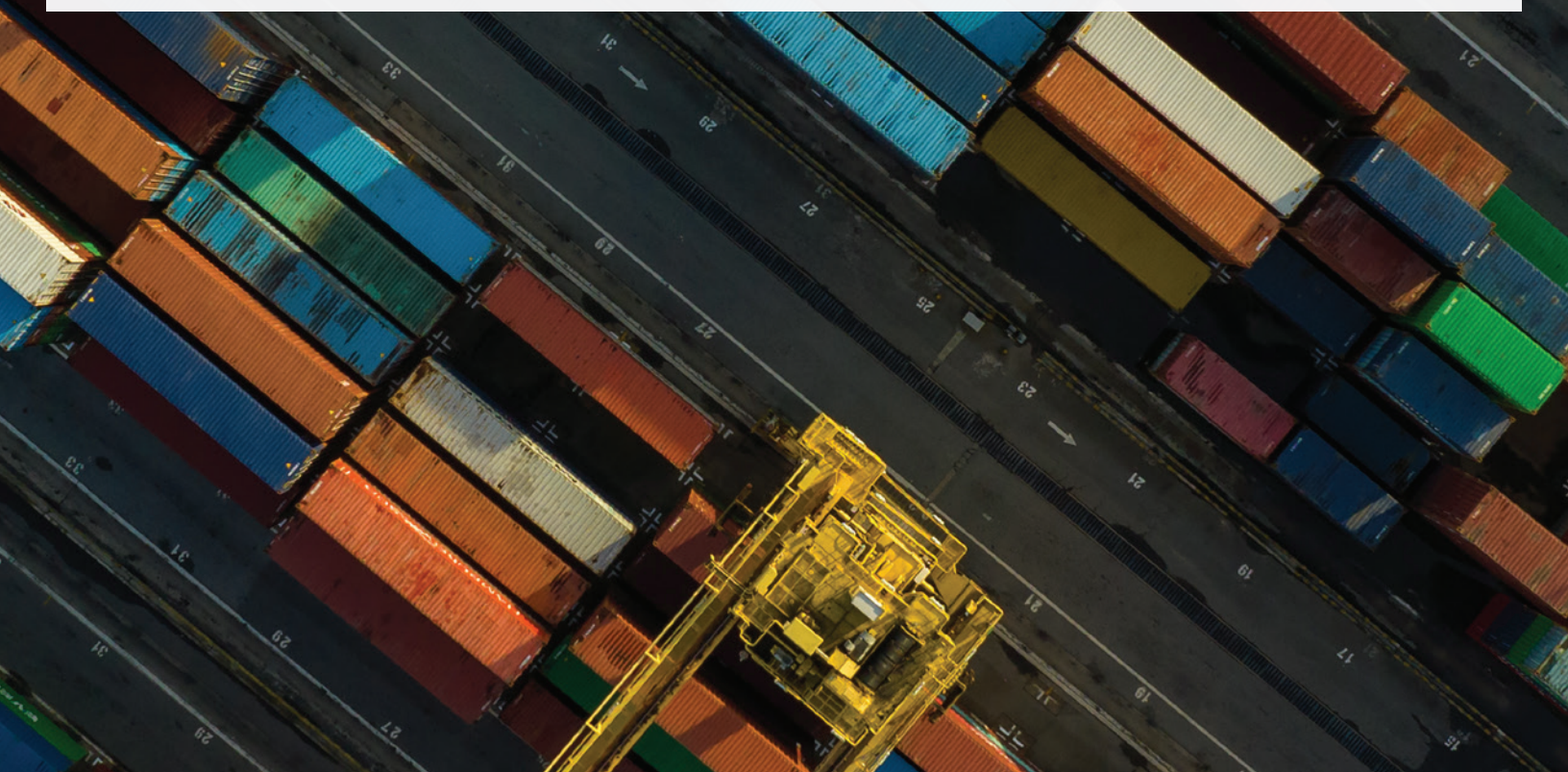
Current State of the 3PL Market

The 2024 28th Annual Third-Party Logistics Study provides the latest perspectives on shipper and 3PL relationships. It also covers the priorities of both groups, what makes relationships successful and how they're meeting today's supply chain needs while preparing for future demand. Shippers continue to have high expectations of their logistics and supply chain service providers. Providers are responding with increased technological and digital capabilities, improved service levels and greater efficiency.

The Annual Third-Party Logistics Study continues to show that shippers and third-party providers experience positive benefits from their relationships. Most shippers that use 3PL services (95%) report their relationships as generally successful, up from 83% last year. As in the past, 3PLs responded more favorably than shippers, with 99% (the same percentage as last year) reporting successful relationships.

Figure 1: Shipper and 3PL Views of Relationship Trends

Statement	3PL Providers in Agreement (%)				
	2021	2022	2023	2024	% Change from 2023
The shippers and 3PL's relationship generally successful	99%	99%	99%	99%	0%
3PLs contributed to improving service to customers	98%	95%	100%	100%	0%
3PLs provide innovative ways to improve logistics effectiveness	92%	90%	92%	92%	0%
3PLs contributed to reducing the overall logistics Costs	96%	86%	N/A	91%	-
We are satisfied with our 3PL providers information technology capability			81%	78%	-3%
Shippers are increasing usage of outsourced logistics services	94%	79%	89%	87%	-2%
Shipper are reducing or consolidating 3PLs	77%	77%	75%	85%	9%
Shippers are collaborating with other companies and competitors, to achieve cost and service improvements	79%	75%	86%	85%	-1%
Shippers are returning to insourcing logistics activities	42%	37%		N/A	



Expectations in Shipper/ 3PL Relationships

Those in the supply chain remain focused on the importance of relationships, collaboration and service. 3PLs remain confident that their work is providing value by improving service to their customers and reducing overall supply chain costs. Among respondents, 89% of shippers and 100% of 3PLs said 3PLs contributed to improving service. Among shippers, 80% said 3PLs contribute to reducing overall logistics costs.

Both shippers (62%) and 3PLs (87%) said shippers are increasing their use of outsourced logistics services, up from 54% and 81% last year, respectively. However, there was an increase in the number of shippers reporting reducing or consolidating 3PLs, which grew to 78% from 71%. Among 3PLs, 84% agreed shippers are reducing or consolidating 3PLs, a 9% decrease from last year (see Figure 1).

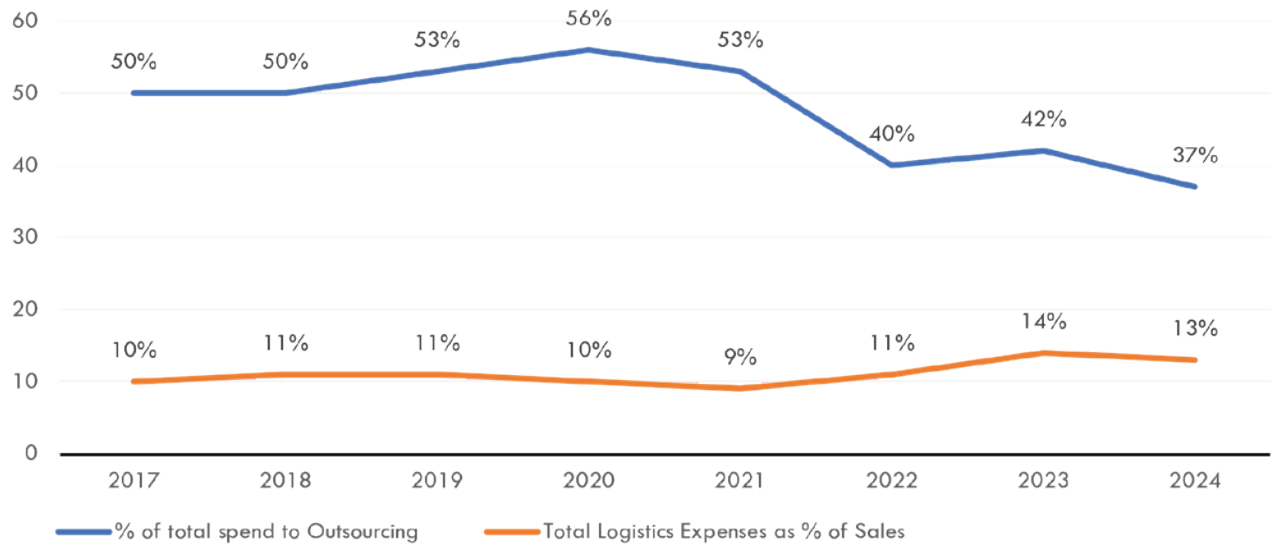
The number of shippers that said they're collaborating with other companies and competitors to achieve cost and service improvements dropped to 50% from 52%. However, the percentage of 3PLs seeing increased collaboration to achieve cost and service improvements rose to 85% from 75% previously.

3PL User Spending Patterns on Logistics and 3PL Services

Among respondents, shippers reported total logistics expenditures as a percentage of sales revenues averaged 13%. This result is a slight decrease from the 14% reported in the 2023 study.

Total logistics expenditures continue to trend downward, with shippers reporting 37% of their total logistics spend is directed toward outsourcing. While shippers still report an increased demand in outsourced services, this is likely attributable to volume decline or reduced 3PL pricing power (see Figure 2).

Figure 2: Select Financial of Aspects of Users' Logistics and 3PL Expenditures



What Shippers Report Outsourcing

Each year, the Annual Third-Party Logistics Study asks shippers to indicate which logistics services they currently outsource to a 3PL (see Figure 3). This year's study also includes the percentages from last year's study for comparison purposes.

Day-to-day tasks remain some of the most outsourced tasks. Domestic transportation, freight forwarding, warehousing, customs brokerage, international transportation, and transportation planning and management are all about 50% of reported outsourced services.

For shippers, warehousing was among the services that saw the largest increase in outsourcing, jumping to 65% from 43% in the 2023 study. However, it's interesting to note that this is essentially a return to normal levels. The prior five-year outsourcing average hovered around 65%.

Transportation planning and management, order management and fulfillment, and product labeling, packaging and assembly also saw increases.

Outsourcing more strategic and customer-facing activities tends to be somewhat less than it is for more tactical and operational activities. Some of the activities in this category are cross-docking (35%), order management and fulfillment (23%), customer service (14%), lead logistics provider/4PL services (13%) and IT services (13%).

Among services that saw the largest decrease in outsourced services were domestic transportation, service parts and maintenance, and freight forwarding. While it's not definitive why these changes occur, the shift in trucking capacity could be a directly related factor. Capacity was tight throughout 2020 and 2021 and began loosening in 2022 and throughout 2023.

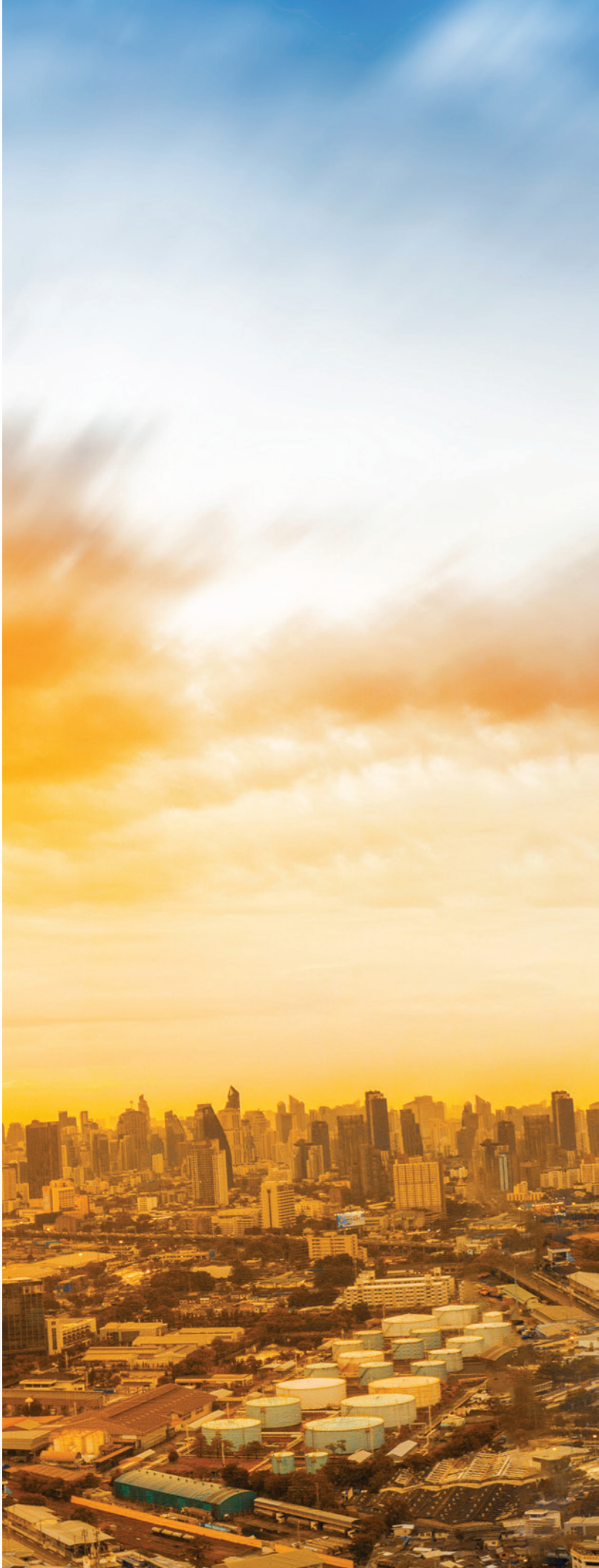


Figure 3: Services Shippers are Outsourcing

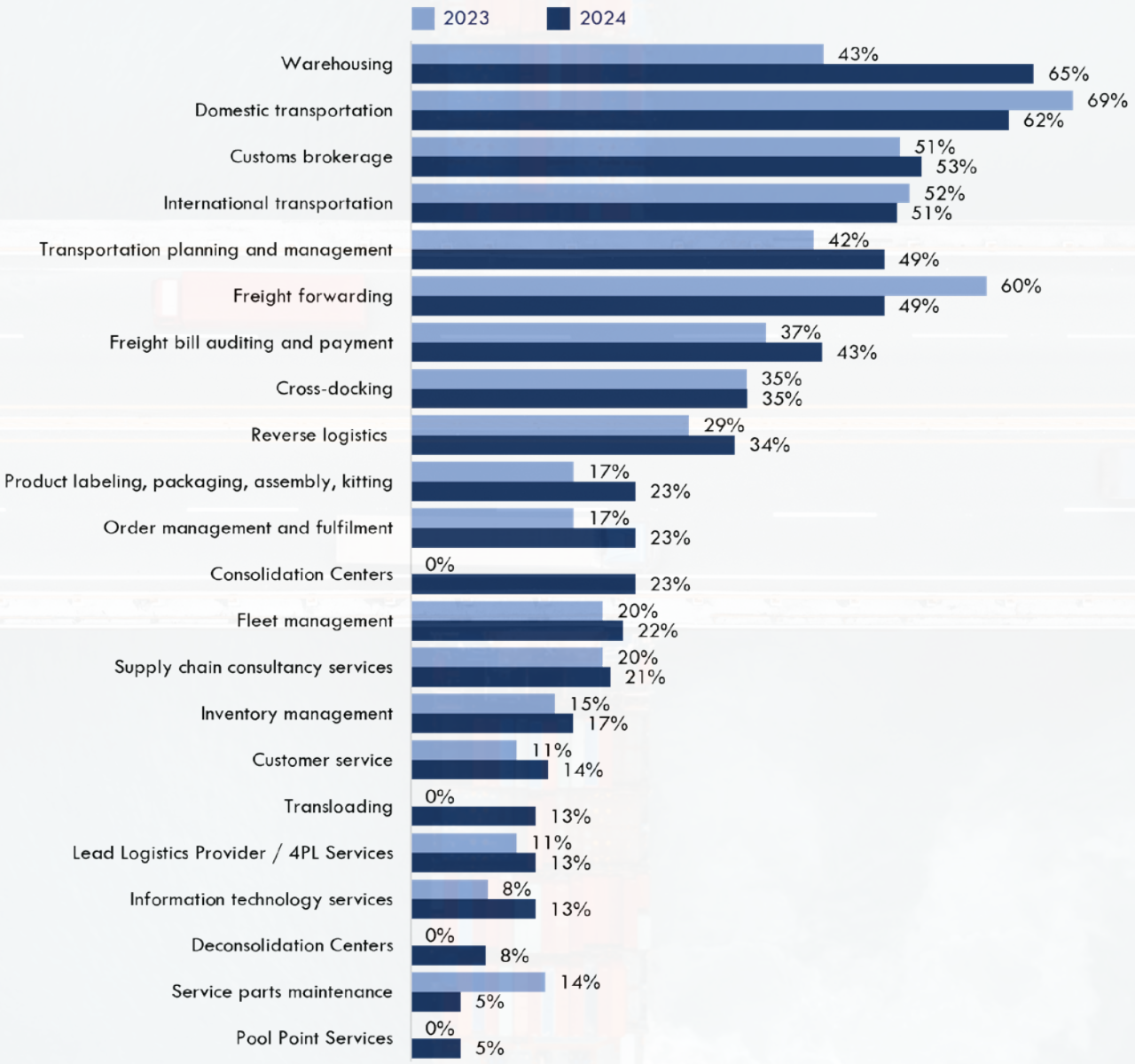


Figure 4: Shipper Views of IT-Based Capabilities

Information Technologies	Shipper "must haves"			3PL Responded Capabilities
	2023	2024	% Change from 2023	2024
Warehouse/distribution center management	48%	59%	9%	60%
Control tower visibility (visibility, tracking, and asset management)	45%	49%	4%	51%
Transportation management (planning)	62%	62%	0%	73%
Advanced analytics and data mining tools	48%	50%	2%	45%
Transportation management (scheduling)	57%	57%	0%	70%
Cloud-based solutions	45%	35%	-10%	54%
Transportation sourcing	45%	47%	2%	55%
Global trade management tools (including customs processing and import/export document management)	35%	36%	-1%	24%
CRM (Customer Relationship Management)	22%	31%	9%	61%
Customer order management	32%	31%	-1%	57%
Network modeling and optimization	34%	31%	-3%	34%
Warehouse automation	40%	31%	-9%	41%
Web portals for booking, order tracking, inventory management, and billing	38%	26%	-12%	56%
Supply chain planning	28%	28%	0%	52%
Distributed order management	20%	19%	-1%	34%
Labor Management Solutions	N/A	23%		#N/A
RFID	28%	19%	-9%	16%
Yard management	N/A	24%		26%
Blockchain	11%	5%	-6%	12%
Wearables (biometrics, health and safety, etc.)	5%	7%	-2%	10%
Packaging Material Optimizer	N/A	5%		#N/A
Robotic process automation (RPA)	18%	7%	-11%	16%

3PL's IT Capabilities: Analysis of Shipper Preferences and 3PL Capabilities

Technology continues to take on greater importance within the supply chain, especially as shippers work to boost their agility and resiliency. As technology increases the amount of data available, shippers and their logistics partners are working to transform data into usable information. It can help reduce costs, improve asset usage and improve service.

The role of IT and how it impacts relationships between shippers and 3PLs is always a much-anticipated section of the Annual Third-Party Logistics Study, which traditionally begins with an update to the "IT Gap."

Nearly all shippers, 97%, said IT capabilities are a necessary element of overall 3PL provider expertise.

In the current study, 49% of shippers indicated they're satisfied with 3PLs' IT capabilities, down from 54% last year and 58% in 2022. Interestingly, shippers identified more IT capabilities than they have in the past.

Figure 4 summarizes survey data from two sources. The first is shipper responses to the question: "Which information technologies, systems or tools must a 3PL have to successfully serve a customer in your industry classification?" The second is 3PL responses about the types of IT, systems and tools used by their company to successfully serve their clients.

The most often cited must-have technologies shippers value in their relationships with 3PLs are more execution- and transaction-based. These include transportation management-planning (62%), warehouse/distribution center management (59%) and transportation management-scheduling (57%). Half of shippers said they're looking for advanced analytics and data mining tools.

Several technologies experienced a decline in importance year-over-year: cloud-based solutions (35%), warehouse automation (31%), and web portals for booking, order tracking, inventory management and billing (26%). The results don't suggest a lack of importance for these capabilities, but simply a decline in percentages compared to other capabilities.

The data in the last column of Figure 4 indicates that reported 3PL capabilities are well-aligned with the "must haves" shippers reported.

Key Takeaways

Key findings from the Current State of the Market for the 2024 28th Annual Third-Party Logistics Study include:

• Shippers using logistics providers and providers of 3PL and/or 4PL services both have positive evaluations of their relationships. This year, 95% of shippers report their 3PL relationships are generally successful, while 99% of 3PLs agree their shipper relationships are successful.

• Shippers using 3PLs continue to agree that 3PL use contributes to improving service to their customers. They also feel that 3PLs provide new and innovative ways to improve logistics effectiveness and reduce overall supply chain costs.

• More than half of shippers (62%) said they increased their use of outsourced logistics services, while 87% of 3PLs reported an increase. There was also an increase in the number of shippers reporting reducing or consolidating 3PLs, which grew to 78% from 71%.

• The number of shippers that said they collaborate with other companies and competitors to achieve cost and service improvements dropped to 50% from 52%. However, the percentage of 3PLs seeing increased collaboration rose to 85% from 75%.

• Users of 3PL services report that 37% of their total logistics expenditures relate to outsourcing, which is a slight decrease from the 40% reported last year.

• Predictably, the more operational and day-to-day activities are among the most often outsourced 3PL services by shippers. These include warehousing, domestic transportation, freight forwarding and international transportation.

• Among shippers, 49% indicated they were satisfied with 3PL IT capabilities.

The Power of Partnerships Now

Since its founding, the Annual Third-Party Logistics Study has focused on many aspects of relationships between shippers and logistics and supply chain service providers. The reports have served as somewhat of an annual physical exam for these relationships, documenting the ways they've evolved and grown over the years. For 28 years, researchers have observed significant changes and enhancements in the structure and functioning of these relationships. They've seen them become recognized as essential to the success of end-to-end supply chains.

Today, 90% of Fortune 500 companies use 3PLs, according to supply chain consultancy Armstrong and Associates, which is twice what it was more than 20 years ago.

"Back in the 1990s, when people got serious about using 3PLs, it was for scale, and they were looking for core competencies they didn't have. This is when basic warehousing and distribution services were the backbone of what 3PLs did," explained Kevin Smith, president of Sustainable Supply Chain Consulting.

Shipper perspectives suggest that the core competencies they look for in 3PLs have changed in recent years. For example, today's 3PLs go beyond moving products from point A to point B. They provide services related to data management, analytics, inventory visibility and network optimization. "It's hard to build those competencies inside of your own company," Smith said.

In the context of relationships among shippers and 3PLs, each party needs to meet its own objectives about success. However, the holy grail is creating and delivering value to end-user customers and consumers.

"Most successful supply chain leaders look for a dependable, relatable relationship that is meaningful for both sides," said Mark Baxa, CEO of the Council of Supply Chain Management Professionals. "It's two minds coming together and needing each other to create something neither one could have created on their own."

Delivering end value requires shippers and 3PLs to optimize their relationships. They must also align and coordinate with the needs of the overall supply chain.

"Creating a positive customer experience and building strong relationships are the top ways for 3PLs to increase customer retention, and 3PLs that continually strive to meet and exceed the expectations of their customers drive customer loyalty," said Dr. C. John Langley, founder of the Annual Third-Party Logistics Study and clinical professor of supply chain and information systems at Penn State University.

Dr. Langley added that there's a significant trend among shippers to place a priority on supplier relationship management (SRM). It helps facilitate and enrich their relationships with 3PLs, which may be meaningful and interactive. These relationships may also involve a degree of alignment and collaboration that'll be of great benefit to both parties as well as the supply chain.

In addition to exchanging daily operational information, this could include shippers sharing forward-looking demand forecast information that'd be helpful to 3PLs' planning. Shippers that have yet to buy into the concept of such relationships will miss opportunities. Buy-in helps achieve the levels of efficiency that are so important to shippers' success and to that of the overall supply chain.

Shifting Power Dynamics for Shippers and 3PLs

Capacity has loosened and the supply chain has returned to normal over the past three years. Those in the supply chain have looked at how the power dynamic in 3PL and shipper relationships has shifted during this time.

The concept of power dynamics is like operating in a "buyer's market" versus a "seller's market." It relates to which party in a relationship has some combination of greater influence, expertise or control. Or can innovate or deal with opportunities or challenges.

"The natural tendency is that when the pendulum shifts one way or the other, so goes the power," Baxa said, adding that over the past year, transportation costs and demand for capacity have both dropped. "Right now, the leverage in the market we're in today naturally swings to the shipper."

This year's research supports the concept that the power dynamic has had impacts on both shippers and 3PLs. In the past, shippers had more leverage. Among respondents: 39% of shippers and 38% of 3PLs said shippers have gained leverage over the past three years; 30% of shippers and 31% of 3PLs said 3PLs/4PLs have gained leverage; and 31% of both shippers and 3PLs said there's been no change (see Figure 5).

Power dynamics often play a role in relationships, with the healthiest relationships typically sharing power to create a strong partnership. "The elements of power and partnership need to be carefully crafted and balanced to not only meet the success objectives for each of these parties but also align with the success objectives for the overall supply chain," Langley said. "This requires a significant commitment to the pursuit of alignment, cooperation and collaboration."

Even as these dynamics have shifted slightly in favor of shippers, 78% of 3PLs indicated an increase customers served over the past three years (see Figure 6). Also, 67% reported an increase in the number of customers they consider to be strategic over the same time frame.

Figure 6: 3PL Customer Growth

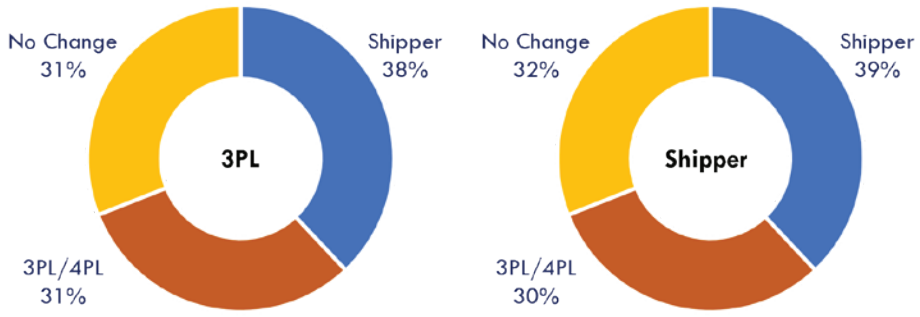
	2024		
	Increased	Decreased	Stayed the Same
Number of customers you serve	78%	4%	17%
Number of customers you consider to be strategic	67%	1%	32%
Average contract duration	38%	3%	59%

What Shippers Want in 3PL Negotiations

Not surprisingly, most shippers (89%) said one of their top outcomes during contract negotiations with 3PLs was cost savings (see Figure 7 — respondents could select their top three outcomes). More than half (56%) also seek process improvement commitments, and 48% want capacity commitments, both of which can translate into financial benefits.

Somewhat disappointing were the lower-ranked outcomes related to performance metrics, technology innovation and enhancement of data sharing requirements.

Figure 5: Shipper/3PL Shifting Power Dynamic



"While costs are important from a fiduciary perspective, improvement and capacity commitments may contribute to the overall value that may be created in a relationship with a 3PL," Langley said.

Baxa noted that it's important for shippers to consider direct and indirect costs related to the supply chain. "Oftentimes, we spend time focusing on direct costs when the market is down," he said. "But what optimization or suboptimization is available to me if I've partnered with someone who can take non-value-added complexity out of my supply chain that ultimately leads to cost? The use of the right digital tools and the right timing can add tremendous value."

Additionally, long-term relationships matter. "What we should be achieving isn't just about price, but also reliability of service," Baxa said. "Shippers are looking for resiliency and want partners who are able to respond in the face of adversity."

For the first time, researchers asked shippers how often they conduct market analysis and benchmarking of 3PL services (see Figure 8). Among respondents, 29% reported doing so when necessary and 25% said they do so annually. Another 19% conduct market analysis and benchmarking during a contract renewal.

Langley detailed several initiatives that should be front and center when shippers and 3PLs work toward "win-win" solutions when negotiating new contracts. These include:

- Identifying shipping lanes and pick-up/delivery alternatives that create efficiencies for both shippers and 3PLs
- Strategic use of key performance indicators (KPIs) to focus attention on operational priorities and procedures that benefit both parties
- Longer contracts that may help justify strategic investments by shippers and 3PLs
- Establishing regular business review opportunities to evaluate past performance and share information that can help enhance future performance
- Consider logical expansions of service offerings that can help 3PLs meet a broader range of shipper needs

Figure 8: Frequency of Market Analysis and Benchmarking of 3PL Services

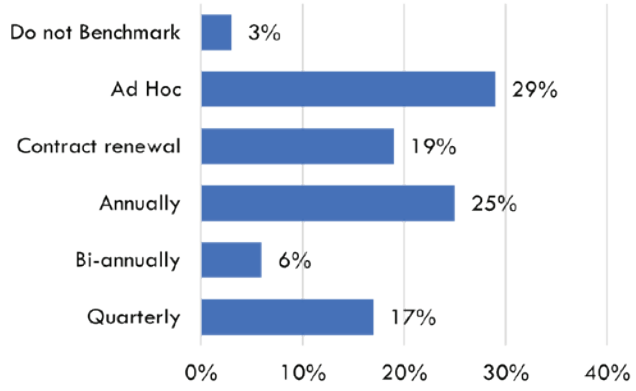


Figure 7: Shippers' Desired Outcomes from Negotiation

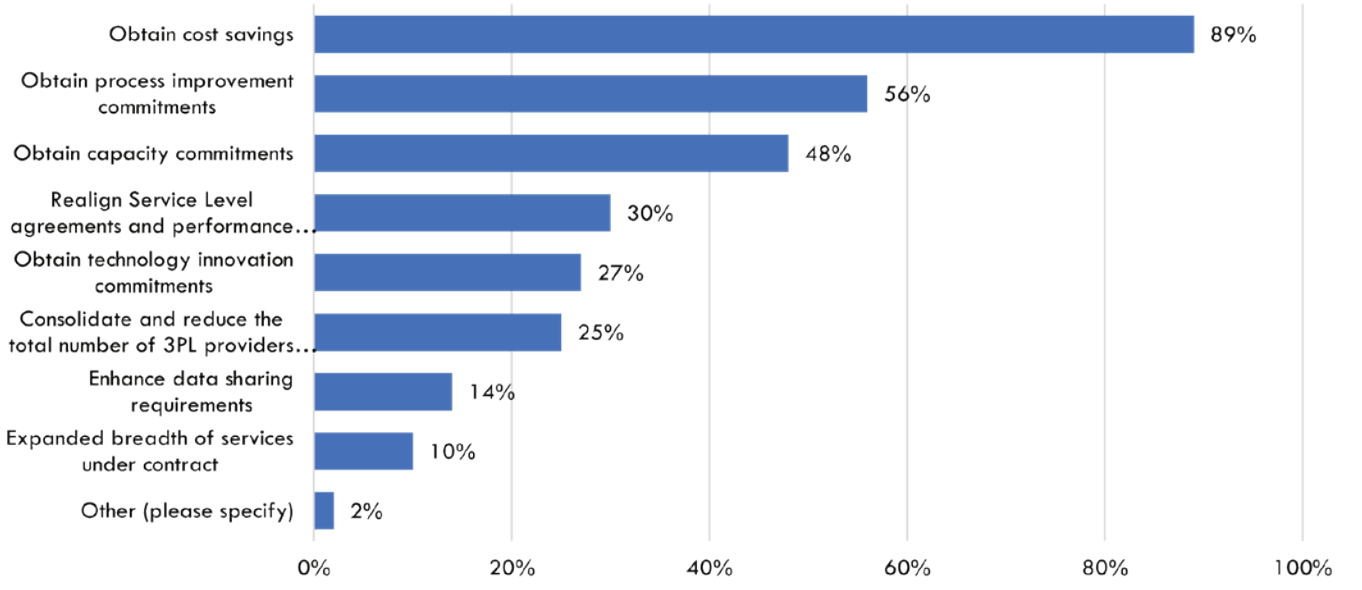


Figure 9: Commonly Leveraged Contracting Elements

Contracting Elements	% of Shippers	% of 3PLs
Service level agreements	79%	77%
Flexible termination	63%	40%
Continuous improvement targets	56%	50%
Contract extensions (single or multiple extension options)	52%	56%
Guaranteed volumes/capacity	49%	59%
Environmental, Social and Governance (ESG) requirements	39%	33%
Outcome-based pricing	26%	36%
Diversity, Equity & Inclusion (DE&I) requirements	19%	24%
Joint innovation with/without funding options	18%	26%

Importance of Contracting Elements

Contract negotiations are an important part of shipper and 3PL relationships. When entering a contract, shippers and 3PLs typically predetermine the specific elements they'd like to leverage. Figure 9 identifies critical contracting elements and the percentages of shippers and 3PLs that commonly leverage them in their contracts.

Both parties, including 79% of shippers and 77% of 3PLs, ranked SLAs as a top choice. "This is understandable and actually expected, as the SLA sets the expectations for the performance of the logistics service provider," Langley said. "Also, shippers may benefit by being able to compare the content of SLAs provided by several competing potential suppliers."

Of interest is that neither party was as positive about using SLAs with financial penalties for breaches of performance.

Flexible termination also ranked among the top commonly leveraged elements. However, there appears to be a difference in priorities: 63% of shippers cite it, but only 40% of 3PLs do.

Other frequently identified contracting elements include continuous improvement targets, contract extensions and guaranteed volumes/capacity. Although not shown in Figure 9, research results indicated that neither shippers nor 3PLs attached much importance to continuous improvement targets with financial penalties.

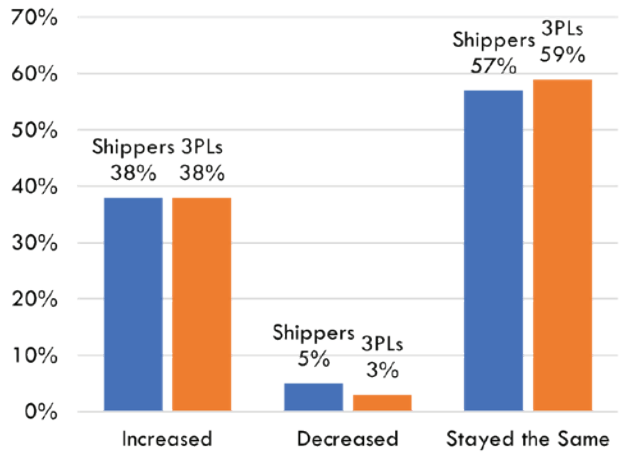
"Contractual continuous improvement goals or variations of gain share/pain share language to drive continuous improvement are most effective as a communication tool between the shipper and their 3PL," said Tim Brindley, vice president of supply chain consulting at NTT DATA Supply Chain Consulting. "Once those objectives become a means of being punitive toward the partner, the relationship will quickly devolve."

Last, and among the lesser-rated contract elements, were requirements related to environmental, social and governance (ESG) practices and to diversity, equity and inclusion (DE&I) initiatives. While there may be beneficial results associated with these elements, respondents currently view them as having less significance in the 3PL supplier selection process.

Contracting Length, Elements Leveraged and Customers Served

An important part of contract negotiations includes the length of the contract, which is increasing for many in the supply chain (see Figure 10). The same percentage of shippers and 3PLs (38%) noted an increase in average length of contract. Slightly less than 60% for each indicated that the length of contracts remained the same. A very small percentage for each suggested that the length of contracts decreased.

Figure 10: Changes in the Average Length of Contracts Over the Past Three Years



"Shippers want long-term relationships with providers, and 3PLs are asking for the same thing," Baxa said. "They're saying, 'I want to be a partner that owns the responsibility for delivering warehousing and supply chain-oriented solutions.'"

As more and more shippers/customers are looking to warehouse automation solutions to improve service levels and operational throughput, the capital investment for certain solutions makes it cost prohibitive for 3PLs to engage in shorter contracts.

These figures also align with the 84% of shippers and 97% of 3PLs that agreed there's a need for more strategic and longer-term 3PL/shipper agreements; 92% of shippers and 96% of 3PLs agreed they're placing greater importance on collaboration and information sharing throughout the proposal response process (see Figure 11). Additionally, 78% of shippers in the current survey reported an expectation that they'd reduce or consolidate 3PLs.

Most contracts between shippers and 3PLs last between six months and three years. The weighted average length of contracts reported by shippers was 3.1 years, and the two most common contract lengths were one year and three years. The weighted average length of contracts for 3PLs was lower, at 1.9 years, as the most common reported contract lengths were six months and one year.

Innovation in Shipper/ 3PL Relationships

Among respondents, collaboration remains a priority, which is essential to inspire innovation in the supply chain. "When you look at forward progress in the supply chain, it takes a community of shippers, providers and thought leaders coming together," Baxa said.

Both parties indicate they've simplified and strengthened their participation in proposal qualification processes. "When an RFP goes out, shippers are going to look for a lot of information. They're looking for partners who are able to demonstrate their core competencies and spell out how they do it," Smith said.

This year's research shows that 81% of shippers agreed this may lead to using fewer 3PL service providers. Also, 63% of 3PLs agreed they've adjusted their proposal qualification process (or implemented a new process), resulting in fewer proposals that they actively target to win.

More than half of shippers, 63%, said they're willing to work with smaller, more specialized and/or more regional 3PL suppliers. Plus, 71% of shippers and 67% of 3PLs agreed they prefer innovative RFP sourcing practices to select 3PL partners over traditional RFP practices.

Among the 3PLs surveyed, 63% declined to respond to an RFP or other types of service requests over the past three years when it concerned innovation (see Figure 12).

Top reasons for declining potential business opportunities include low profit margins (70%) and requested services that didn't align with their capabilities (56%).

Lack of confidence in a potential customer's RFP processes and/or maturity level was reported by 40% of 3PLs. They may question whether some prospective customers would be able to participate effectively in a structured bid process. Other reasons include a negative previous experience or perception of certain customers, or capacity limitations anticipated by the 3PL.

The Need for Alignment

This year's findings highlight the continued need for alignment among shippers and their 3PL partners. (The 2016 Annual 3PL Study included a deep dive into this topic in the Aligning 3PL Relationships section.) Among the major discoveries: Respondents may envision relationships between 3PLs, shippers and service providers as a supply chain for the provision of integrated supply chain services (see Figure 13).

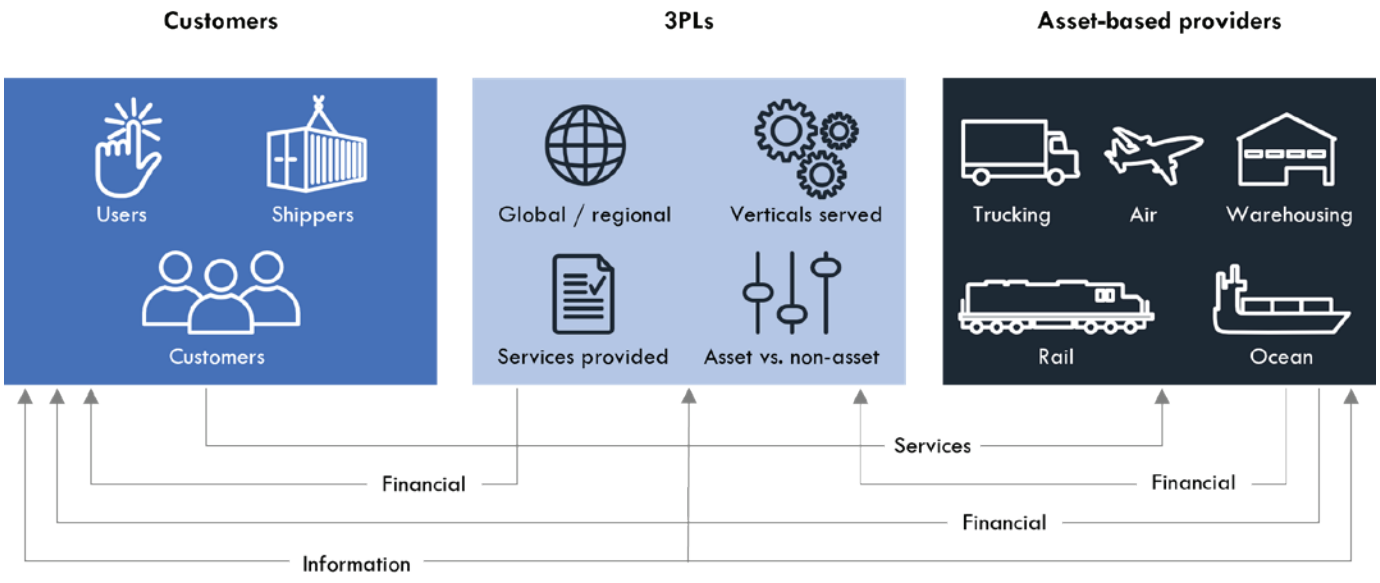
Figure 11: Innovation Perspectives

Statements Relating to Innovation	% Shippers Agree	% 3PLs Agree
We believe there is a need for more strategic and longer-term 3PL/shipper agreements	84%	97%
We are placing greater importance on collaboration and information sharing throughout the proposal response process	92%	96%
We have strengthened our 3PL qualification process resulting in fewer 3PL suppliers	81%	N/A
We have adjusted our proposal qualification process (or implemented a new process) resulting in fewer proposals that we actively target to win	N/A	63%
We are increasingly willing to work with smaller more specialized and/or more regional 3PL suppliers	63%	N/A
Innovative RFP sourcing practices for selection of 3PL partners are preferred over traditional RFP practices	71%	67%

Figure 12: Reasons for 3PLs Declining RFP or Bid Opportunities

Reasons for 3PLs Declining RFP/Bid Opportunities	% of 3PLs in Agreement
Low profit margins (perceived or known)	70%
Requested services do not align with your capabilities	56%
Lack of confidence in potential customer's RFP process and/or customer maturity level	40%
Service and support requested (including SLAs) would be a challenge to meet	35%
Resource capacity limitations (Operations)	30%
Negative experience with customer historically	23%
Negative perception of customer in general	16%
Corporate objectives of customer do not align with your company objectives	16%
Network capacity limitations	14%

Figure 13: The Need for Alignment



Essentially, the shipper/3PL relationship could be seen as a microcosm of the far more pervasive view of supply chains. The one that spans the earliest suppliers to the ultimate customers, consumers, patients, warfighters and so on, and that need continues.

Overall, the findings of the 2024 Annual 3PL Study support the roles of power and partnership as they relate to shipper/3PL relationships. Successful shipper/3PL relationship trends include using longer contracts, consolidating business into fewer 3PLs and creating relationships that benefit both parties. Additionally, there's a greater appreciation in shipper organizations for the value that working with capable third-party logistics service providers can create.

However, significant opportunities remain to align and integrate the functioning of shipper/3PL relationships with the broader focus of end-to-end supply chains. A need for more effective sharing and use of data remains. The continued evolution and changing of supply chains will make finding solutions and planning/managing these relationships more demanding.

Ultimately, the effective use of power contributes to achieving the benefits of partnership. The highest priority for both shippers and 3PLs will be to see that their relationships continue to evolve and improve from being transactional to being strategic.

Only when the true merits of power and partnership benefit both parties will these relationships make a maximum contribution to the success of the end-to-end supply chain.

Key Takeaways:

• Respondents indicate that shippers have gained leverage in the shipper/3PL relationship:
  - o 39% of shippers and 38% of 3PLs said shippers have gained leverage over the past three years
  - o 30% of shippers and 31% of 3PLs said 3PLs have gained leverage
  - o 31% of shippers and 3PLs said there's been no change

• 3PLs are experiencing growth, with 78% of 3PLs indicating an increase over the past three years in the number of customers served and 67% reporting an increase in the number of customers they consider to be strategic.

• Costs are a top concern in contracts negotiations, with 89% of shippers citing it as a top outcome they seek. More than half (56%) are also seeking process improvement commitments and 48% are seeking capacity commitments.

• Important contracting elements include SLAs, flexible termination, continuous improvement targets, contract extensions and guaranteed volumes/capacity.

• The same percentage of shippers and 3PLs (38%) noted an increase in average length of contract. Slightly less than 60% for each indicated that the length of contracts remained the same. A very small percentage for each suggested that the lengths of contracts decreased.

• 84% of shippers and 97% of 3PLs agreed that there's a need for more strategic and longer-term 3PL/shipper agreements. Additionally, 92% of shippers and 96% of 3PLs agree that they're placing greater importance on collaboration and information sharing throughout the proposal response process.

• Because there's a greater focus on collaboration and information sharing throughout the RFP process, 81% of shippers agreed this may lead to using fewer suppliers of 3PL services. Also, 63% of 3PLs said they've adjusted their proposal qualification process (or implemented a new process), resulting in fewer proposals that they actively target to win.

• Top reasons for declining potential business opportunities include:
  - o Low profit margins (70%)
  - o Requested services that didn't align with their capabili ties (56%)
  - o Lack of confidence in a potential customer's RFP processes and/or maturity level (40%)

• Among shippers, 63% agreed there's a willingness to work with smaller, more specialized and/or more regional 3PL suppliers. When selecting 3PL partners, 71% of shippers and 67% of 3PLs prefer innovative RFP sourcing practices over traditional RFP practices.

The Flow of Data

Best-in-class supply chain leaders have three things in common: they obsess over consumers, take an end-to-end view and look at the most granular level of detail. If the supply chain is the 'engine,' data is the 'oil' that keeps the engine running. The right amount of data flow to the right set of stakeholders at the right time is how optimized supply chains function.

However, when discussing the flow of data, it's best to start at square one. In the flow of data between shippers and 3PL partners, there are typically three types of data: Transactional (outbound orders, advanced shipment notices, inventory levels, item master and so on) that help day-to-day operations. Historical (order history, on-time in-full, lead times, inventory accuracy and so on) that's used for performance management, and forecast (demand and supply forecast, product launches and so on).

The data shared between shippers/customers and their partners is either in or approaches a finished state relative to a point in time. Order history, supply and demand data, and inventory levels show everything from what's in the past (a point-in-time snapshot or order history) to what's expected in the future (planning and forecast data). However, to use or effectively share these large datasets there must be a functional data governance, including master data management, processes in place.

Consider the following real-world scenario: a customer has incorrect item master level details with the weights, dimensions and units of measure (UOM) for 60% of their SKU base. The downstream effect can be problematic, with both the flow and the systems that enable decisions to be made from the data. For example:

- If incorrect dimensional data is used when loading a trailer, it may be over-capacity or under-utilized. If it's over-capacity, the trailer could receive a roadside inspection violation and the equipment considered out-of-service, resulting in delivery delays for the customer. If capacity is under-utilized, the cost per trailer goes up, resulting in additional freight costs.
- SKUs with incorrect UOM data will incorrectly change the ordered or planned-to-be-ordered product. UOM data includes how many items are in an inner pack or a case or on a pallet. It also can impact what gets picked in the warehouse, resulting in mis-picks that lead to an overage or shortage for the customer.

These small examples demonstrate how quickly end users can lose confidence in what systems tell them. When that happens, they may work outside the system to the detriment of what the enabling systems are trying to achieve. It's a lose-lose proposition, and it can handcuff the 3PL from a performance and cost perspective. And, the shipper/customer loses faith in the 3PL's performance.

The foundation of every partnership must protect data integrity and make sure the process that governs data controls is fundamentally sound. Both apply to a shipper and its 3PL/4PL, a shipper and its internal resources, or the resources and their enabling system.

This year's research showed that shippers and 3PLs are already sharing significant amounts of data with their supply chain partners. The most common data they share with external supply chain partners relates to transportation/ logistics performance, inventory levels, supplier performance and order history (see Figure 14).

Figure 14 shows that shippers and their logistics partners share the building blocks of fulfillment. For the 3PL to manage fulfillment activities effectively, shippers and 3PLs agree that shippers must provide insight into the orders their customers place. For the customer to have visibility into the orders shipped (fill rate, on-time and in-full, for example), a 3PL must communicate performance at the operational level.

Conversely, shippers should track KPIs/metrics of their partners' performance. They should also have regular conversations, outside quarterly business reviews, to look for ways to collaborate with their 3PLs. Transportation and logistics performance is typically contractually mandated. Performance increases and relationship building will occur when the partnership jointly establishes KPIs/metrics, beyond what the contract states, to encourage continuous improvement.

"It's typical for 3PLs to provide core KPIs, such as fill rates, lines and orders shipped, inventory accuracy, on-time shipped or delivered metrics," said Tim Brindley, vice president, NTT DATA Supply Chain Consulting. "However, the more a 3PL provides detailed performance metrics, like dock-to-stock, click-to-ship or lines/order picked per hour, the more you start providing a real look at productivity at the operational level."

An interesting data point in Figure 14 is the low level of demand data shippers share with their partners. That may be indicative of two things. First, a customer may expect a 3PL to manage orders dynamically, as they come in. Second, a customer may not be sharing their forecasts with the 3PL because the forecasts are unreliable. Either way, the downstream effect is that there's little opportunity to plan labor operationally to meet demand. Static labor limits the flexibility to manage the ebbs and flows of the business.

Figure 14: Data Shared with External Supply Chain Partners

	Shippers	3PL / 4PLs
Inventory levels	54%	52%
Order history	38%	55%
Production data	24%	22%
Supplier performance	46%	42%
Transportation/Logistics performance	66%	67%
Customer demand	28%	37%
Supply demand	24%	27%
No data sharing with external partners	18%	13%
Other (please specify)	4%	1%

Respondents said they've faced several data sharing challenges, including issues with data quality, which 57% of shippers and 52% of 3PLs listed. Other challenges include integration and technology barriers, data standard issues and costs (see Figure 15).

Figure 15: Common Data Sharing Challenges

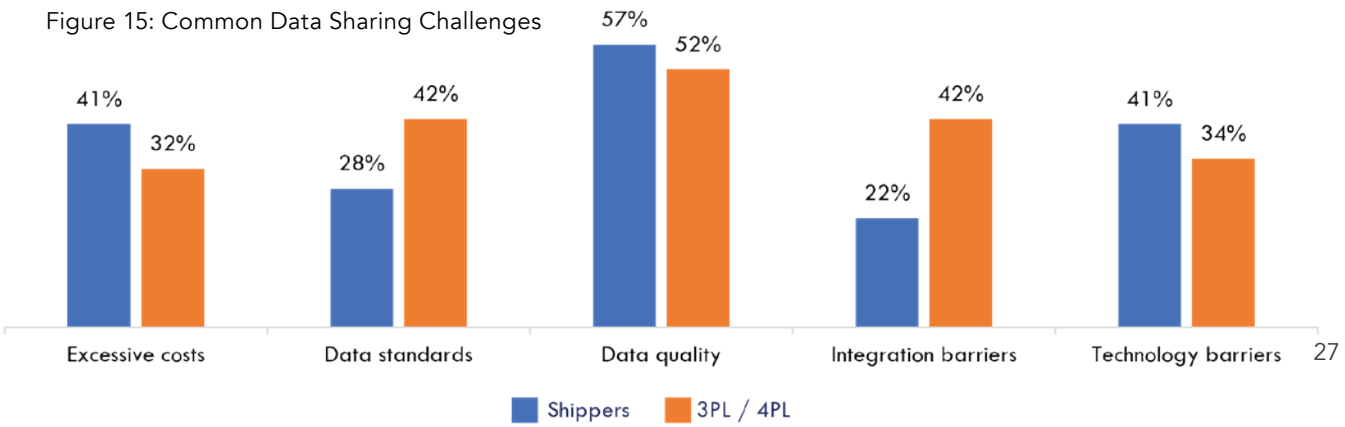


Figure 17: Respondents Maturity at Driving Operational Value Out of Real-Time Supply Chain Data

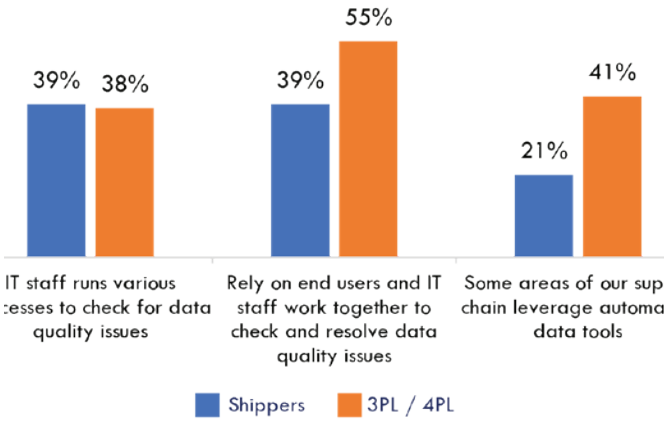
	Shipper	3PL/4PL
Collect real-time data across >50% of our supply chain	50%	54%
Collect real-time data across <50% of the supply chain	30%	26%
Able to organize and assess real-time data for standard reporting purposes	27%	58%
Able to leverage dashboards and/or other reporting tools for real-time data visualization	50%	60%
Able to actively use real-time data to develop predictive models	13%	26%
Able to leverage supply chain control towers for orchestration	21%	30%
Able to actively conduct simulations and correlation analysis	9%	14%
Able to automate route supply chain responses (e.g., auto shut-down, auto adjustments, auto over-ride)	4%	18%

The Need for Data Integrity

Going back to the initial point on data being the 'oil' in a supply chain engine, if general maintenance, which in this case is data governance, isn't regularly performed, the overall reliability of the data begins to suffer. As with maintenance on a vehicle, set maintenance intervals are essential to maintaining performance, and 3,000 miles might be too long to wait.

This year's research shows that shippers and 3PLs take several steps to protect data integrity (see Figure 16). 3PLs are more likely than shippers to rely on end users and IT staff to check and resolve data quality issues. They also leverage automated data monitoring tools. And 3PLs have built-in data monitoring capabilities that automatically detect and notify stakeholders of data quality issues. Though they don't often own the data, 3PLs typically may be on the receiving end of poor data quality.

Figure 16: Methods Respondents Use to Ensure Data Integrity



The Ability to Drive Operational Value

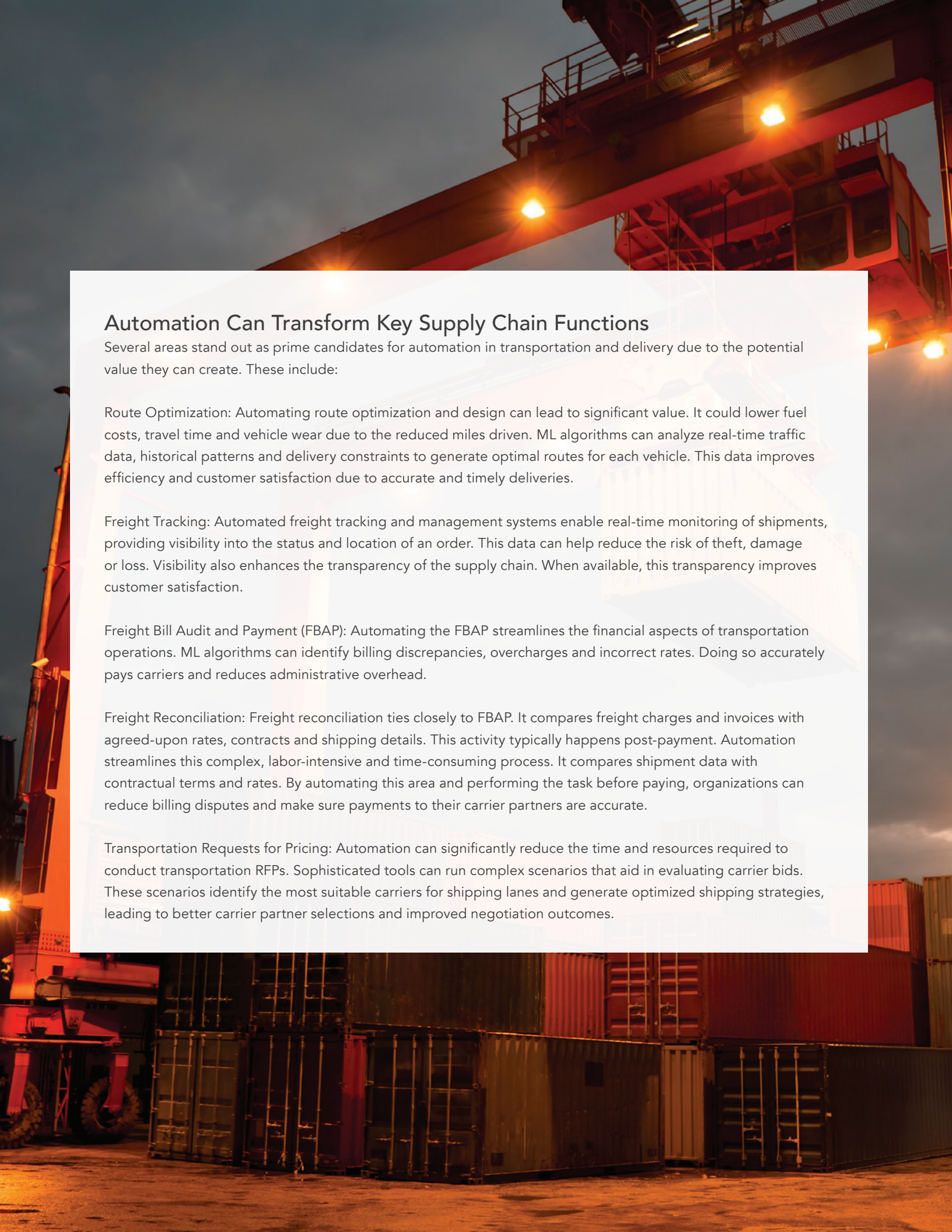
3PLs rank themselves somewhat higher in their maturity at driving operational value out of real-time supply chain data (see Figure 17). Among respondents, 60% said they're able to leverage dashboards and/or other reporting tools for real-time data visualization, compared to half of shippers.

"Due to the tight margins in the 3PL industry, every 3PL is incentivized to maximize the resource utilization and minimize penalty-attracting errors. So, it's not surprising that they're using dashboards more than the shippers," Brindley said.

Generally, these dashboards are tactical, providing information on orders, order profiles and orders shipped per day, but lack roll-up and historical trend views for performance tracking by shippers. This capability is an opportunity for 3PLs and shippers to work together on jointly developing dashboards or metrics that offer better insight into the business.

Among 3PLs, 58% said they can organize and assess real-time data for standard reporting purposes, compared to 27% of shippers. Slightly more 3PLs (54%) reported collecting data across more than 50% of their supply chain than shippers (50%).

Respondents agreed that they're less mature in the areas of automating route supply chain responses. Conducting simulations and correlation analysis and actively using real-time data to develop predictive models lack maturity, too.



Automation Can Transform Key Supply Chain Functions

Several areas stand out as prime candidates for automation in transportation and delivery due to the potential value they can create. These include:

Route Optimization: Automating route optimization and design can lead to significant value. It could lower fuel costs, travel time and vehicle wear due to the reduced miles driven. ML algorithms can analyze real-time traffic data, historical patterns and delivery constraints to generate optimal routes for each vehicle. This data improves efficiency and customer satisfaction due to accurate and timely deliveries.

Freight Tracking: Automated freight tracking and management systems enable real-time monitoring of shipments, providing visibility into the status and location of an order. This data can help reduce the risk of theft, damage or loss. Visibility also enhances the transparency of the supply chain. When available, this transparency improves customer satisfaction.

Freight Bill Audit and Payment (FBAP): Automating the FBAP streamlines the financial aspects of transportation operations. ML algorithms can identify billing discrepancies, overcharges and incorrect rates. Doing so accurately pays carriers and reduces administrative overhead.

Freight Reconciliation: Freight reconciliation ties closely to FBAP. It compares freight charges and invoices with agreed-upon rates, contracts and shipping details. This activity typically happens post-payment. Automation streamlines this complex, labor-intensive and time-consuming process. It compares shipment data with contractual terms and rates. By automating this area and performing the task before paying, organizations can reduce billing disputes and make sure payments to their carrier partners are accurate.

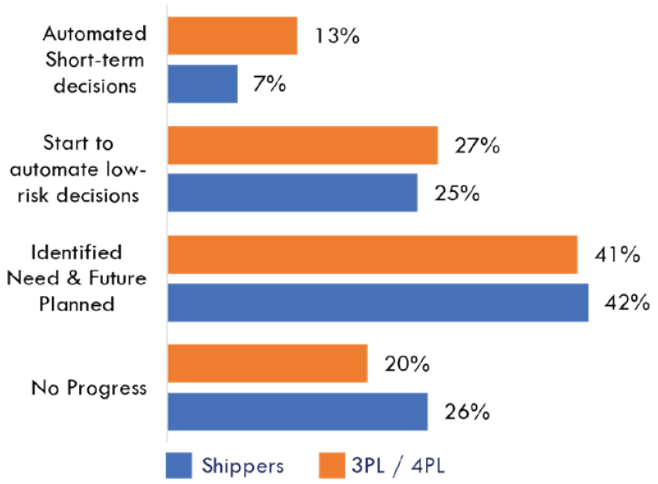
Transportation Requests for Pricing: Automation can significantly reduce the time and resources required to conduct transportation RFPs. Sophisticated tools can run complex scenarios that aid in evaluating carrier bids. These scenarios identify the most suitable carriers for shipping lanes and generate optimized shipping strategies, leading to better carrier partner selections and improved negotiation outcomes.

The Value of Automation

Automation, in this context, refers to the decision-making process within the supply chain, as opposed to material handling and storage solutions. The indication that respondents are exploring plans or starting to automate indicates that shippers/3PLs are resolving data governance and data integrity issues. And doing so before they take the leap into having supply chain decisions automated by both shippers and their partners.

Almost half of shippers and 3PLs identified the need and have plans to automate supply chain planning decisions, and 25% of shippers and 27% of 3PLs said they've already started to automate low-risk decisions (see Figure 18).

Figure 18: Shipper and 3PL Progress



Respondents in this year's study cited several areas that could benefit from automation (see Figure 19).

Figure 19: Areas of Automation or Autonomous Operations Can Create Value

	Shippers	3PL / 4PLs
Demand Forecasting	61%	41%
Supply Planning	65%	34%
Inventory Management	61%	55%
Production Planning	28%	32%
Freight Reconciliation	46%	34%
Freight Invoicing and Billing	46%	54%
Route Optimization	39%	61%
Supplier Management	28%	23%
Unsure	0%	9%
None	0%	2%

Figure 20: Supply Chain Functions that Could Function Autonomously

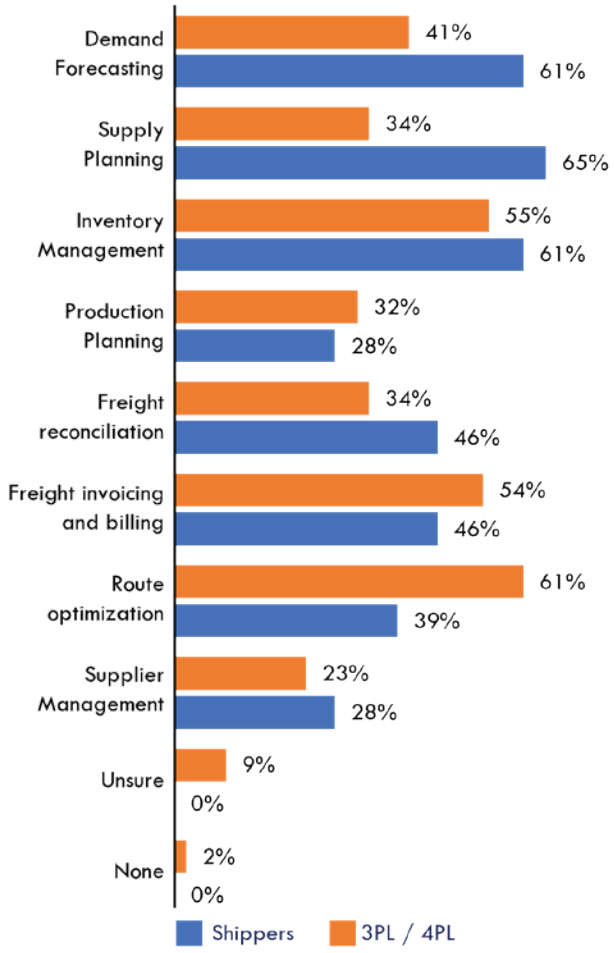
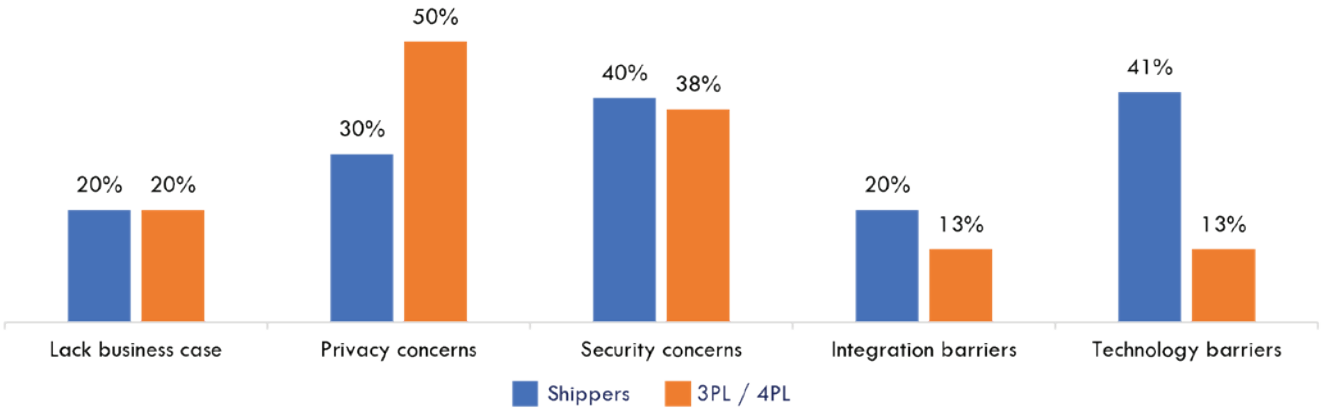


Figure 21: Concerns Surrounding Data Sharing



Shippers see the greatest value in supply planning (65%), demand forecasting (61%) and inventory management (61%). These are also the areas where predictive analytics (ML) can add maximum value. With the increase in direct-to-consumer channel sales, planning and inventory deployment complexities are increasing, and traditional models/tools are falling behind.

Among 3PLs, the greatest value cited was route optimization (61%), inventory management (55%), and freight invoicing and billing (54%).

Shippers and 3PLs agree that most planning, forecasting and optimization functions can operate autonomously (see Figure 20).

Obstacles Related to Data Sharing

Despite the value in sharing data, 18% of shippers and 13% of 3PLs said they're not sharing data with external partners (see Figure 14). Among those who aren't sharing data, the main obstacles to data sharing include privacy and security concerns, technology and integration barriers, and a lack of a business case (see Figure 21).

Overall, shippers (46%) and 3PLs (55%) both reported being either very or extremely concerned with data security/protection within their supply chain. Additionally, 33% of shippers and 23% of 3PLs said they're moderately concerned (see Figure 22).

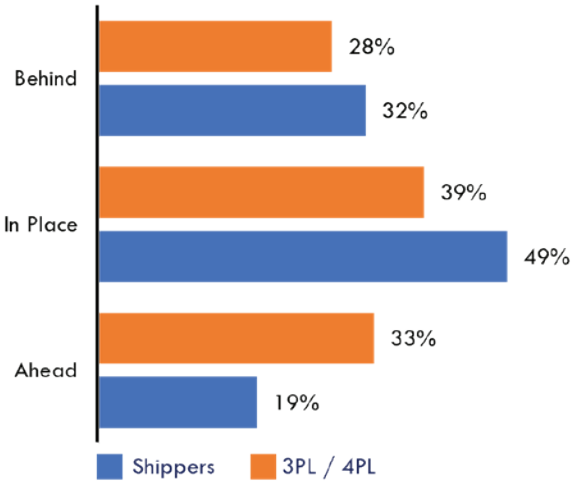
Supply Chain Governance Maturity Levels

Among respondents, 3PLs rank themselves slightly higher than shippers on supply chain governance maturity: 33% of 3PLs and 19% of shippers said they're running ahead, meaning they're proactive and predictable (see Figure 23).

Many respondents (49% of shippers and 39% of 3PLs) indicate they're essentially running in place and not making noticeable progress, with costly and inconsistent results. About a third of shippers (32%) and 3PLs (28%) said they're running behind, with reactive and variable results.

"The moral of the story is that when evaluating data governance, it's best to imagine it as occurring on a hamster wheel — the work is ongoing, and the task is never finished," Brindley said.

Figure 23: Respondents' Maturity of Supply Chain Data Governance



Continued Demand for Data

The need for accurate data that filters to accurate reporting and decision-making has been and will continue to be a critical requirement for all organizations.

"There's no natural start and endpoint, only diligence in maintaining and validating raw data and the process flow that follows," Brindley explained. "As technology matures and evolves, it's critical that operations take a proactive approach in both the selection, maintenance and output generation of the technology that enables supply chains to thrive. Embrace the hamster wheel and make sure to wear a comfortable pair of shoes."

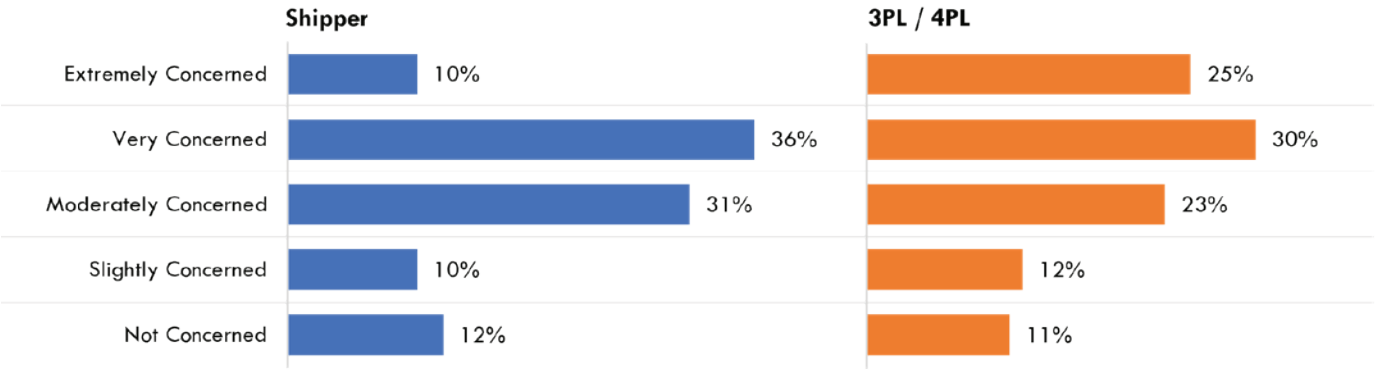


Figure 22: Concerns Over Data Security/Protection

Pitches for transportation management systems (TMS) usually include software demonstrations in a real-world delivery scenario. They feature a delivery area map with color-coded routes, numbered stops and truck icons proceeding along their paths like ants. It's a successful strategy for software providers because it places the prospective client in the control tower, where they can imagine their delivery operation becoming an optimized juggernaut.

Route-optimizing algorithms usually receive the most focus, with good reason. In a crowded field of TMS providers, it's the proprietary algorithms that unlock small percentages of additional transportation network savings when applied at scale.

Unfortunately, there's a wide gulf between the vision of what those algorithms can do and achieving those results in the real world. Many organizations take on an integration with an incomplete understanding of how the software and the underlying programming make optimized decisions. What drives those decisions are usually the fundamental weight and dimension data of the shipped products.

The sad fact is that a lot of businesses have fallen behind when gathering weight and dimension data for all their SKUs. There was a time — before huge data sets and incomprehensible algorithms — when small bits of information, such as the size and weight of packaged goods, weren't considered all that important when making operational decisions. However, the need to capture weight and dimensional info becomes painfully obvious when a TMS runs an optimized delivery model with missing or inaccurate data.

Without accurate weight and dimensional information, the software might determine that five semi-loads of product can be consolidated into a single full-size cargo van at tremendous cost savings. There's no quicker way for warehouse staff to lose confidence in a new TMS than to receive this "optimized" outcome that clearly is inaccurate. Fortunately, there's an efficient way to collect the necessary data: weight and dimensional data-gathering devices.

Warehouses can use the devices for several weeks. They weigh and measure every product packaged for shipment and the TMS compiles the data in a spreadsheet. The system captures and uploads a photograph to the client's enterprise resource planning (ERP) system, along with the weight and dimension data, but the process can't end there.

Because data accuracy is essential, the dimensional database within the TMS must be kept up to date. If it isn't, misinformation and imprecise measurements will creep in, undermining the value.

Ben Gutsch
Transportation Practice
NTT DATA Supply Chain Consulting

Key Takeaways

• Nearly the same number of shippers (66%) and 3PLs (67%) share data related to transportation and logistics performance. They also share data on order history (55% of shippers and 38% of 3PLs), inventory levels (54% of shippers and 52% of 3PLs) and supplier performance (46% of shippers and 42% of 3PLs).

• Shippers see the greatest value in supply planning (65%), demand forecasting (61%) and inventory management (61%). Among 3PLs, the greatest value was cited as route optimization (61%), inventory management (55%) and freight invoicing and billing (54%).

• Shippers said common challenges they face when sharing data with external partners include data quality (57%), excessive costs (41%) and technology barriers (41%). 3PLs ranked their top common challenges as data quality (52%), data standards (42%) and integration barriers (42%).

• The top obstacles to data sharing include privacy concerns, cited by 36% of shippers and half of 3PLs, and security concerns, cited by 36% of shippers and 38% of 3PLs. Other obstacles include lacking a compelling business case or data standards and technology barriers.

• Data security is a top concern: 49% of shippers and 56% of 3PLs said they're either very or extremely confident in their ability to prevent cybersecurity threats to their supply chains. The same percentage (39%) said they're moderately confident in their ability to prevent cybersecurity threats.

• In supply chain governance maturity, 49% of shippers and 39% of 3PLs said they're running in place; 33% of 3PLs and 19% of shippers said they're running ahead; and 32% of shippers and 28% of 3PLs said they're running behind.

Looking Beyond the Hype of Technology

Technology is transforming the supply chain, improving decision-making, automating processes, reducing costs and creating operational efficiencies. Shippers want end-to-end services, seamless experiences, proactive action and data-driven insights. 3PLs are investing heavily in technology that can generate value for shippers and serve as a competitive differentiator.

"The No. 1 core competency that shippers are looking for in their 3PLs is marketplace intelligence that can be translated into specific actions that create an advantage for their shipper partner," said Mark Baxa, CEO of the Council for Supply Chain Management Professionals. "They're looking for digital experience and expertise, pragmatic solutions and critical thinking on a real-time, consistent basis."

Nearly all respondents, 87% of shippers and 94% of 3PLs, agree that emerging technology adoption is critical to their company's future growth and success. Both parties said collaborating on emerging technologies is important: 83% of shippers and 79% of 3PLs reported they're already working together or plan to (see Figure 24).

"We get a lot of very direct feedback from customers on specific problems they are trying to solve," said Andy Moses, senior vice president of sales and solutions for Penske Logistics. "Many of the problems to be solved are clear and straightforward when you're dealing with one specific piece of the supply chain. As you try to optimize across the supply chain, there is more subtlety."

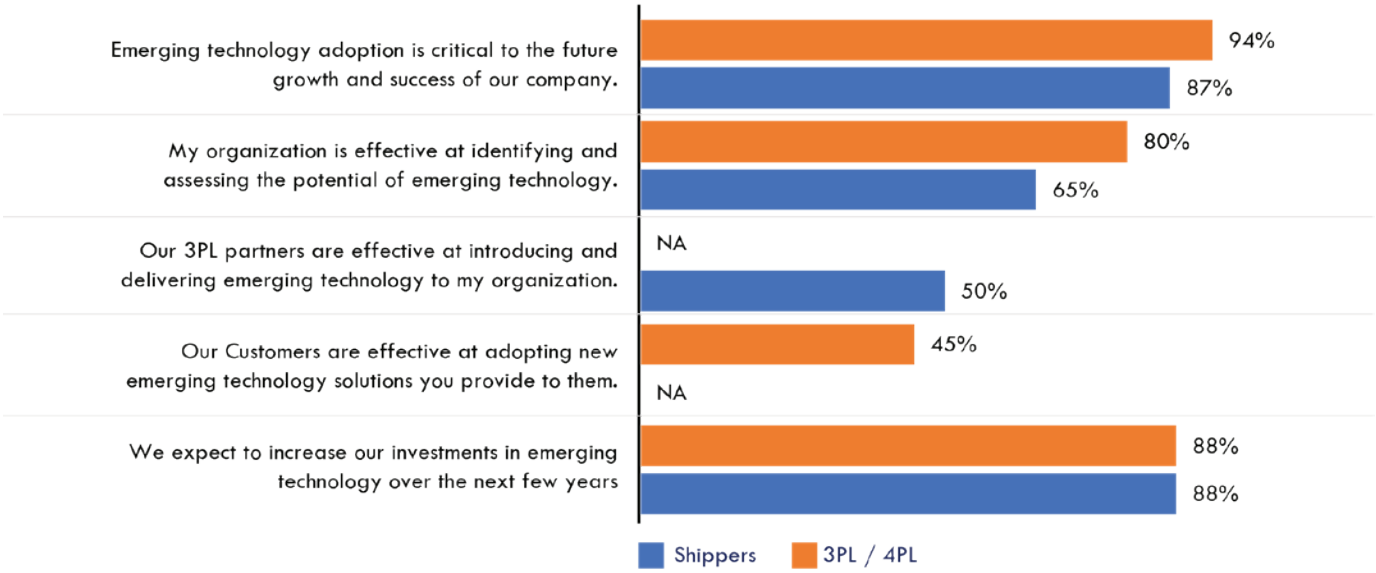
Technology as a Core Competency

3PLs appear to be more confident than shippers in their technology-related abilities: 80% said their organization is effective at identifying and assessing the potential of emerging technology, compared to 65% of shippers.

Moses said 3PLs are often able to explain to shippers what they can do. "It is not a given that they are aware of what is possible. Sometimes, we're in that mode of helping them understand the possibilities," he explained.

He added that 3PLs can help customers avoid wasting time on technologies that don't provide results. "There are a lot of different emerging technologies in the space. What customers really value is someone who is knowledgeable across the spectrum and can point them towards something that is commercially viable today versus something maybe has promise two to three years from now," Moses said. "You don't want to waste a shipper's time on a shiny new object if there isn't a practical application short or near term."

Figure 24: Shippers and 3PLs are Working Collaboratively on Emerging Technology Solutions



3PLs also bring expertise in configuring technology to meet the needs of a particular operation, which comes from the depth and breadth of their experience. "3PLs see the tech play out across multiple industry verticals," Moses said, adding that there are times when shippers look to the 3PL for deployment and development. "We designed a supplier collaboration portal for a major automotive manufacturer because they couldn't find what they needed in the tech world."

3PLs appear to be investing in technology at a slightly higher rate than shippers, with 15% of 3PLs reporting they've already completed investments in emerging technologies compared to 10% of shippers. However, adoption may be slowing, with 46% of both 3PLs and shippers reporting no plans to invest.

Figure 26 breaks down the specific emerging technologies shippers and 3PLs are investing in and their progress.

Figure 25 & 26: Shipper and 3PL Technology Investments

Shippers

	Have Already Invested	Currently Investing	Plan to invest in next 3 Years	No Plans to Invest Currently
Warehouse Automation & Robotics	24%	12%	26%	38%
Industrial IoT (SMART Facilities)	12%	12%	24%	51%
Outdoor Autonomous Vehicles	8%	6%	8%	77%
Indoor Autonomous Vehicles/Robots	10%	4%	33%	52%
Supply Chain Control Towers	24%	22%	20%	35%
Supply Chain Digital Twins	10%	17%	17%	56%
On-Demand Packaging	6%	17%	27%	50%
Unified eCommerce Platforms	13%	27%	23%	38%
Virtual and Augmented Reality	9%	7%	15%	70%
Wearables & Mobile Technology	23%	21%	27%	29%
Advanced Predictive Analytics	17%	19%	44%	21%
RFID & Other Advanced Sensors	23%	13%	19%	46%
Blockchain	12%	14%	18%	55%

3PL /4PLs

	Have Already Invested	Currently Investing	Plan to invest in next 3 Years	No Plans to Invest Currently
Advanced Predictive Analytics	10%	44%	33%	13%
Blockchain	7%	7%	23%	64%
Indoor Autonomous Vehicles/Robots	18%	14%	27%	41%
Industrial IoT (SMART Facilities)	16%	14%	27%	44%
On-Demand Packaging	7%	7%	30%	56%
Outdoor Autonomous Vehicles	2%	5%	14%	79%
RFID & Other Advanced Sensors	9%	36%	20%	34%
Supply Chain Control Towers	18%	32%	28%	22%
Supply Chain Digital Twins	4%	20%	27%	49%
Unified eCommerce Platforms	9%	17%	28%	47%
Virtual and Augmented Reality	0%	2%	21%	77%
Warehouse Automation & Robotics	9%	32%	25%	34%
Wearables & Mobile Technology	16%	20%	27%	36%

Benefits of Technology

3PLs and shippers said several technologies hold significant potential for their organizations, but their priorities vary. This result is likely due to their specific needs and goals.

Interestingly, 74% of 3PLs indicated that using predictive analytics had the greatest potential for their organization versus only 33% of shippers (see Figure 27).

Moses said predictive analytics helps 3PLs mitigate supply chain disruptions. It's essential to the services they provide. "Shippers are looking for 3PLs to perform at a high level every day, but, in particular, they're watching 3PLs for how they perform on out-of-the-ordinary days when there are disruptions in the supply chain or volume surges," he said. "Predictive analytics that help a 3PL get out ahead of those are very valuable."

3PLs also valued the potential of warehouse automation and robots and wearables and mobile technology more than shippers. Within the warehouse, technology can help protect quality, productivity and safety and play a valuable role in maximizing labor.

The number of warehousing jobs across the U.S. has nearly tripled during the last 10 years. But labor has gotten increasingly harder to find, train and retain, especially for hourly workers (for more on shipper and 3PL labor needs see the Continuing the Conversation: The Talent Crisis section).

"Traditionally, 3PLs have had difficulty justifying large-scale investments in fixed-asset warehouse mechanization and automation," said Tom Tiede, managing director, supply chain operations, NTT DATA Supply Chain Consulting. "Too often, the payback period would exceed the duration of their customer contracts."

Fortunately, there's been great advancement and maturity in lower cost, scalable robotic technologies over the past few years. Autonomous mobile robots (AMRs), for example, automate the movement, storage and retrieval of goods in a warehouse. These devices greatly reduce the dependence and cost of labor.

Many technology suppliers offer such solutions via a robot-as-a-service (RaaS) costing platform. These solutions allow 3PLs to pass the cost and associated savings of the technology directly to their customers using an activity-based approach. Doing so creates a win-win situation for 3PLs and their customers.

"Advancements in robotic orchestration software now allow 3PLs to more rapidly integrate multiple robotics solutions, such as AMRs, ASRS, picking and packaging, within the same warehouse to support the unique and evolving needs of their customers," Tiede added.

Both parties align closely on the role of supply chain control towers, which 44% of shippers and 48% of 3PLs listed. Shippers often have disparate purchasing, warehousing and transportation systems. Control towers unify all systems on a single platform, providing an in-depth view of the full supply chain rather than its parts. As a result, shippers and 3PLs can collaborate more effectively.

"The more sophisticated 3PLs want deep relationships with their customers," Moses said. "Often, those relationships can extend beyond doing execution work into orchestration work, which allows the 3PL to drive higher level outcomes, which gain relevance with the shippers' executive team and sustain long-term relationships."

Shippers are interested in syncing up the pieces of their supply chain. Systems and processes that enable that are a high priority. "The biggest enabler of all of this is rigorous, consistent process management to ensure the data populating control towers is near-real time, accurate and relevant," Moses said. (Learn more about the importance of data in the The Flow of Data section).

Figure 27: Technologies that have the Greatest Potential

	Shippers	3PL
Advanced Predictive Analytics	74%	33%
Blockchain	15%	11%
Indoor Autonomous Vehicles/Robots	22%	24%
Outdoor Autonomous Vehicles	6%	11%
Industrial IoT (SMART Facilities)	13%	13%
On-Demand Packaging	13%	9%
RFID & Other Advanced Sensors	19%	11%
Supply Chain Control Towers	44%	48%
Supply Chain Digital Twins	15%	22%
Unified eCommerce Platforms	22%	16%
Virtual and Augmented Reality	4%	11%
Warehouse Automation & Robotics	39%	52%
Wearables & Mobile Technology	15%	32%
Other (please specify)	0%	6%

Reasons to Invest

Shippers and their 3PL partners aligned on their top reasons for investing in technology (see Figure 28). The top reason is to improve process efficiency and productivity, cited by 83% of shippers and 89% of 3PLs. Next was the ability to reduce operational costs, cited by 67% of shippers and 54% of 3PLs. Both parties ranked improving visibility across the supply chain third, cited by 50% of shippers and 54% of 3PLs.

Figure 28: Top Drivers Behind Technology Investments (Respondents Could Select Three)

	Shippers	3PL
Improve process efficiency / productivity	83%	88.89%
Reduce headcount	19%	31.48%
Reduce operational cost	67%	53.70%
Improve visibility across the supply chain	50%	53.70%
Enhance decision-making (real-time/proactive)	28%	24.07%
Enable automated and/or autonomous planning and execution of routine task	6%	12.96%
Enable remote access and operational control by employees	2%	3.70%
Improve supply chain resiliency and agility	41%	18.52%
Support new sources of revenue	4%	3.70%
Support new operating models	2%	9.26%

Barriers to Adoption

Despite the benefits of and emphasis on technology, only 50% of shippers and 45% of 3PLs agree that 3PLs effectively introduce and deliver emerging technology to their organizations.

Shippers need to examine a 3PL's track record with the various technologies they're offering. "Instances where a technology isn't being deployed properly or there's some failure could be one symptom of a broader commercial construct that has gone awry," Moses said. "Most of these technologies are operated by the 3PL directly. In most cases, the 3PL should be fully capable of deploying and operating its own technology."

Both parties also cited several barriers that are preventing them from adopting and using emerging technologies (see Figure 29). For 54% of shippers and 56% of 3PLs, the top challenge is a lack of a clear business case. Half of shippers and 46% of 3PLs noted a lack of capital, while 43% of shippers and 3PLs cited a lack of adequate talent.

Figure 29: Barriers to Adoption

	Shippers	3PL
Lack of adequate talent	43%	43%
Lack of capital	50%	46%
Lack of trust in underlying technology	28%	37%
Lack of clear business case	54%	56%
Concern over ability to maintain and support	26%	31%
Lack ability to effectively run Proof of Concepts or Pilot Programs	31%	26%
Lack ability to effectively rollout and scale (may or may not be Post PoC/Pilot)	17%	22%
Cultural aversion	33%	17%
Risk aversion	19%	22%

"Integration resources and expertise are always a barrier," said Moses, explaining that greatness in the supply chain requires integrating various technologies with shippers' ERP software. "That requires a solid integration team from shippers and providers, and not all shippers have the resources to do it."

Shippers' procurement strategies can also get in the way. "Their procurement strategies lead them to have a multitude of 3PL providers," Moses said. "Then they have a multitude of data streams, and analysts are copying and pasting data to get great insights."

A Look Ahead

As technology use increases and 3PLs and shippers gather more data, AI and ML will bring even more value to the supply chain. "AI is very real, and it is going to transform a lot of things in trucking, fleet maintenance and logistics," Moses said. "The merger of man and machine is going to do great things for the business community."

Technology can still solve time-consuming, labor-intensive and antiquated processes. For example, advanced trailer sensors remove the need for someone to conduct manual yard checks.

"Technology, not someone with a clipboard, can identify and know at all times where a trailer is on the yard, which is more important than ever in this constrained labor economy we're in," said Moses, adding that the technology enables drivers to find the right trailer quickly. "These are sometimes thought to be routine and mundane, but they are important and relevant."

Key Takeaways

• Both parties (94% of 3PLs and 87% of shippers) agree that emerging technology adoption is critical to the future growth and success of their companies.

• Shippers and 3PLs are collaborating on emerging technologies, with 83% of shippers and 79% of 3PLs reporting that they're already working together or plan to going forward.

• The top emerging technologies shippers have invested or plan to invest in include advanced predictive analytics, supply chain control towers, and RFID and other advanced sensors.

• The top emerging technologies 3PLs have invested or plan to invest in include advanced predictive analytics, wearables and mobile technology, unified ecommerce platforms, and warehouse automation and robotics.

• The No. 1 reason shippers (83%) and 3PLs (89%) invest in technology is to improve process efficiency and productivity. That's followed by reducing operational costs (67% of shippers and 54% of 3PLs) and the ability to improve visibility across the supply chain (50% of shippers and 54% of 3PLs).

• The top challenge is lacking a clear business case (54% of shippers and 56% of 3PLs). Half of shippers and 46% of 3PLs noted a lack of capital, and 43% of shippers and 3PLs cited a lack of adequate talent.


C13

Spotlight: The Shift to Warehouse Automation Continues Unabated

The significant increase in warehouse labor demands coupled with the overall labor market make it increasingly difficult and costly to attract, hire, train and keep qualified people for warehouse positions. To help offset the risk and increasing dependence on warehouse labor, industry investment in warehouse automation has more than doubled over the past several years.

Automated storage and retrieval systems (AS/RS) have matured from bleeding-edge technologies to tried-and-true solutions. Automated guided vehicles (AGV) are now commonplace and will continue to grow. The proliferation of autonomous mobile robots and robotic picking and palletizing systems available in the market brings a level of flexibility and scalability unmatched by more traditional fixed-asset technologies. Plus, as-a-service pricing models for robots and software encourage adoption.

Also, traditional pure-play solution-agnostic material handling integrators have collapsed into more vertically integrated OEM equipment providers, multiple software applications and a broad array of professional services beyond material handling integration.

Warehouse automation offers opportunities to reduce labor and costs, expand capacity and improve service. However, choosing the right technologies for the right reasons can be challenging. Here are 10 ways to maximize the benefit of warehouse automation:

1. Identify the burning platform. Prioritize the warehouse areas with the largest opportunity for improvement. Typically, this will be in the order selection process, where 50% or more of labor is often allocated.

2. Don't pave the cow path. Focus on improving current processes before committing to new technologies. Otherwise, it will sub-optimize investments.

3. Avoid islands of automation. Seek a holistic solution instead of a single technology or point solution. Warehouse automation needs to work seamlessly with upstream and downstream processes and technologies.

4. Select the technology before the supplier. Determine the technologies that best fit specific business requirements. Not all technologies within a category have the same capability. Each will come with its own unique capabilities, constraints and cost structures.

5. Prioritize tried-and-true solutions over bleeding-edge technologies. Practical, proven automation solutions generally equate to less risk, higher reliability and fewer headaches. This route doesn't necessarily mean avoiding less mature or emerging technologies, but it does lead to number six below.

6. Test solutions. Many technologies, such as AMR and other robotics systems, lend themselves to evaluating feasibility and capability before making a full commitment. Start with a proof of concept to confirm or reject its viability for the application. Then examine a prototype via a mathematical emulation, a digital simulation or a physical mock-up in a test environment and/or pilot test in a live operational environment.

7. Land before you expand. When possible, rationalize the size of the initial commitment in an automated solution. Learn from the results. Then adjust accordingly before making a broader financial commitment.

8 Don't forget about the software. Software fuels the warehouse automation engine. Invest in complementary software solutions that seamlessly integrate, manage, orchestrate and optimize warehouse equipment, labor and order fulfillment requirements.

9. Research integrators. Material handling integrators have various levels of experience and different capabilities and limitations with specific warehouse automation solutions. Have providers compete for business and confirm their ability to implement the solutions that best fit the organization's requirements before making a contractual commitment.

10. Make a two-way commitment. The best relationships require a commitment and collaboration from both sides. So, plan to commit significant time and internal resources to maximize the overall benefits.

Tom Tiede
Managing Director
NTT DATA Supply Chain Consulting

Continuing the Conversation: The Untapped Potential of Reverse Logistics

Reverse logistics remains an integral component of supply chain management. However, the process of moving goods from end users back through the supply chain continues to be complex. It involves numerous processes, stakeholders and decision points that require different strategies and expertise than forward logistics. When done well, reverse logistics creates unique opportunities for organizations to lower costs, boost efficiency, improve consumer satisfaction and contribute to sustainability objectives.

In the 2024 Annual Third-Party Logistics Study, reverse logistics includes consumer and business returns, product recalls, end-of-use returns, end-of-life returns, and the return of reusable packages or containers. The possible disposition paths can be restock, resale, remanufacture, refurbish, repair, recycle and dispose.

This section groups 3PL study participants into two distinct shipper clusters: customer-focused shippers that accept both consumer and business returns and business-exclusive shippers that only accept business returns. The section also includes responses of 3PL providers that stated they currently provide reverse logistics services.

Consumer-focused shippers represented 37% of the shipper respondents (see Figure 30). Shippers in this cluster accept returns from various channels, but none exclusively accepts returns from customers. Business-exclusive shippers represented 63% of the shipper respondents. More of these organizations were focused on a single channel.

The Returns Experience

The National Retail Federation said consumers are returning more products than ever. Within the U.S., the National Retail Federation's 2022 Consumer Returns in the Retail Industry report estimates that returns accounted for $816 billion in lost sales across the U.S. retail marketplace.

Respondents agreed that the returns process impacts consumer/customer loyalty, with consumer-focused brands placing a greater emphasis on it (see Figure 31).

Interestingly, the percentage of consumer-focused brands ranking the returns process as very or extremely important to customer loyalty increased to 82% (from 75%). However, just 27% of business-exclusive shippers rated it at a similar level, down from 43% last year. The continued and increased divide continues to indicate that business-exclusive shippers still need to buy into the connection between the returns experience and loyalty.

Similarly, 71% of consumer-focused brands reported that expectations surrounding returns are increasing, up from 65% last year. However, just 44% of business-focused shippers believe expectations are on the rise, down from 60% in the previous study.

Figure 31: Importance of the Returns Experience to Consumer/Customer Loyalty

	2024		2023	
	Consumer	Business	Consumer	Business
Extremely Important	19%	4%	46%	16%
Very Important	63%	23%	29%	27%
Moderately Important	13%	46%	13%	29%
Slightly Important	0%	8%	8%	23%
Not at all Important	6%	19%	4%	5%

Tony Sciarrotta, executive director of the Reverse Logistics Association, said most consumers expect free, easy returns and credit immediately. He added that most returns are due to online purchases not meeting consumer expectations.

"It is a two-dimensional experience until they open the box. At that point, the expectations have been set by the retailers," Sciarrotta explained. "In 76% of cases, consumers will say it didn't meet expectations, which leads to the fact that we have all of these products coming back that work and have nothing wrong."

Once notified of a consumer's request to return merchandise, there are several questions that may be relevant to consider. Can the item be resold as new? Should it be liquidated for pennies on the dollar? Is there a charitable use for the returned products? Companies that are trying to reduce transportation costs may suggest the consumer keep the item and issue a credit. "That is not a sustainable model, but it is starting to happen," Sciarrotta said.

Shippers' assessment of their ability to enable the re-commerce of returned products — those that are returned to stock, sold like new/used, refurbished or remanufactured — decreased from last year (see Figure 32).

Figure 32: Effectiveness at Enabling Re-commerce

	2024		2023	
	Consumer	Business	Consumer	Business
Extremely Effective	0%	4%	21%	7%
Very Effective	20%	15%	21%	23%
Moderately Effective	47%	38%	25%	30%
Slightly Effective	13%	12%	21%	18%
Not at all Effective	7%	4%	8%	11%
No ecommerce Capabilities	13%	27%	4%	11%

Many consumer-focused shippers (47%) said they're moderately effective at enabling the re-commerce of returned products, with 20% rating themselves as very effective. Results are similar for business-focused shippers: 38% said they're moderately effective and 15% said they're very effective.

Sciarrotta said the goal is to reduce or eliminate the need for reverse logistics. "We need to stop returns. We need to make customers and consumers happier with what they buy. We have to make sure the sizes are right, the products are easy to use and descriptions are accurate," he said.

Returns also impact environmental and sustainability efforts. Scot Case, vice president of corporate social responsibility and sustainability at NRF, said reminding consumers that their choices have environmental impacts might make sustainability-focused buyers more selective when making purchases and less likely to return products.

Respondents indicated they're getting better at understanding why consumers/customers return products (see Figure 33).

Figure 33: Effectiveness at Understanding Why Consumer/Customers Make Returns

	2024		2023	
	Consumer	Business	Consumer	Business
Extremely Effective	0%	4%	21%	9%
Very Effective	40%	27%	21%	30%
Moderately Effective	40%	42%	22%	30%
Slightly Effective	13%	19%	28%	18%
Not At All Effective	0%	0%	8%	7%
Do not request nor track reasons for returns	7%	8%	0%	7%

Figure 30: Return Channels

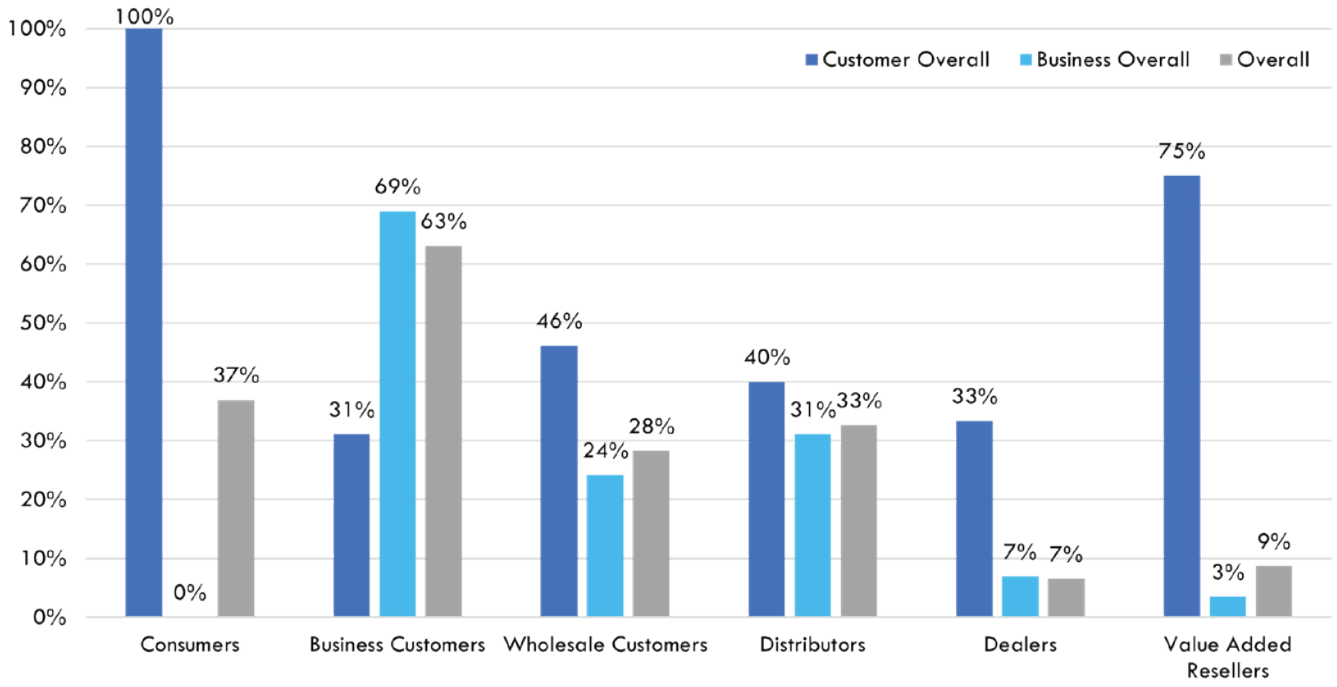
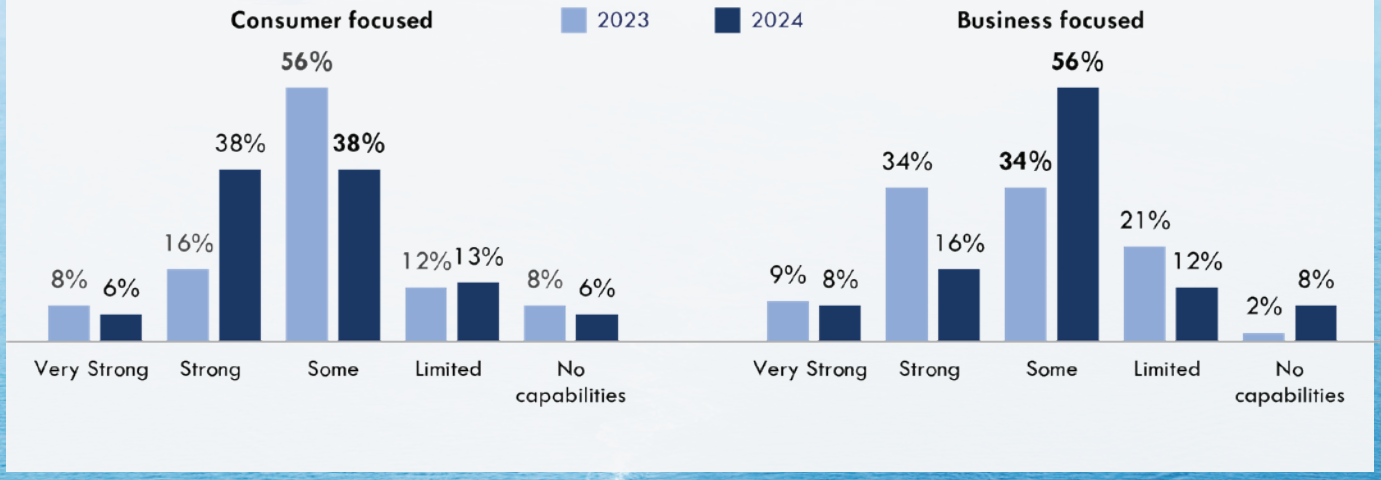


Figure 34: Reverse Logistics Capabilities



Reverse Logistics Expertise

Reverse logistics can present unique challenges, each of which require specific skill sets. Less than half of consumer-focused shippers (44%) self-identified their reverse logistics capabilities as strong or very strong. Just 24% of business-focused shippers ranked their capabilities as strong or very strong (see Figure 34).

In the 2023 Annual Third-Party Logistics Study, shippers said they expected to outsource a greater portion of their reverse logistics in the future. This year's study shows that outsourcing has increased.

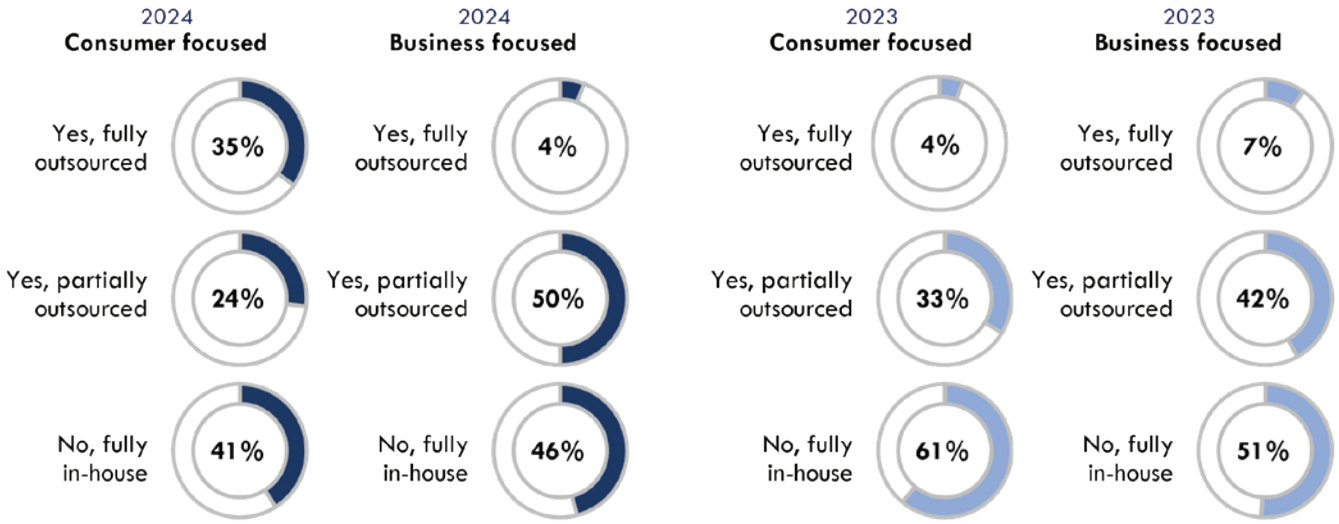
More than half of both types of shippers said they outsource all or some of their reverse logistics processes (see Figure 35). The percentage of consumer-focused shippers (41%) and business-focused shippers (46%) handling reverse logistics fully in-house decreased.

Shippers said their 3PL partners are effective at delivering the reverse logistics services they require. Consumer-focused shippers reported higher levels of confidence in their 3PL's ability and service offering for their reverse logistics needs compared to business-focused shippers (see Figure 36).

Figure 36: 3PLs Effectiveness at Delivering Reverse Logistics Services Shippers Require

	2024	
	Consumer	Business
Extremely Effective	30%	14%
Very Effective	30%	14%
Moderately Effective	40%	36%
Slightly Effective	0%	14%
Not at All Effective	0%	0%
Do not work with 3PLs	0%	21%

Figure 35: Reverse Logistics Outsourcing



3PL Interest in Reverse Logistics

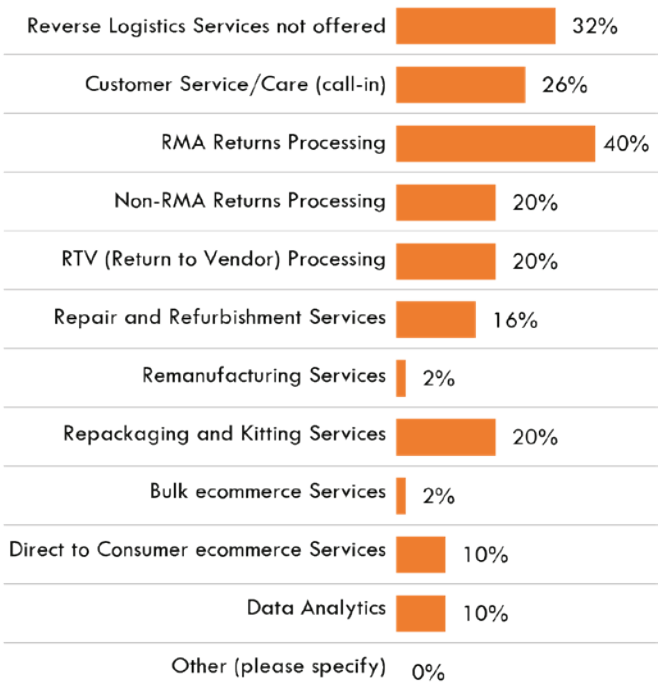
All consumer-focused shippers reported their needs match up with the services 3PLs offer (see Figure 37). Half said they extremely or very much match. Among business-focused shippers, 72% said their requirements match up with the services 3PL providers offer. Only 7% reported they only slightly match.

Figure 37: How Shippers' Requirements Match Up with 3PL Services

	2024	
	Consumer	Business
Extremely Match Up	30%	14%
Very Much Match Up	20%	29%
Moderately Match Up	50%	29%
Slightly Match Up	0%	7%
Do not work with 3PLs	0%	21%
Do not match up	0%	0%

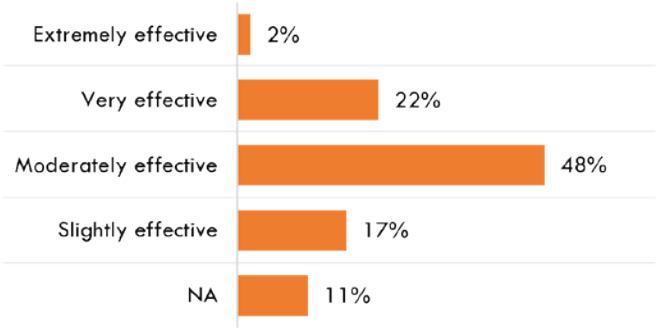
Similarly, not all 3PLs have expertise or interest in reverse logistics. About one-third of 3PL respondents said they don't offer reverse logistics services. Those providing reverse logistics offer several services, including return merchandise authorization (RMA) returns processing, non-RMA returns processing and customer service/care (see Figure 38).

Figure 38: Reverse Logistics Services 3PLs Offer



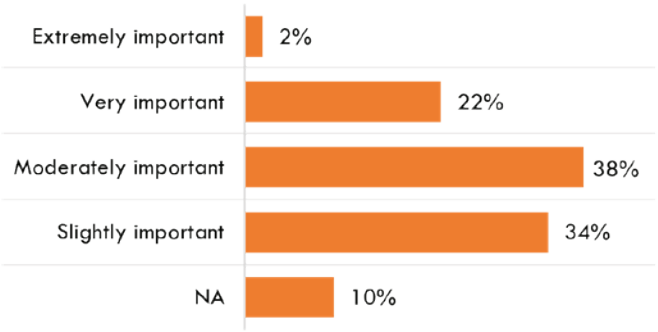
About half of 3PL respondents (48%) said their services are moderately effective at enabling end-to-end reverse logistics. Among them, 22% rated themselves as very effective and just 2% rated themselves as extremely effective (see Figure 39).

Figure 39: Reverse Logistics Effectiveness



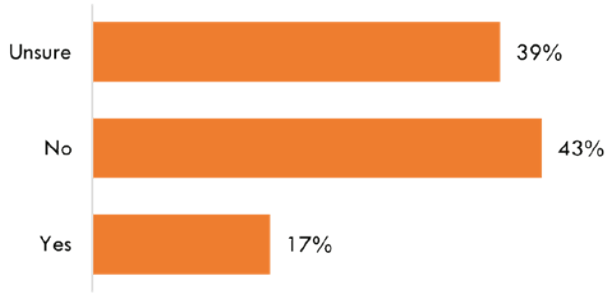
Not surprisingly, given the increase in outsourcing, 80% of 3PLs said they expect demand to increase over the next three years. However, for most 3PL respondents, reverse logistics services are only moderately or slightly important to their growth plans (see Figure 40).

Figure 40: The Importance of Reverse Logistics to 3PLs' Growth Plans



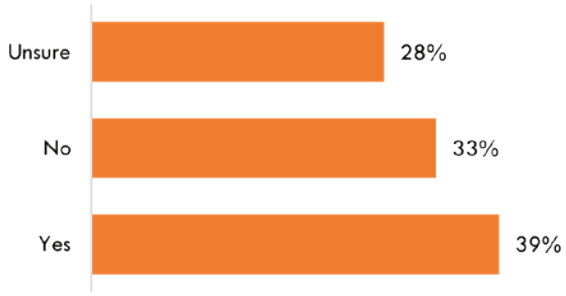
Moreover, 43% said they don't plan to offer reverse logistics services in the next three years, 39% are unsure and 17% said they plan to offer services (see Figure 41).

Figure 41: 3PL Plans to Offer Reverse Logistics Services in the Next Three Years



Among providers offering reverse logistics, 39% said they do plan to expand the breadth of the return logistics services they offer in the next three years, 33% said they don't and 28% are unsure (see Figure 42).

Figure 42: 3PL Plans to Offer Reverse Logistics Services



The reverse logistics market continues to grow and is increasing in importance to organizations. As originally noted in the 2023 Annual Third-Party Logistics Study and supported in the 2024 study, 3PLs may be missing out on the untapped potential of reverse logistics to their overall growth and customer loyalty.

Continuing the Conversation: The Talent Crisis

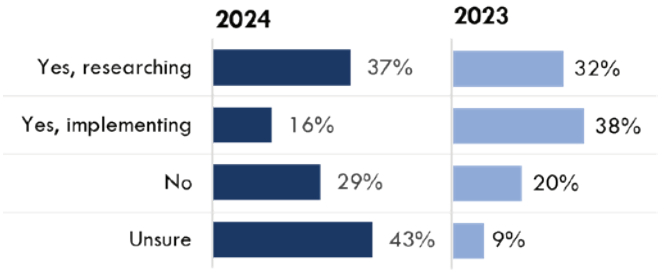
Supply chains rely on the availability of talent and a wide range of supply chain positions are critical to the efficient and reliable movement of goods. Companies understand the supply chain directly affects their overall success, but labor continues to pose headwinds for shippers and their logistics providers. Both groups are working to attract, optimize and retain talent across the supply chain.

"Right now, every business has a challenge getting enough labor to do what they need to do. In the supply chain business, we need a lot of people to do a lot of mundane things," said Kevin Smith, CEO of Sustainable Supply Chain Consulting.

Within the supply chain, demands on employees are high. "There are no jobs that exist without performance demands," said Mark Baxa, CEO of the Council for Supply Chain Management Professionals. "But in the supply chain, where we have to execute on the promise of planning, sourcing and delivering products for our customers, everybody has to engage."

While both groups are experiencing difficulties, shippers continue to report more significant labor challenges than 3PLs. Among shippers, 78% — the same percentage as last year — said that labor shortage has impacted their SLAs (see Figure 43). For 3PLs, only 40% said labor challenges affected SLAs, down from 56% in the previous study.

Figure 43: Labor Shortages are Impacting Supply Chain Operations



Kim Curley, vice president of people and organization consulting at NTT DATA, said the discrepancy could be due to the wider range of roles within 3PLs. "3PLs may have problems in one area, but be thriving in others," she said. "While the aggregate numbers might look different, 3PLs and shippers are likely experiencing similar levels of pain in similar roles."

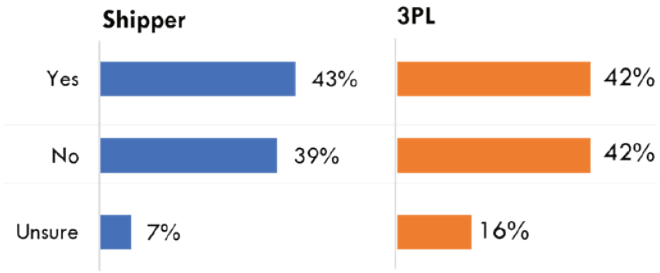
There may also be differences in how both groups prepare for potential labor issues, which have been top of mind for 3PLs for several years. Eight years ago, in the 2016 Annual Third-Party Logistics Study, 79% of 3PLs reported concerns over labor shortages and said they were rethinking strategies for attracting and retaining employees, training and workforce agility.

Just over half of shippers in the 2016 study said they were relying on their 3PLs' preparation for the labor shortage. Those two approaches could be playing out in today's market.

Recruiting, Hiring and Retaining Talent

While difficulties remain, hiring challenges have eased somewhat (see Figure 44). 3PLs are split on whether recruiting is improving. While 42% reported they're seeing improvements over last year, the same percentage said they've seen no improvement. Shippers are generally split, too: 43% said they're seeing improvements and 39% reporting they're not.

Figure 44: Recruiting and Retaining Employees Remains Challenging



The labor situation is better than it was a year ago, but shippers and 3PLs are having a hard time recruiting and retaining certain roles (see Figure 45). Positions for hourly workers, such as material handlers, remain among the hardest to fill, but there has been improvement over last year. Among respondents, 61% of shippers and 58% of 3PLs said they're having difficulty hiring hourly workers, down from 62% and 72% last year, respectively.

There's also been an improvement in finding licensed hourly workers: 39% of shippers and 48% of 3PLs said they've had difficulty finding licensed hourly workers, down from 59% of shippers and 65% of 3PLs in the last study.

"Specific to transportation roles, since the pandemic, we have seen lower truckload goods movement in the U.S., and combine that with the dropped spot rates, it has certainly reduced some of the fast and furious demand we saw for

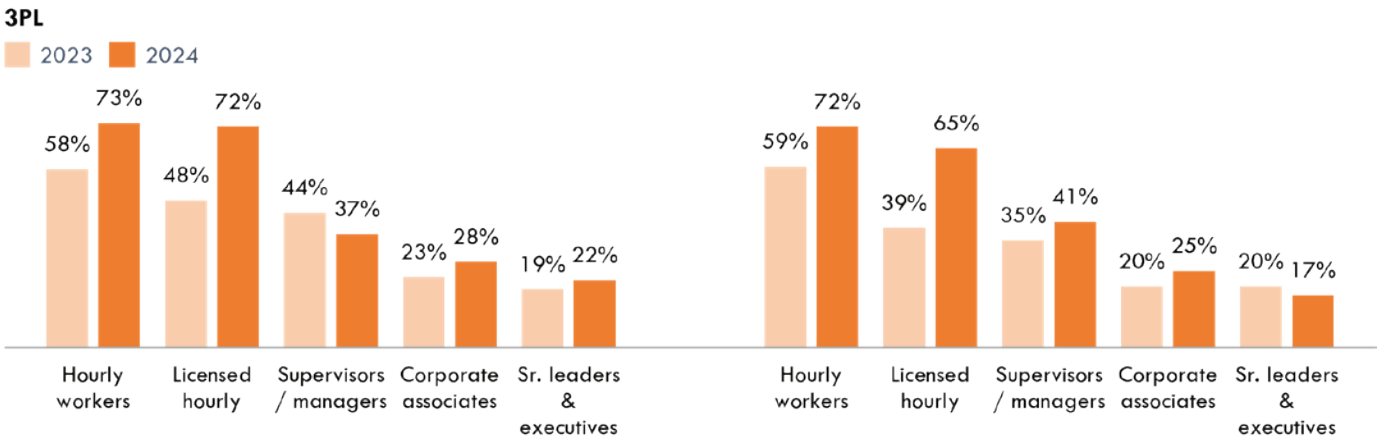
driver hiring the prior two years," said Christina Fletcher, senior vice president of human resources for Penske Logistics. "There are less overall driver jobs posted across the country and a slight uptick in the number of drivers applying per opening. This has made the hiring market for drivers a bit easier."

The number of 3PLs reporting difficulties hiring senior leaders and executives increased slightly, to 19% from 17% in the previous study. Similarly, 21% of shippers reported having difficulty hiring senior leaders and executives. That's an improvement from the 36% reporting challenges last year.

Fletcher said skills gaps historically have been more prominent in mid-level career roles, but gaps are now being seen at the senior and executive levels. "Internal competition has increased due to retirements and growth within our organization," she said. "Externally, the competition in the supply chain and logistics space has grown and we've seen increased demand and in the number of openings."

More than half of shippers (56%) and 3PLs (54%) reported seeing improvements in retention over the past 12 months. Not surprisingly, the same positions that are hard to recruit for, including hourly workers and licensed hourly workers, are among the hardest employees to retain (see Figure 45), but there have been improvements.

Figure 45: Retention is Improving for Some Positions



Employee Benefits

Shippers and 3PLs have deployed several strategies to encourage employees to stay (see Figure 46). Baxa said there's visible pressure on wages and benefits. "Benefits packages are improving, working conditions are improving and the work-life balance piece is improving," he said.

There isn't a one-size-fits-all approach to retention, Fletcher said. "We've spent a lot of time conducting focus groups with various associate levels, including leadership, to understand what's important to them and to validate what we understand to be the pain points, and then develop both corporate and local engagement programs focused on associate satisfaction and retention," she said.

While the number of respondents offering cash or monetary benefits deceased, significantly more now offer remote work. Nearly half of shippers (48%) and 3PLs (45%) reported offering remote work, up from 17% of shippers and 27% of 3PLs last year.

Figure 46: Non-traditional and Alternative Benefits for Workers

	Shipper		3PL	
Benefits	2024	2023	2024	2023
Pre-paid gas cards	4%	6%	14%	12%
Cell phone stipends	10%	10%	12%	22%
Sign-on bonuses	29%	33%	16%	23%
Flexible scheduling	38%	33%	27%	36%
Remote work	48%	17%	45%	27%
Skills and certification training	23%		47%	
Apprenticeship programs	17%	14%	12%	11%
Certification tuition assistance	13%	9%	14%	18%
College tuition assistance	17%	16%	14%	26%
Financial advisory counseling	13%	12%	14%	12%
Health care supplements	19%	33%	18%	24%
No new or expanded benefits	29%	24%	23%	19%
Other (please specify)	0%	0%	4%	
Reward/recognition programs				

However, remote work is only an option in certain positions and it's not possible for many of the jobs that remain hard to fill, such as hourly workers. Those on the front lines in supply chain must be physically present at the workplace.

"A reality is that some work can't be performed from home," said Dr. C. John Langley, founder of the Annual Third-Party Logistics Study and clinical professor of supply chain and information systems at Penn State University. "If you're trying to receive a truckload of merchandise, parcel it out and send it to individual stores, you can't do that without people on site."

Curley said workplace culture takes on even greater importance for workers who can't work remotely. "You have to have leaders who create the right type of environment that's safe, humane and engaging," she said, adding that it's also important to help employees think about future opportunities.

Encouraging workers to think long term is essential. "Companies don't talk with sincerity about what is next," Baxa said. "There are opportunities to grow. You become a trainer, a team lead and then send you back to school. That is the company you want to work for. We have to talk about growth in a way that is really meaningful."

Nearly half of 3PLs (47%) and 23% of shippers said they're offering skills and certification training to help retain employees. The percentage of respondents offering apprenticeships increased, with 17% of shippers and 12% of 3PLs providing them.

"The ability to train a new hire's eye on the longer career play helps the stickiness, which supports attracting people to positions and keeping them there," Curley said. "If I were a 3PL, I would put my money into career pathing that was real and tangible so employees could see a bright future the minute they walk in the door."

Baxa said training also ensures performance and the No. 1 investment 3PLs must make is in the capability and competency of their people. "That addresses everything from the front-line worker certifications all the way through to their most knowledgeable leaders," he said.

To aid in training, Penske Logistics is developing company-wide role-based functional training content. "The goal is to ensure that when someone enters their role, they will be prepared with consistent and up-to-date training content," said Fletcher, adding that the training includes self-paced, online learning experiences blended with in-person activities at the employee's jobsite or office.

A strong onboarding experience can boost retention, too. "You need to offer thorough training where you're really teaching people how to be good at their jobs from day one," Curley said. "A lot of workers are dropped into the mix before they know how to do their jobs and have a less than positive experience in their first 30 to 90 days. By offering more mentoring on the floor — helping new hires be successful earlier — you'll create more stickiness."

The Role of Automation

As the 2023 Annual Third-Party Logistics Study discussed, the talent crisis of the last few years is leading to operational adjustments that are expected to last. Among those is the use of technology and automation. The return on investment for dynamic solutions is shifting as wages rise and labor shortages linger.

"We have to augment the existing and available workforce with machines and processes that can do the mundane tasks. You can have a machine put things away. You can have a machine retrieve stuff from the rack and make the decision," Smith said. "We need to preserve the human resources to do the things only people can do."

Automation has the potential to make work safer and attract new employees. "It makes the work higher value because it requires a different skill set than straight up labor moving boxes," Curley said. "We've elevated the roles of people to work in the space."

Technology can also make labor more efficient. For example, AI and ML can anticipate when a machine is going to go down, allowing employees to get ahead of the problem. Data analysis can improve routing to increase equipment and driver utilization, and real-time GPS data can ensure dock workers are in place and ready when a load arrives.

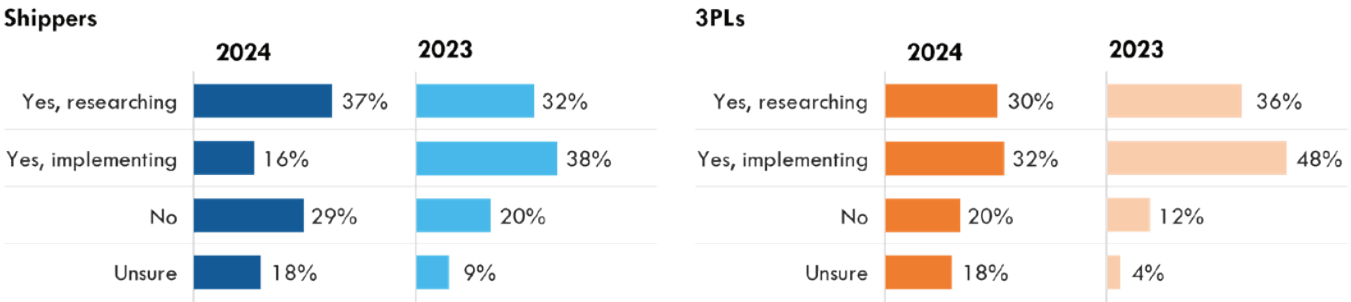
This year's research indicated that shippers and 3PLs may have already implemented technology-related solutions: 16% of shippers and 32% of 3PLs said active implementation is ongoing, down from 48% and 38% last year, respectively (see Figure 47). Both shippers (37%) and 3PLs (30%) said solution research is ongoing.

It'll be important to continue to attract new workers to the industry, and creating workplaces focused on diversity, equity and inclusion, as well as employee-led and -driven campaigns, can help draw in talent. "We're starting to see more women and people of all colors filling these roles," Curley said, "but there's still a big diversity divide."

The increased focus on supply chains during the pandemic increased awareness and made supply chain work highly visible. Shippers and 3PLs will need to continue focusing on current supply chain talent and potential sources of future talent to keep up with demands.

"These jobs all have to be cast as something much bigger than they seem, where employees can contribute," Baxa explained. "If you want the satisfaction of achievement, not just on the job but in making things great for society, the supply chain is a great place to be."

Figure 47: 3PLs and Shippers are Considering Augmenting Supply Chain Operations with New Technology or Automation to Offset Talent Shortages



Contemporary Issues
The Balance Between Efficiency and Resiliency

Resiliency in the supply chain has always been necessary but has received more attention in recent years as rapid shifts in consumer purchasing patterns, delays and disruptions gained worldwide attention. Before the pandemic, just-in-time supply chains predominated. Now, resiliency, agility and flexibility have become cornerstone principles.

For 3PLs, this shift has created opportunities to capture a greater share of existing client business and opened doors for new client opportunities. "Logistics providers are here to help their customers prosper in the environment they're in now and the environment they'll face in the future," said Mark Baxa, CEO of the Council of Supply Chain Management Professionals.

Shippers and their logistics providers continually work to improve real-time decision-making. They also want to mitigate the risk of supply chain disruptions and meet increased end-user expectations while controlling costs and increasing efficiency.

Resiliency was a topic in several past studies. Even before the pandemic, in the 2018 Third-Party Logistics Study, 98% of shippers and 99% of 3PLs said there was an increased need for 3PLs to respond to customers more quickly and with complete, accurate and consistent information. Both said that increased visibility and greater access to data enabled those within the supply chain to act early to reduce and mitigate the consequences of supply chain disruptions.

The study team took a deeper look at resiliency and the rebalancing of global supply chains in the 2021 Annual Third-Party Logistics Study and revisited it in the 2022 and 2023 studies. It remains a relevant contemporary topic as companies work to align supply and demand, balance inventory, be aware of cost implications and create value for customers and consumers.

Four critical components when trying to strike a balance between resiliency and efficiency include:

Inventory. In today's operating environment, inventory is volatile and expensive. The CSCMP 2023 State of Logistics

Report found that a full third — $759 billion dollars of the $2.3 trillion in business logistics cost — is now associated with inventory management.

"A first, critical step in the management of inventory is to assess whether specific products or categories of products may be better serviced by supply chains focused on efficiency or on resilience," said Dr. C. John Langley, founder of the Annual Third-Party Logistics Study and clinical professor of supply chain and information systems at Penn State University.

"Generally, products that may be of lower value, easier for which to forecast demand and that involve lower costs in case of a stockout will be better candidates for a priority on efficiency," he said. "Those that may be more valuable, more difficult to forecast and that may incur significant costs in the event of a stockout will benefit more from a resilient supply chain."

Kevin Smith, CEO of Sustainable Supply Chain Consulting, said the goal is to hold as little inventory as possible but enough of it so it doesn't run out. "You need to know the forecast, which is always wrong, how much safety stock you need to hold and the amount of time it takes to get the inventory," he said.

With the expected growth in reshoring, especially in the electric vehicle and semiconductor industries, the resiliency of raw materials will also be critical. Determining resilient inventory levels is much harder for raw materials due to a multitiered supply base and longer time gap with demand signals.

Visibility. Visibility into inventory may be even more important than the inventory itself. "I'd rather have good visibility than piles of inventory," Smith said. If I know where it is, I'm in a better position than someone who stockpiles."

Information allows shippers to make data-driven decisions, helps them prevent disruptions from happening and enables them to react quickly if a disruption occurs. It also ensures shippers are pulling inventory from the right location.

Visibility also enables shippers and their logistics providers to match inventory and material handling needs with talent. "If you really want to remove inefficiencies, you have to tie in the fulfillment process with the availability of people to take care of items when they come in," Langley said.

Technology will continue to play a critical role as the need for visibility and traceability increases. Tighter collaboration with customers and suppliers can often improve demand and supply visibility.

Contingency Planning. Once shippers pinpoint the products, suppliers and sourcing locations that are essential to their operations, they can establish contingency plans to minimize risk. Information, visibility and tools to run what-if scenarios are at the core of an effective contingency plan. Having a high-level, connected view of the supply chain and granular specifics delivered in real time can drive tactical decisions.

"With disruptions, there is an inverse relationship between the time you become aware of the disruption and when you react and the availability and cost of the solution. The bigger of a surprise and the shorter amount of time you have, the more it is going to impact you," said Andy Moses, senior vice president of sales and solutions at Penske Logistics.

One of the important ways to ensure contingency preparedness is to routinely run disruption simulations, either in conference rooms or in a controlled tactical environment. "Disruption management is hard without the training in leveraging information and collaboration among functions and partners," said Vikas Argod, managing director, NTT DATA Supply Chain Consulting.

There are often multiple levers in the supply and demand side to pull during disruption events. Speed of evaluation of these levers for cost and service is a must-have capability in today's supply chain.

Alternative Supply Sources. Multi-sourcing can help shippers avoid the risk associated with a single source. In the study, the definition of a single source of supply was expanded to include a single country or region, not just a single vendor.

Companies are continuing to evaluate near-shoring and re-shoring to reduce the time lag between the demand signal and the supply response. Doing so decreases the need for safety stock and cycle stock.

Meanwhile, companies might increase their safety stock and keep it at strategic locations. In this case, supply planners must have visibility of these levels to balance disruption coverage and dead-stock risk, especially in businesses with shelf-life or constant model changes.

Network Optimization. By evaluating the whole network, including sourcing locations and product demand, shippers can improve the overall engineering of the supply chain and increase efficiency.

As a 3PL, Penske's engineers run what-if scenarios 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. By optimizing the network, shippers can eliminate miles, improve equipment and driver utilization, and eliminate costs.

"It is not just about direct costs. It is also about the indirect cost," Baxa said. "There is optimization or suboptimization available by partnering with a provider that can take out non-value-added complexity in my supply chain that leads to cost. That 3PL is a valuable partner in helping make those decisions."

What support and services will shippers need from 3PLs to improve resiliency while managing costs? How can increased collaboration improve decision-making? What role will AI and ML play in minimizing the risk of disruptions?

The Continued Growth of the Cold Chain

Demand for the cold chain continues to increase in fresh and frozen segments. It increases the need for warehouses, carriers and logistics providers that serve the space.

"Capacity is increasing. Demand is increasing. Growth is across the board," said Lowell Randel, senior vice president at the Global Cold Chain Alliance.

Food and pharmaceuticals comprise the bulk of cold chain shipments, but flowers, electronics and beauty items are also temperature sensitive. "Some of those things don't need to be frozen or refrigerated to a certain temperature," he said, "but they need a controlled environment."

Cold chain providers have certain hurdles to overcome as demand and growth increase. "If you have customers that are storing food, those food customers might not want pharmaceuticals in proximity to their food products, and the reverse is true. There are some complexities," Randel said.

To help keep up with demand, cold chain logistics providers are adopting automation, especially with material handling. "As automation technology has evolved and broadened, you have a bigger menu to choose from. While we may not see a huge number of fully automated facilities, we're seeing an increasing number of facilities selecting from the menu," explained Randel, adding that labor challenges make automation more attractive. (Learn more about automation in the Looking Beyond the Hype of Technology section).

Regulations and requirements for some cold-chain shipments are increasing. It's increasing the need for visibility and the ability to provide real-time information on inventory and product location.

The Food and Drug Administration (FDA) issued new requirements for additional traceability records for certain foods, ranging from nut butters to cut veggies to shrimp, under the FDA Food Safety Modernization Act (FSMA). Essentially, the regulation will help to transform the nation's food safety system by shifting the focus from responding to foodborne illness to preventing it. The requirements, which take effect on January 20, 2026, create new traceability

recordkeeping requirements beyond those in existing regulations for certain foods. Additionally, all entities in the supply chain for those foods will be subject to the Food Traceability Rule.

As part of the rule, those who manufacture, process, pack or hold foods on the Food Traceability List (FTL) must maintain and provide to their supply chain partners specific information — called key data elements (KDEs) — for certain critical tracking events (CTEs) in the food's supply chain.

All parties covered by the rule must create a traceability plan, several of which are specific to those holding the food, such as distribution centers. "Over the next year or so, you're going to see a lot of companies looking at how they can meet compliance needs," Randel said. "A lot of that will be using technology to ensure that traceability information is accessible and flows with the product."

Regulations also affect those who haul products. In the U.S., for example, California requires newly manufactured truck transport refrigeration units (TRUs), trailer TRUs and domestic shipping container TRUs to use refrigerants with a Global Warming Potential (GWP) less than or equal to 2,200 or no refrigerant at all. GWP measures how destructive a climate pollutant may be. Refrigerants may be thousands of times more polluting than carbon dioxide (CO2).

Even outside California, energy efficiency is a top priority. Randel said companies are adopting solar and wind power, especially if there are government incentives or energy costs are high.

"We believe that reducing food loss and waste is another important component to greening the supply chain," he said.

Optimizing the supply chain can be vital in establishing effective buying and distribution patterns. And getting food to customers faster and fresher. Maintaining correct temperatures is crucial. Even slight variations in degrees can matter. Inventory management is essential in handling and distributing fresh and perishable food products.

According to Dr. C. John Langley Jr., significant enhancements to traceability, transparency and trust may result from applying blockchain technology in the cold chain. This innovative capability can facilitate product tracing from origin to destination, improve accountability and reduce the risk of fraud.

"At the end of the day, demand is strong and the overall environment is good," Randel said. "But it is not without its challenges and potential disruptors."

How will continued growth in the cold chain, shippers' expectations and regulatory requirements affect 3PLs offerings? Will outsourcing increase? As sustainability initiatives take on greater importance, what role will supply chain partners play in providing solutions?


1,000 Kg/Level
1,000 Kg/Level
1,000 Kg/Level
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The Changing Landscape of Online Sales

The rapid growth of online sales and the demand spikes seen during the pandemic have slowed. Still, online sales remain a critical part of retail revenue and, more importantly, profitability. Shippers and their logistics providers are working to deliver the agility and flexibility needed to fulfill consumer expectations in the direct-to-consumer business.

"A mega situation in the supply chain today is the rethinking of retail. Consumers are doing the rethinking, and it's driving changes in fulfillment strategies, which are in a state of change right now," Langley said. "There's still much to be learned. Companies are trying to determine how best to formalize their approaches and strategies to meet the changing needs of end users and consumers."

The "Council of Supply Chain Management's 2023 State of Logistics" report estimated that global ecommerce sales growth fell below 10% in 2022, down from the 23% growth rate experienced in 2021 and the 27% in 2020. Within the U.S., ecommerce grew by 8% in 2022 relative to the prior year, but the U.S. ecommerce market's percentage of retail sales has started to flatten.

U.S. store openings and closings also remain in flux. In the first six months of calendar 2023, significant U.S. retailers announced plans to open about 3,420 new stores, down from about 5,080 announced in the first half of 2022, the National Retail Federation reported. Retailers announced plans to close about 3,365 stores, up from 895 announced in the first half of 2022.

An omnichannel experience continues to direct most online sales. This approach enables the customer journey to start in one place and continue indefinitely on multiple channels. "Retailers want to use their brick-and-mortar locations to leverage sales," said Tony Sciarrotta, executive director of the Reverse Logistics Association. "If you buy online and pickup in store (BOPIS), you might remember something you needed or buy more."

In addition to BOPIS, brick-and-mortar stores can be used to collect returns and handle order fulfillment. Buy online and return in stores (BORIS) options, which, when coupled with instant refunds, result in consumers buying something in the store. Using stores as fulfillment centers can allow retailers to ship from locations closer to customers, which speeds delivery times and helps companies streamline inventories.

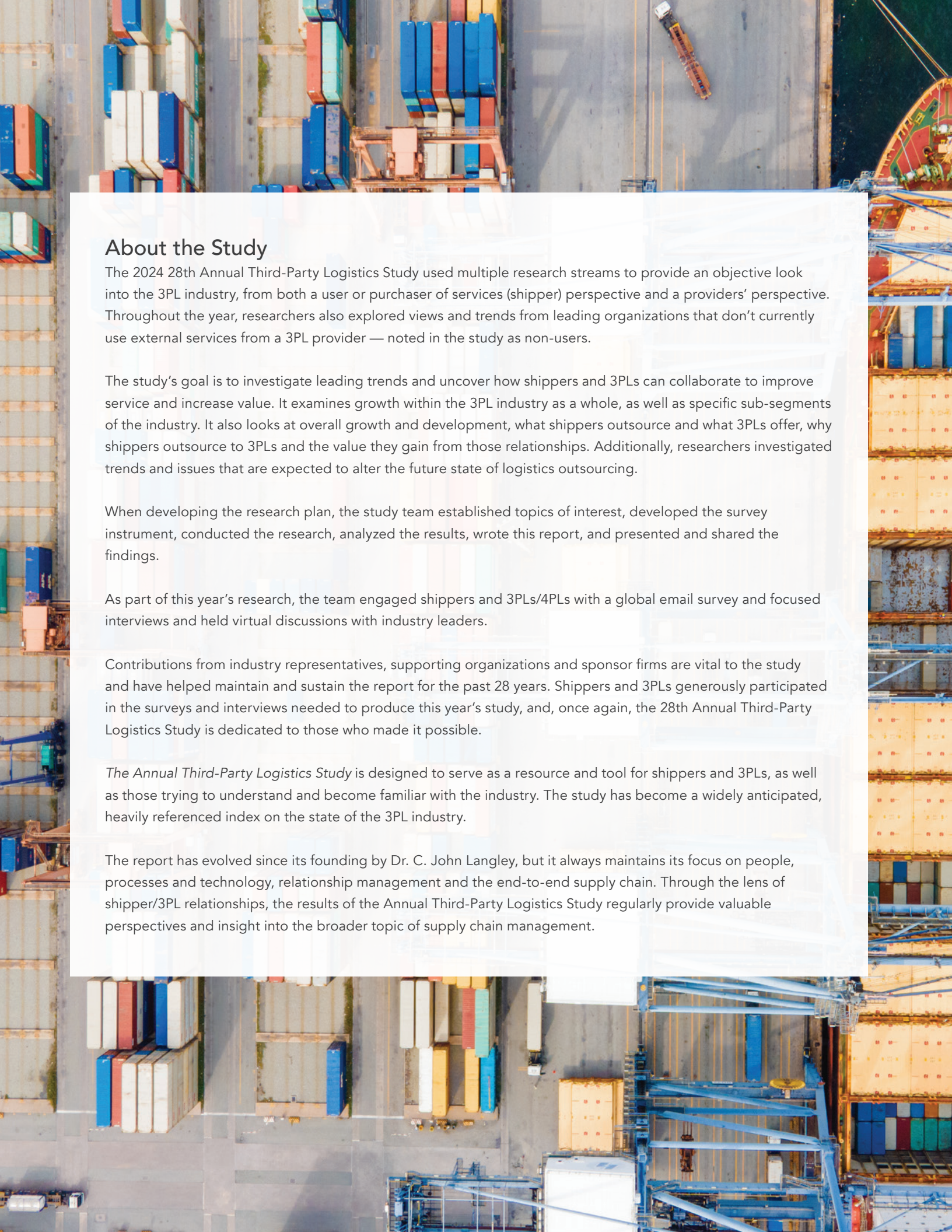
"On the flip side, retail space can be very pricey. Companies ultimately will need to document that the ROI from using this space for fulfillment purposes to see if it equals or exceeds that which could be achieved by alternate uses of the same space," Langley said. "Most organizations are looking at multiple options for their fulfillment operations, and there is significant innovation as part of these efforts."

Innovations in storage density in, for example, a store's back of house, micro-fulfillment centers and urban sortation centers, all focus on alleviating friction in store operations while offering consumers an omnichannel experience.

Investments in the supply chain are crucial to remaining nimble and flexible to optimize what the demand signals indicate. Real-time visibility, predictive data analytics, and information sharing and collaboration tools such as supply chain control towers are valuable tools. Shippers and 3PLs can draw on these solutions as they react and evolve to meet customers' changing demands.

Technology is critical in the supply chain world, and the consumer experience is no exception. Creating multiple channels to increase productive interactions with customers (for example, a more dynamic, fluid and intuitive shopping experience) will result in stickiness for the current customer base and increase the potential to reach additional customers. Increasing customer interactions results in fruitful data sets that create more inroads to predictive customer analytics, creating a win-win situation for both sides.

What tools and technology can shippers and 3PLs use to meet ongoing shifts in consumer demand? How can they collaborate to build better customer experiences? What short- and long-term strategies are needed?



About the Study

The 2024 28th Annual Third-Party Logistics Study used multiple research streams to provide an objective look into the 3PL industry, from both a user or purchaser of services (shipper) perspective and a providers' perspective. Throughout the year, researchers also explored views and trends from leading organizations that don't currently use external services from a 3PL provider — noted in the study as non-users.

The study's goal is to investigate leading trends and uncover how shippers and 3PLs can collaborate to improve service and increase value. It examines growth within the 3PL industry as a whole, as well as 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 investigated trends and issues that are expected to alter the future state of logistics outsourcing.

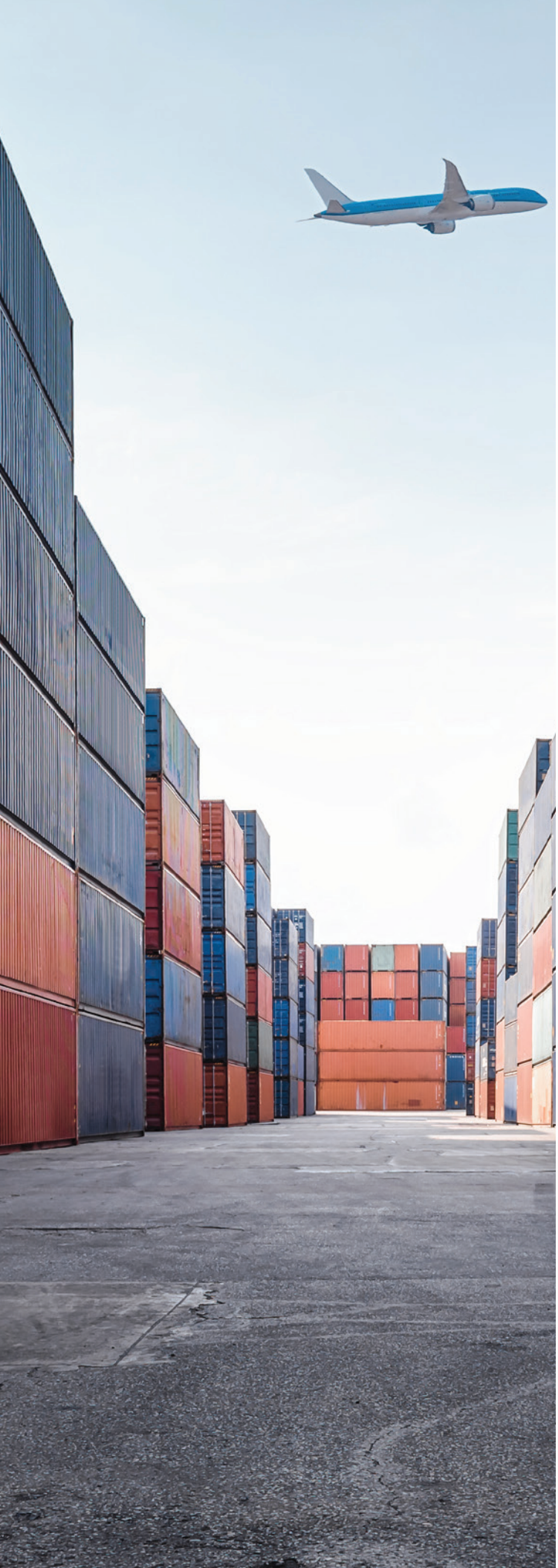
When developing the research plan, the study team established topics of interest, developed the survey instrument, conducted the research, analyzed the results, wrote this report, and presented and shared the findings.

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

Contributions from industry representatives, supporting organizations and sponsor firms are vital to the study and have helped maintain and sustain the report for the past 28 years. Shippers and 3PLs generously participated in the surveys and interviews needed to produce this year's study, and, once again, the 28th Annual Third-Party Logistics Study is dedicated to those who made it possible.

The Annual Third-Party Logistics Study is designed to serve as a resource and tool for shippers and 3PLs, as well as those trying to understand and become familiar with the industry. The study has become a widely anticipated, heavily referenced index on the state of the 3PL industry.

The report has evolved since its founding by Dr. C. John Langley, but it always maintains its focus on people, processes and technology, relationship management and the end-to-end supply chain. Through the lens of shipper/3PL relationships, the results of the Annual Third-Party Logistics Study regularly 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 through Annual Third-Party Logistics Study supporting organizations for distribution to their members and affiliates. This year's survey closed in July 2023, gathering responses from both users and non-users of 3PL services and providers of 3PL services. The study report and additional materials are also presented via its dedicated website, 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 contemporary supply chain topics that affect both users and providers of 3PL services. This year's topics cover relationships, power dynamics, technology and talent. To continue the conversation, researchers also addressed reverse logistics and the talent crisis.

Contributing Sponsors: The 2024 28th Annual Third-Party Logistics Study sponsors include NTT DATA and Penske.

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, individual companies help by enabling executives to participate in focused discussions and lending subject-matter expertise. These include:

- Council of Supply Chain Management Professionals (CSCMP)
- Reverse Logistics Association (RLA)
- Global Cold Chain Alliance (GCCA)

Multiple Research Streams: A distinguishing feature of the Annual Third-Party Logistics Study is the incorporation of multiple streams of research undertaken by the study team to validate and illuminate the findings in this report. The team solicits survey topic ideas throughout the year from key industry participants and through desk research conducted by the team and NTT DATA, which also helps to vet potential topics of interest. Survey topics and questions are designed to reflect key 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 the following:

• Presentations at influential industry conferences, such as the Council of Supply Chain Management Professionals (CSCMP) EDGE Conference and Exhibition and the International Supply Chain Forum hosted by ILOS.
• Analyst briefings, which are typically 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, Stifel Nicolaus and others.

Definitions: Survey recipients were asked to think of a "third-party logistics (3PL) provider" as one 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 *2024 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 reported by shippers that are attributed to the use of 3PLs
• Assess the importance of 3PL capabilities relating to people, process, technology, implementation and execution
• Determine what types of technologies/solutions 3PLs need to offer to successfully serve customers
• Determine the extent to which 3PL technologies/solutions are successful in helping their customers achieve their objectives
• Examine why shippers either elect or not elect to outsource
• Learn how both shippers and 3PLs leverage 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 chosen based on what was learned during the study process and current trends in the industry. This year's sections include:

• The Power of Partnerships Now
• The Flow of Data
• Looking Beyond the Hype of Technology

Continuing the Conversation provides a valuable update on still-relevant topics covered in previous reports as needed. This year, researchers further examined the following areas:

• The Untapped Potential of Reverse Logistics
• Understanding the Talent Crisis

The Contemporary Issues section takes an introspective view of the future of the 3PL industry and shipper/3PL relationships. This year, researchers explored the following areas:

• The Efficiency and Resiliency Struggle
• Ongoing Growth of the Cold Chain
• The Online Shopping Slowdown

About the Respondents

Shippers

Figure 48 shows the percentage of shipper respondents to the survey, including both users (44%) and non-users (8%) of 3PL services, and the percentage of 3PLs (48%). The non-user responses are helpful because they provide valuable insights on why some organizations have elected not to use 3PLs, as well as non-user perspectives on several other relevant topics throughout the study.

Shipper respondents are typically senior managers, directors, vice presidents and above from a mixture of different industries. Figure 49 shows the 10 most prominent industries reported by users of 3PL services, including food and beverage manufacturing or distribution (22%), CPG (14%), retail and consumer brands (3%), manufacturing and heavy machinery (13%), and automotive (10%).

Figure 48: About the Respondents

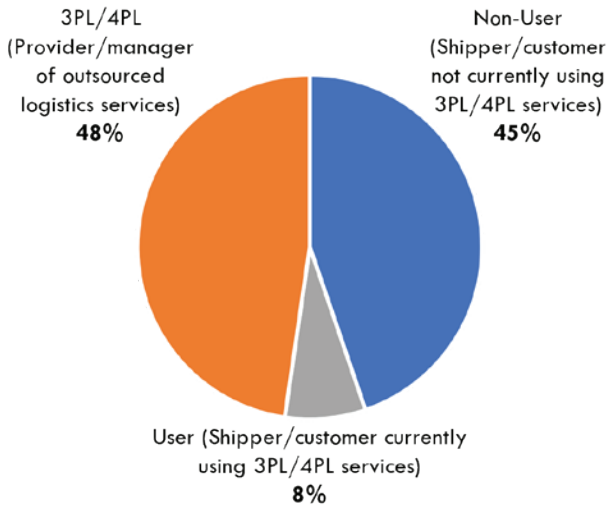


Figure 49: Shippers by Industry

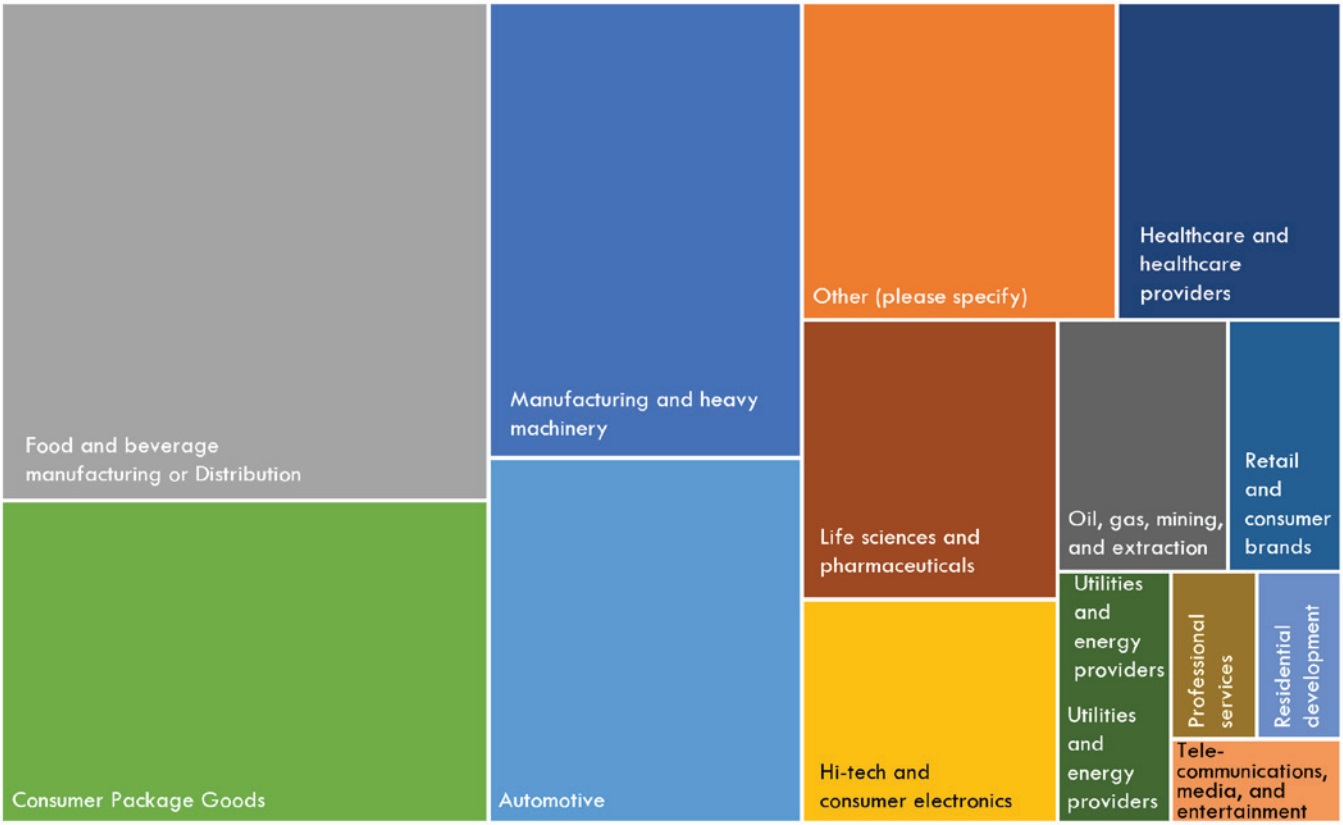


Figure 50: Shippers by Geography

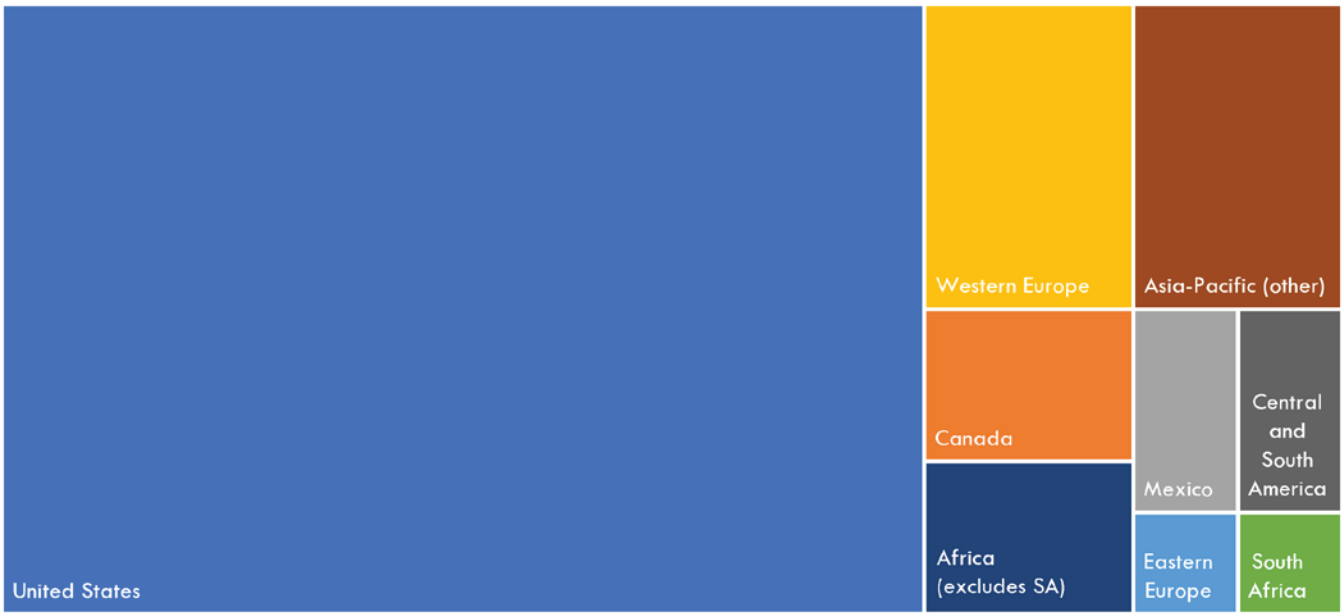
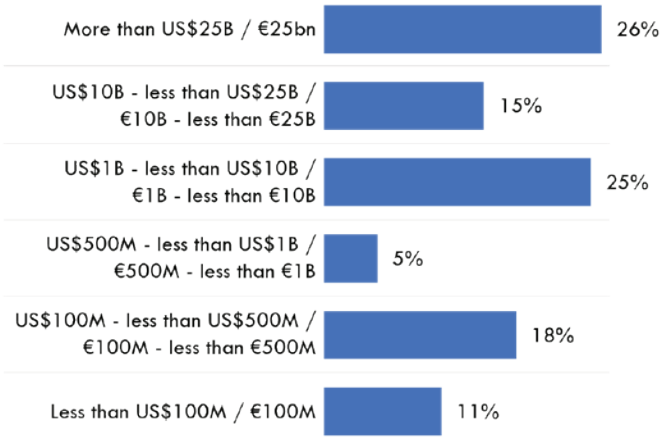


Figure 50 groups shippers by geographic location. A high concentration of shippers have their base location in the U.S. (69%). Other top locations include Europe (9%), Canada (4%) and Mexico (3%). (Asia accounted for 8%.)

Shipper respondents represented a diverse group based on total annual sales, with no significant variance year-over-year in any one response cluster (see Figure 51). Among shipper respondents, 66% reported $1 billion in sales or greater this year. This response was up slightly from last year, when 54% of shippers reported $1 billion or greater in sales.

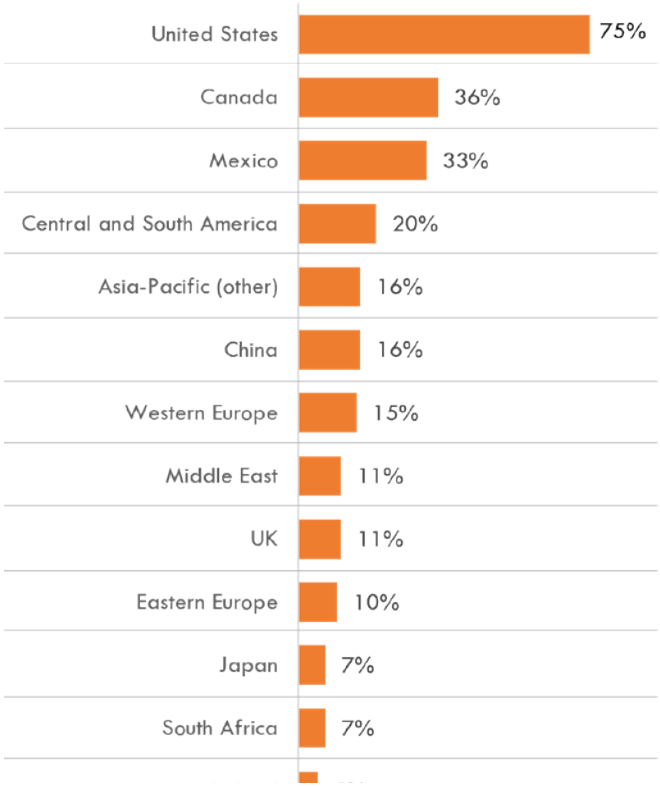
Figure 51: Shippers by Total Annual Revenue



3PLs

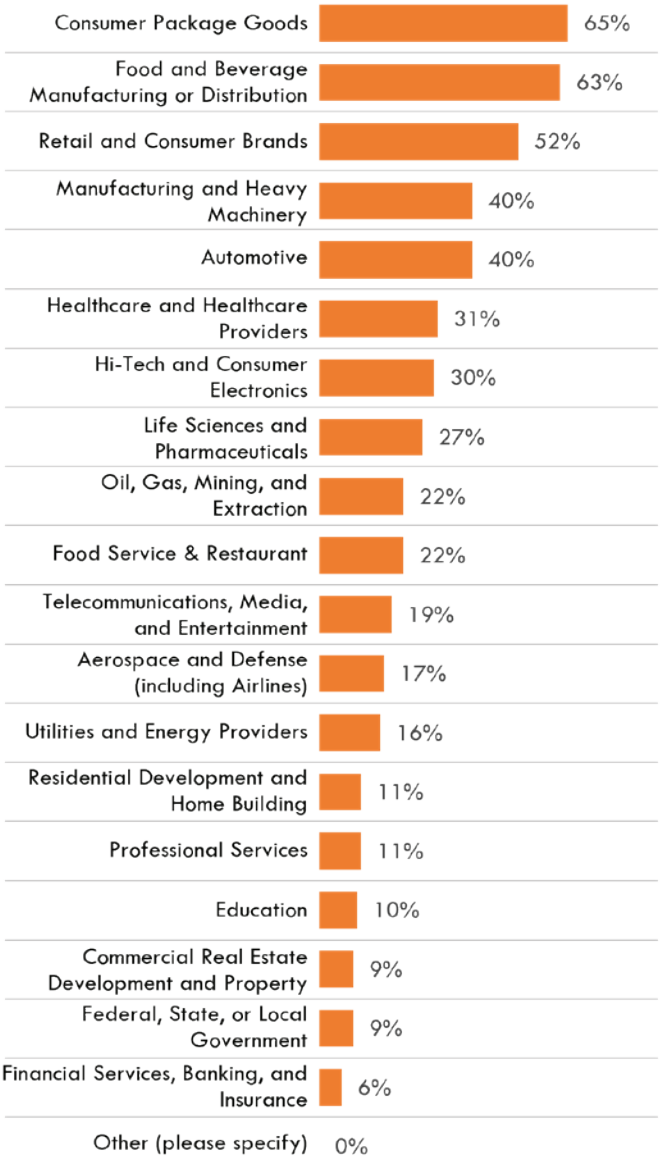
3PL executives and senior leaders responded to a similar, yet separate version of the survey. Since 3PL respondents tend to service multiple geographically areas, the study team asked them to select all major geographies for which they provide service (see Figure 52). North America continues to be the single largest service area at 75%, but all major geographies are represented.

Figure 52: 3PLs by Geography Serviced



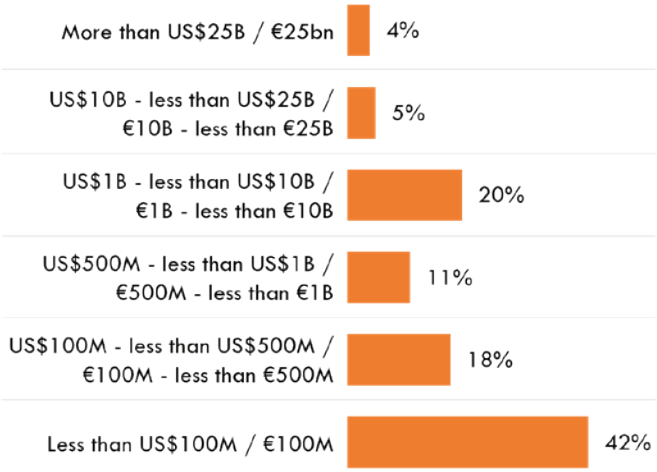
3PL respondents service a diverse group of industries, ranging from consumer- packaged goods (CPG) - 65% - to the financial services and insurance (FSI) - 6% - and government organization at the federal, state, and local segments - 9% (see Figure 53). Overall, 3PL respondents work primarily with those industries that have a direct-to-consumer element. These include retail, consumer brands, CPG, consumer electronics, and food and beverage.

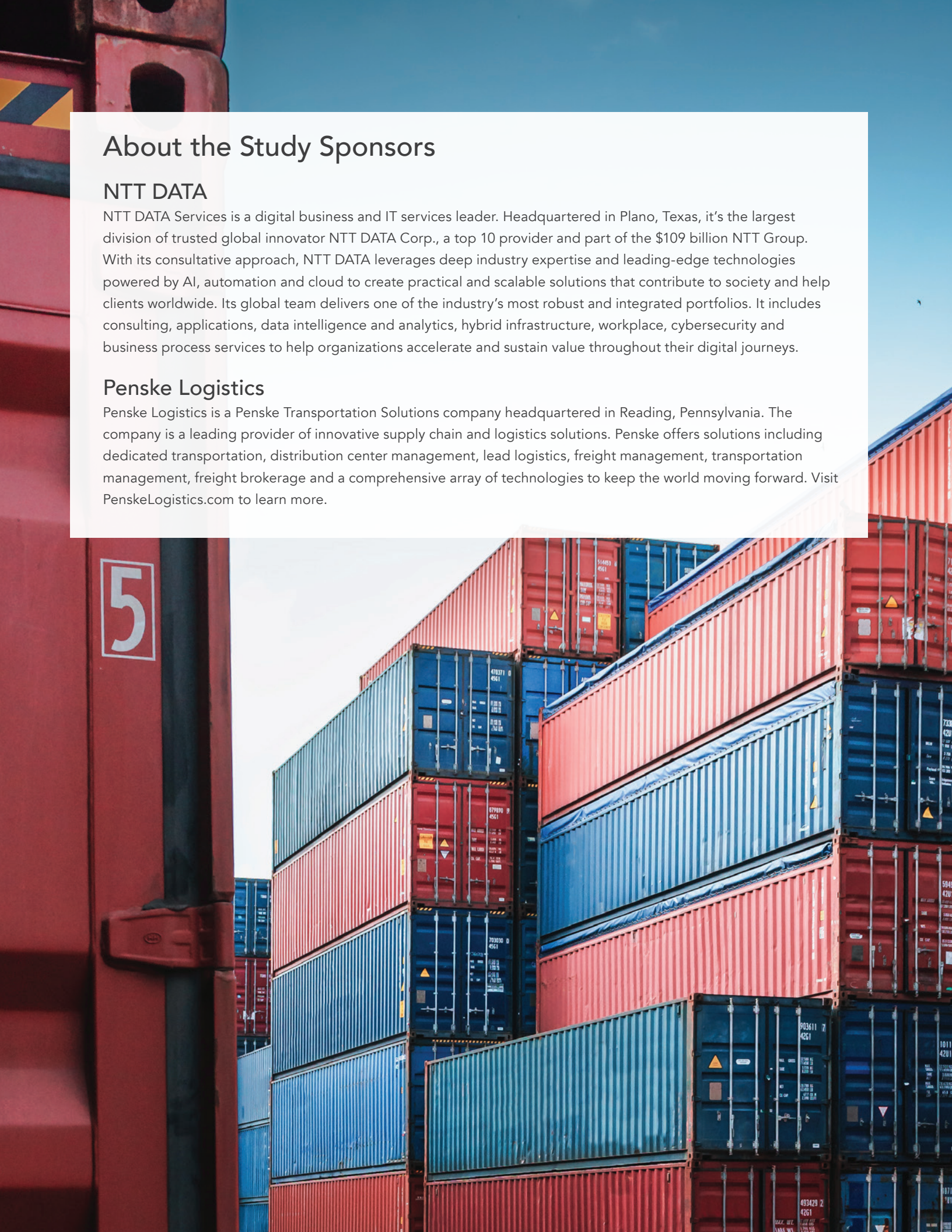
Figure 53: 3PLs by Industry Serviced



3PL respondents represented a diverse group based on total annual sales, with 29% of 3PLs reporting $1 billion in sales or greater this year and 42% reporting less than $100 million in total annual revenue (see Figure 54).

Figure 54: 3PLs by Total Annual Revenue





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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 at the Pennsylvania State University in University Park, PA. 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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