

The State of Supply Chain Execution 2021

In Partnership with Blue Yonder



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Foreword

Welcome to the 2021 State of Supply Chain Execution Report. After a year of uncertainty and constant adjustments, the second half of 2020 and the first half of 2021 turned out to be a year of opportunity, especially for companies with nimble and adaptive supply chains. Globally, companies want to know:

- ✓ Will the impressive growth in e-commerce brought on by the pandemic continue?
- ✓ What are the biggest supply chain execution/logistics challenges facing shippers (manufacturers and retailers) and logistics service providers (LSPs)?
- ✓ Will direct-to-consumer gain even more ground?
- ✓ Which technologies are getting attention and investments?

This year, we surveyed partners across the supply chain – retailers, manufacturers, LSPs, technology solutions providers, start-ups, and media associations – in order to gain a better understanding and prospective of the concerns, challenges and actions. “Change is constant” was true for supply chain execution before the COVID-19 pandemic and much more so during.

Our special thanks to all who took the time to take our survey as well as to **Richard Ebach**, CIO Americas, DB Schenker; **Jan Harnisch**, Global COO, Rhenus Logistics; **Rene Falch Olesen**, Group CCO, DSV Panalpina; and **Raj Patel** and **Jim Bralsford**, Senior Directors of 3PL Industry Strategy, Blue Yonder, for their contribution and insights into the survey findings.

Terence Leung

**Senior Director, Solutions Marketing, Supply Chain Execution
Blue Yonder**

Key Facts

E-Commerce

E-commerce is the most important driver in 2021 across all supply chain execution participants and their processes, technology and human resources. As a result of anticipated growth, shippers and LSPs are modifying their logistics footprints, engaging in digital transformation and renewing their business models.

Risk and Resiliency

The previously widely-ignored risk management and resiliency – in favor of efficiency and support of just-in-time production – are now gaining greater attention. There are concerted efforts to break down silos in supply chain execution operations to enable long-term strategies and actions in logistics infrastructure and technology, to ensure that future shocks will be minimized.

Technology and Innovation

The modern supply chain is especially vulnerable to external shocks. Greater visibility and orchestration over processes and suppliers makes managing risk and modeling shock scenarios for local and global disturbance easier and more effective.

Collaboration and Change Management

Industry 4.0 continues to accelerate transformations across all areas of the supply chain. Sustainability and ethical decision-making provide a framework and key objectives going forward into the new digital era.



Introduction: Executive Insight

Customer centricity, e-commerce, Direct-to-Consumer (D2C), and the risk of financial peril are propelling shippers (manufacturers and retailers) and Logistics Service Providers (LSPs) to **digitally transform**. Digital trends dominate industry and company discussions as all are seeing an overwhelming period of e-commerce growth that necessitates changes to survive and drive competitive advantages in the post-pandemic era.

2020 and the first half of 2021 saw an acceleration in many emerging digital trends pre-dating the pandemic. The first question many are interested to know is: will this impressive growth continue? Shippers surveyed noted that online sales increased more than 120% over 12 months and LSPs saw a 200% growth over the same period. A **majority of shippers and LSPs** agree that the growth rate will either stay the same or increase over the next 18 months.

This growth has sparked disruptions due to the lack of availability of raw materials, transportation capacity and visibility needed to produce and move essential products. Supply chain execution / logistics operations have risen to the occasion this year and last year in serving the changing needs of the economy during the pandemic while absorbing rapid changes in priorities and shocks in demand and supply patterns. With the expectation of continued growth, how can companies **enhance capabilities** rather than just throw resources at difficult situations?

In this report, we will observe that shippers and LSPs are renewing themselves to address the prevailing trends of customer-first and omni-channel. In this new environment, as brands and manufacturers gain digital maturity, they are converging upon D2C models to drive loyalty while retailers are branching out to push home-grown labels to consumers. **The rise of D2C is taking shape:**

- ✓ About half of the shipper respondents are declaring that they have a D2C model in place
- ✓ Shippers are beginning to get more help from LSPs and, in parallel, put the focus on micro-fulfillment centers

We believe that velocity and availability have become as important or more important than variety. This in turn has motivated the restructuring of transportation and broader logistics networks with an increased focus on last-mile delivery. The D2C model offers an opportunity for LSPs to fill the gap on delivery and fulfillment, as well as manage omni-channel strategies. A key reason for the aggressive D2C push from shippers over the past year is the realization of value that comes from having a direct connection to the customer.

By partnering with LSPs/3PLs, D2C brands can remove the time-consuming process of retail order fulfillment and focus on growth. With increased opportunities also come increased responsibilities and challenges for the LSPs to solve the shippers' problems. The LSPs surveyed expressed that:

- ✓ Integrating systems, end-to-end visibility and delivery agility are top of mind
- ✓ Warehouse capacity and limited infrastructure follow
- ✓ Last-mile factors are emerging

Supply chain risk and resiliency have gained greater attention in the past 18 months. Due to the lack of preparation that many companies had for both the pandemic and the resulting health crisis, there were many disruptions to different supply chain execution processes and operations. The survey results demonstrate a clear desire for businesses to build in a better focus on visibility, capacity and transparency to respond to issues and risks. Just-in-time (JIT) production chains enabled the development of cost-optimized supply chains. Yet, the over-emphasis on efficiency prior to the pandemic had caused companies to insufficiently address risk management, especially for logistics network risks outside of their four walls.

The **siloed nature of operations** has increasingly prevented businesses from accessing the data they need to make timely and wise decision in crucial moments. This presents much risk on the supply side. It is therefore very interesting to observe the top concerns for shippers and LSPs in their respective roles: for shippers it is *dual sourcing, sustainability programs, and carrier base diversification* and for LSPs it is *carrier base diversification, sustainability programs, and cybersecurity*.

There is a clear message about the importance of **diversification strategies and the necessity to tackle capacity shortages and prolonged lack of sustainability investment**. In terms of the urgency to improve processes, shippers are pointing to planning demand and getting adequate transportation and warehouse capacity as the top priorities. This is closely followed by catering to shifting customer expectations and improving integration and collaboration with supply chain partners.

To find out more about the actions that will enable shippers and LSPs to better serve this new era, we asked the respondents two questions about their investment in modern technologies and new approaches. First, both shippers and LSPs shared that changing customer demands and pressures to reduce supply chain costs are the top factors driving supply chain technology investment decisions. The next group of factors include sustainability, retirement of legacy systems, labor shortages, and competitive pressures.

Next, the survey respondents shared which technologies are yielding the **best ROI** currently and in the next 18 months. At present, investing in end-to-end visibility was a must for the majority of shippers and LSPs. A second clear trend is warehouse robotics. Artificial intelligence (AI) and machine learning (ML) are in third and fourth place. In the next 18 months, while it was felt end-to-end visibility will continue to yield the best ROI, it was not the highest priority; the stronger backing was with AI and warehouse robotics, followed by ML and blockchain. Another interesting thing to note, there is less evidence that drones, 3D printing, and autonomous vehicles will provide the best ROI at present or in the near future.

The rise of e-commerce has led to a dramatic improvement in inter-departmental collaboration and communication. To advance into a truly digital age, respondents informed us that the biggest challenges in the speed of new technology adoption included resources, resistance to change, leadership buy-in, and other factors.

With all of the above survey results, we strongly believe that attaining a more interconnected system (for example, by integrating key systems such as TMS, WMS and OMS) and successfully leveraging the power of AI/ML and robotics are irreversible trends. This way, supply chain execution operations can convert insight from end-to-end visibility into optimized and profitable action.

Methodology

A total of 589 supply chain professionals from around the world were surveyed between May and June 2021 for this State of Supply Chain Execution report.

The majority of respondents were from North America (40%) followed by Europe (34%) and APAC (26%). Information was gathered from retailers, manufacturers, logistics service providers, technology solutions providers, start-ups, and media associations. Their responses – analyzed anonymously – represent a broad perspective of the concerns and challenges surrounding supply chain with respect to transportation and warehousing.





Chapter 1: E-commerce

E-commerce is experiencing a well-documented golden age. Bolstered by the ongoing effects of COVID-19, during which global lockdowns shuttered brick-and-mortar businesses in many countries, e-commerce saw an overwhelming period of growth in 2020-2021, accelerating many emerging digital shopping trends pre-dating the pandemic.

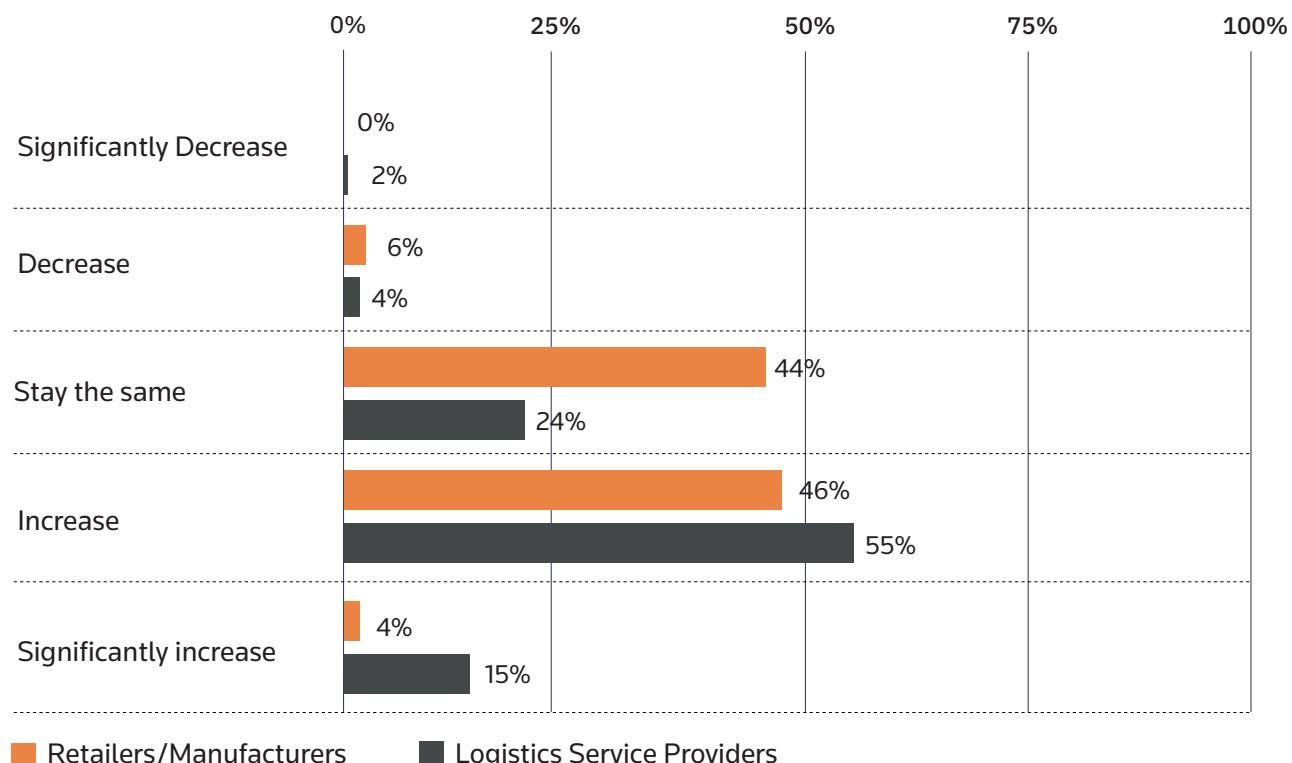
With experience-based consumption down due to enforced social distancing rules, consumers switched spending to in-home packaged goods. Such a switch came during a period in which debilitating constraints on the availability of raw materials, as well as transportation capacity, resulted in extreme supply side disruptions for many firms. Traditional pure-play brick and mortar retailers that had been reluctant to grow their online presence were forced to create or expand their e-commerce offerings, otherwise risking serious financial strife. This necessitated a restructuring of transportation networks with a vastly increased onus on last-mile delivery capabilities.

Rene Falch Olesen: Group CCO, DSV Panalpina

"In general, what we have seen in DSV is that e-commerce and direct-to-consumer (D2C) volumes have increased significantly. Already prior to COVID-19, e-commerce was the fastest-growing retail segment and this online sales trend has been boosted by the pandemic. Established e-commerce organizations benefitted from increased online shopping and more traditional organizations have in many cases accelerated e-commerce plans. Looking into the performance of our business, the impact has been greatest in DSV's Solutions division where volumes in e-commerce have almost doubled over the last year. The existing DSV customers have shifted to D2C and we have increased our respective customer base."

Online Sales Volumes

What extent do you expect e-commerce volumes to increase within the next 18 months/year?



Not only did the shippers we queried experience online sales increases in excess of 120% over the past year, but they also told us that elevated e-commerce demand would persist in the short to medium term, with a high degree of confidence that online sales would either stay the same as they are now (44%), or that they will increase (46%). Just 6% of respondents told us that they thought their e-commerce sales would decrease over the next 18 months, demonstrating an overwhelmingly positive outlook for the online space. Naturally, with relatively few shippers having in-house logistics capabilities, there has been increased pressure on LSPs to service these unprecedently high volumes.

Over the past year, LSPs have seen e-commerce volumes increase dramatically, reporting a 200% increase compared to 2019-2020. Furthermore, LSPs we surveyed were clear that these volume levels were here to stay, with respondents telling us that this was either expected to be the new normal for the next 18 months (24%) or, as was the overwhelming consensus, that volume would increase or significantly increase (70%). E-commerce shows no sign of slowing down.

Naturally these existing volumes and the anticipated increase in volumes offers a sizeable opportunity for contract-logistics companies. In addition to the large incumbent players, there are now an increasing number of well-funded start-ups fighting for space in what has always been a historically fragmented market. More specifically, many online brands are looking to either set up or expand their D2C capabilities, offering large commercial opportunities for the aforementioned logistics companies.

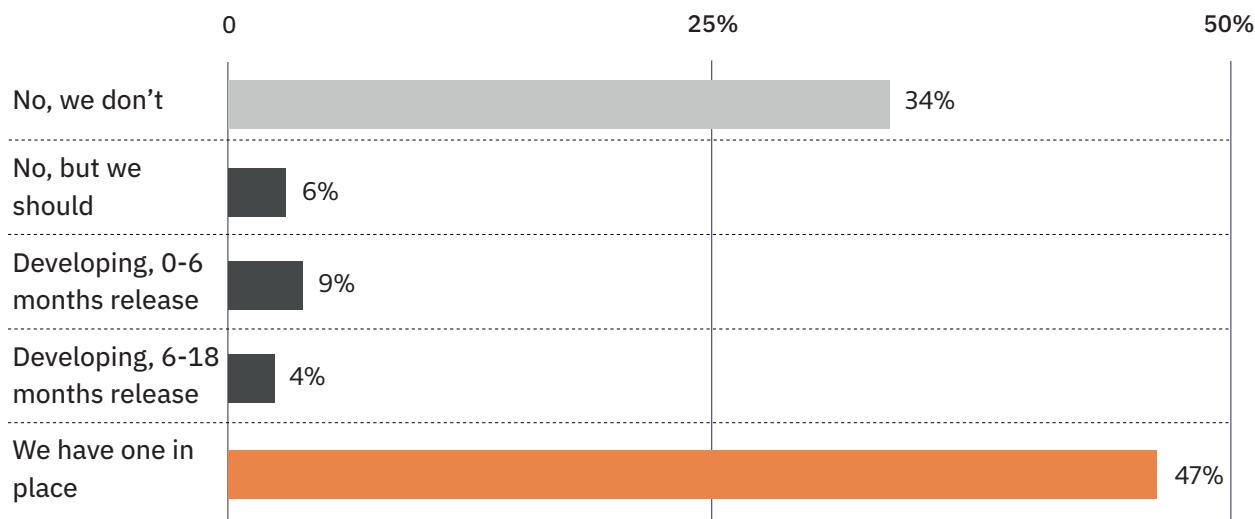
The challenge presented to legacy brands operating multiple customer channels (B2B, B2C, D2C, B2B2C) is the need to manage a complex and growing web of customer touchpoints. The increased volume of orders seen during the latter half of 2020 and early 2021 further compounded the complexity of omni-channel fulfilment, driving up labor and inventory costs and demanding more agile warehouse operations.

Direct-to-Consumer

The rise of D2C has raised a number of challenges for brands compared to traditional B2B logistics. While the latter deals with high volume palletized orders to few customers, D2C orders are usually single-pick items, personalized and with potentially vast amounts of customers. Existing warehousing solutions are rarely primed to handle this shift, leaving consumer product manufacturers burdened with the increased cost induced by handling and shipping single-pick items.

The D2C model thus offers an opportunity for LSPs to fill the gap on delivery and fulfilment, as well as managing omni-channel strategies. By partnering with a 3PL, D2C brands can remove the time-consuming process of retail order fulfilment and focus on growth. Part of the aggressive D2C push from retailers/manufacturers over the past year is due to the realization of the value that comes from having a direct connection to the customer. Increased engagement with the end consumer can be leveraged to develop a wider proposition and build brand loyalty.

Do you have a Direct-to-Consumer model in place? (Retailers/Manufacturers)



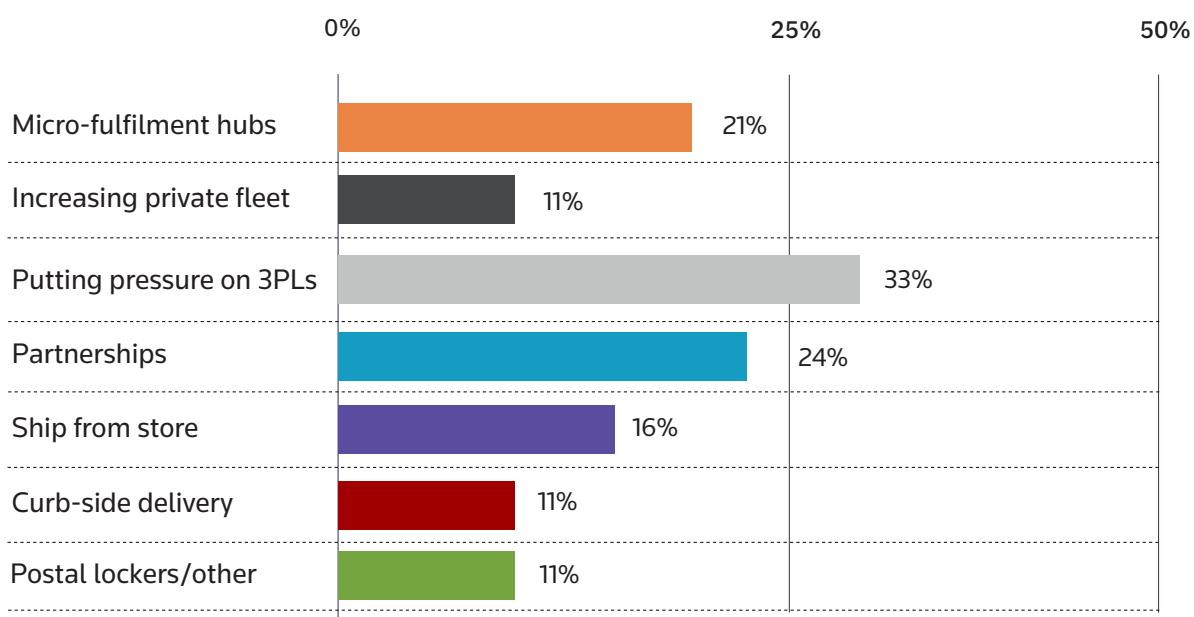
47% of shippers surveyed have a D2C model in place, with a further 13% in the process of developing one, while 6% believe they should have one. Our LSP respondents further compound this pro-D2C outlook, giving a score of 8/10 to the question: "Direct-to-consumer will be a pivotal sales model for retailers/manufacturers, within the next 18 months." To what extent do you agree?

While shippers gave a 5.2/10 score to this, it's clear there is a strong consensus on the importance of D2C in a modern brand's arsenal.

Jan Harnisch: Global COO, Rhenus Logistics

"In current market conditions, transportation space is the limiting factor, not price. However, clients may not understand the complexities in moving their cargo as this pandemic situation is almost unprecedented. Achieving the same speed and reliability as pre-COVID-19 times are not always possible."

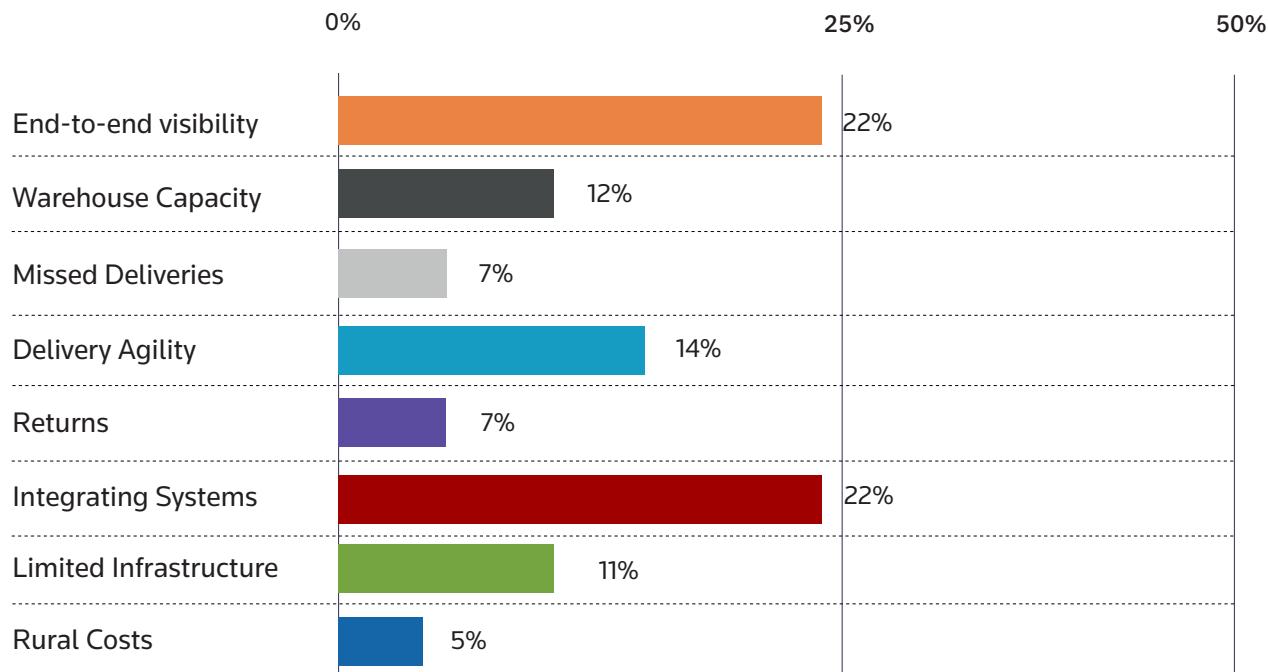
How are you addressing D2C? (Retailers/Manufacturers)



Note: Respondents could select multiple options

Those who are pursuing D2C sales models in their business informed us of a variety of approaches. The main approach shippers are taking is to put pressure on their 3PLs to provide improved service levels and competitiveness. Indeed, partnering with small micro-fulfilment players in the space appears to be a productive strategy (21%). Often, micro-fulfilment centers may specialize in cube storage and multi-shuttle, as well as investing in automation, lowering operational cost, and providing greater flexibility and scalability than traditional warehouses for high-speed, single-unit picks. Alternative strategies also often overlapped, with companies building out infrastructure to facilitate a wide range of delivery drop-off and pick-up systems including: curb-side delivery (11%), ship from store (16%) and building out postal lockers and other alternative delivery locations (11%). 11% of respondents were also increasing their private fleet footprint in order to make up shortfall in service from their 3PLs.

What is your biggest challenge in e-commerce logistics? (Logistics Service Providers)



Of the LSPs surveyed, we found that the biggest challenge they faced in e-commerce logistics was the longstanding issue with end-to-end visibility (22%), which, when coupled with the piecemeal nature of backend systems, proved to be a large challenge for many. The need to streamline and integrate systems is a growing priority given the increasing complexity and need for optionality in the modern logistics world. Naturally, improved digital systems would offer the ability for LSPs to provide improved delivery agility. With the rise in D2C and single-pick, route optimization and organized packing has become an ever-growing concern, especially in dense cities with increasing traffic restrictions. In contrast, rural costs were only a challenge for a handful of respondents (5%).

Furthermore, the last mile has seen several issues over the past year. Increased volume has meant more missed deliveries (7%) and higher returns (7%) from online customers. However, 11% of our respondents said that limited infrastructure was holding them back from improving in this area, whether it be for using brick-and-mortar as pick-up/drop-off points for returns or as a holding location where warehouses are distant or facing capacity issues (as 12% of respondents noted).

Investing in the technical backend to support these processes and make data visible is a must. The ability for an LSP to offer a dynamic service to their customers with clear communication is a product differentiator that has allowed companies to move away from the transactional price-first approach that has been present in the logistics industry for many years.

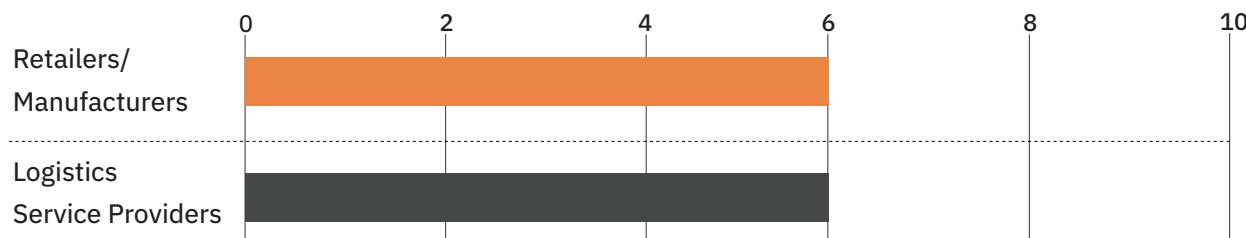
Rene Falch Olesen: Group CCO, DSV Panalpina

"The main challenge in e-commerce logistics or e-fulfillment relates to resilience and flexibility, due to dynamic consumer behavior. We see low-entry and flexible and standardized automation within the logistics hotspots close to large populations as a key to responding to this challenge. With the increase in online shopping, we have experienced that the number of returns has increased significantly. This is adding pressure on warehouses and the respective courier networks that execute these returns."

Finally, a short-term challenge concerns the re-opening of societies post-COVID-19. When lockdowns ease and retailers further open stores, demand increases in an already challenged logistics market where we have seen freight delays and many complications in the last months."

Chapter 2: Risk & Resiliency

How robust are your supply chain risk management processes? (1-10, 10 being very robust)



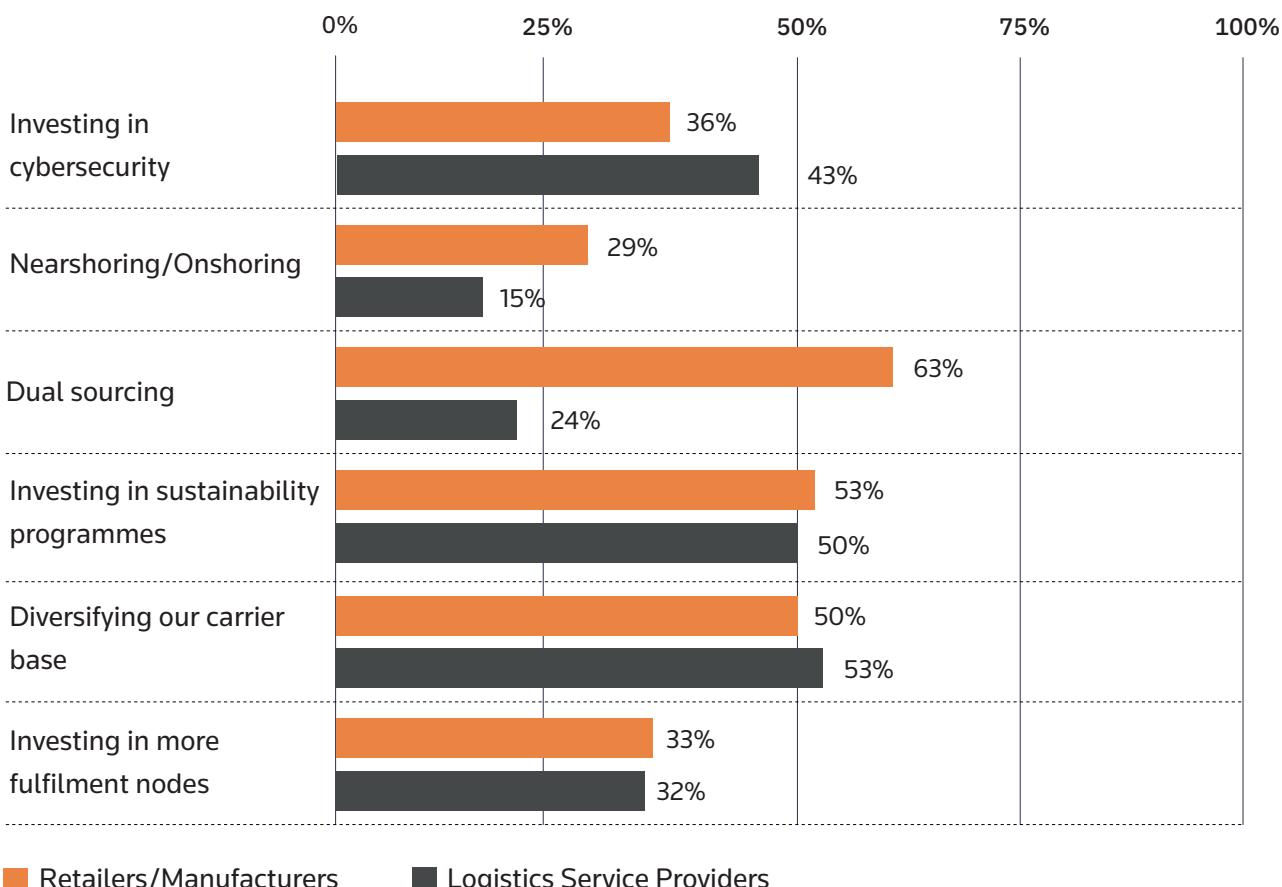
Risk and resiliency. Two of the most mentioned words in supply chain discourse over the last 18 months, primarily due to the lack of preparation many firms had for the pandemic and the secondary impacts of the health crisis.

On the whole, our respondents across shippers and LSPs felt that their supply chain risk management processes were typical, scoring them a 6 on average. While different value chains operate at different levels of exposure to shocks than others, our survey demonstrated there is a clear desire for businesses to build back better post-COVID-19. Focus on planning and an increased capacity to respond to risk, which is often found by improving visibility and transparency over the supply chain, will help to reassure both retailers and customers in precarious moments.

With supply chain being traditionally seen as a cost center, shippers had made a concerted effort to streamline their operations as much as possible to reduce inventory storage costs. The rise of just-in-time (JIT) production chains has allowed for price reduction and more efficient, integrated, and cost-optimized supply chains. Unfortunately, it has also allowed companies to neglect adequate risk management as extra-network risk sits outside of their control. The siloed nature of operations has increasingly prevented businesses from accessing real-time data, inhibiting decision making in crucial moments and opening them up to risk on the supply side.

Replacing legacy systems becomes ever more necessary as both retailers and consumers demand greater transparency and clarity over the status of their goods. The inability of companies to reconfigure their operations in view of prior, lower-scale shocks (such as the disruptions as a result of SARS in 2003), so that they are adequately immunized against larger scale events in the future. This failure to learn from the past was brought into sharp focus during the spread of COVID-19, as global supply-side disruptions quickly caught up to businesses who had undervalued risk management in favor of profit maximization and cost minimization.

What supply chain risk management processes are you currently investing in?



Note: Respondents could select multiple options

The pandemic made many question the centrality of China to their operations, intensifying recent calls for a shift in production and sourcing. However, this is easier said than done, as the cluster of skills and agility needed to match the growing complexity of global production are not easily found elsewhere. Indeed, despite increased talk of near/onshoring during the early months of the pandemic, our respondents indicated caution in pursuing such plans, with just 29% of shippers citing investment in near/onshoring. New locations must be strategically chosen and distributed effectively to mitigate the impact of any localized shocks in any particular country. While the regional concentration of trade can enable companies to make strategic choices with respect to production, any decision must be future-facing and primed for resiliency to potential risk, rather than focused on cost optimization and financial incentives offered by governments.

Despite lingering questions over the value of near/onshoring, both LSPs and shippers made it clear to us that diversification strategies were being prioritized when it comes to risk management. 63% of shippers told us that dual sourcing was a favored strategy for risk management moving forward. This comes as no surprise, material supply constraints proved to be a considerable challenge during the pandemic, even for those with distributed manufacturing facilities.

Raj Patel: Sr. Director, 3PL Global Industry Strategy, Blue Yonder

"When we think of risk management, cybersecurity is often front and center of people's concern, often for good reason. However, risk management involves a much more expansive appraisal of your business. For example, sustainability issues can expose you to financial and legal risk, just as single-sourcing can heighten exposure on the supply side. Building resiliency and agility in the supply chain requires a comprehensive understanding of risk."

Furthermore, with transportation networks strained, many companies have struggled to source capacity. The traditional approach of relying on a small group of carriers to move your freight is no longer appropriate. As such it is no surprise to see 50% of shippers looking to diversify their carrier basis.

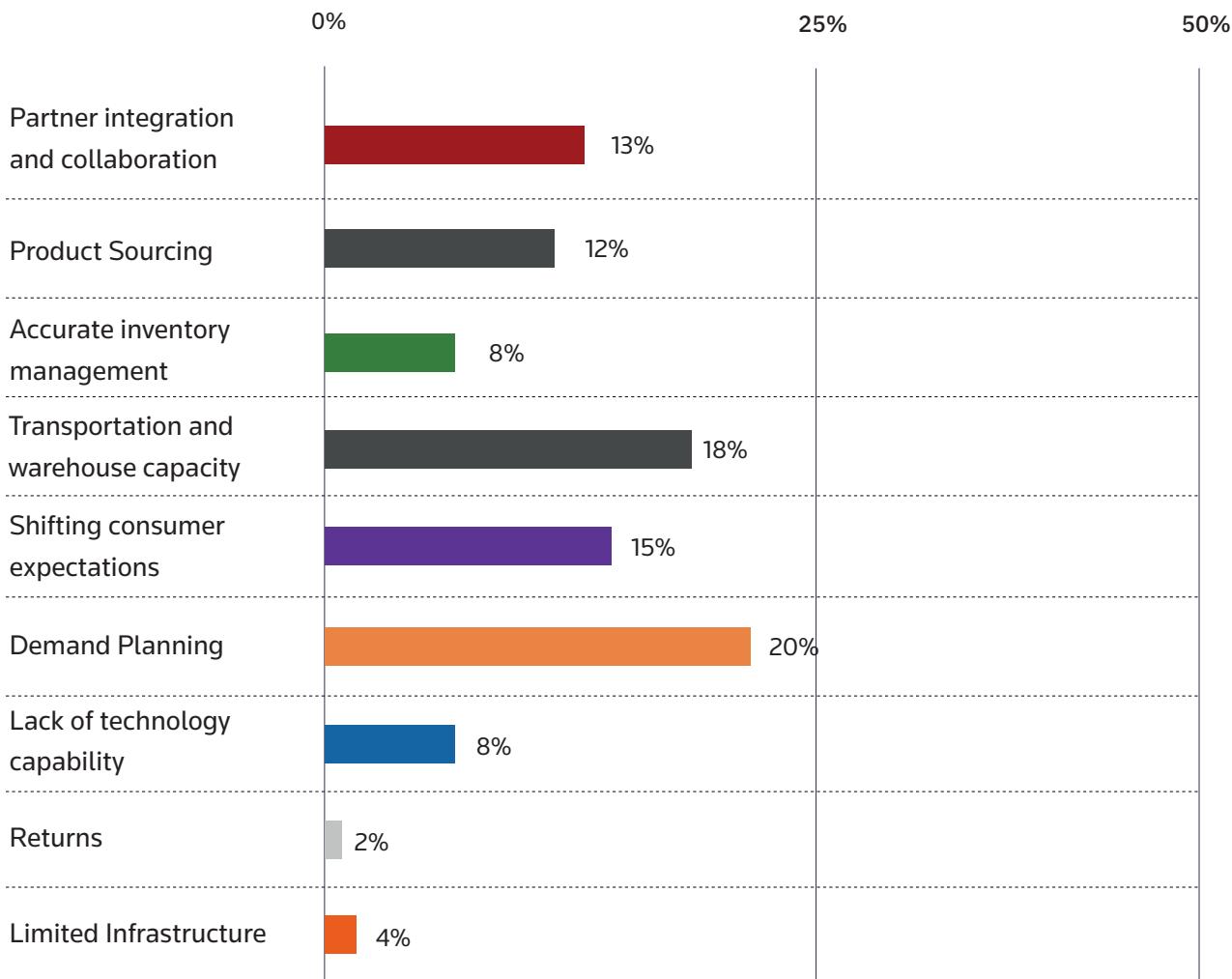
In addition, while many firms have focused on “keeping the lights on” during the pandemic, some companies may be forgiven for neglecting sustainability initiatives. However, as our survey results indicate, environmental concerns must also be taken into account when planning for supply chain risks. Here companies can be active participants in trying to reduce the future impact of such exogenous shocks by ensuring sustainability is a primary concern behind business logic, whether this is with electric vehicles or route optimization. Over half (53%) of our shippers and half (50%) of our LSPs told us that they were investing in sustainability as a strategy for risk management.

The past few years have seen logistics companies recognize the importance of cybersecurity in their operations. With prominent supply chain attacks and ransomware demands increasing in frequency in recent months, it comes as no surprise that 36% of shippers told us that they were investing in cybersecurity as a risk management strategy. LSPs followed a similar tack with almost half (43%) of all respondents citing cybersecurity as a key investment area moving forward.

Raj Patel: Sr. Director, 3PL Global Industry Strategy, Blue Yonder

“COVID-19 has created an abnormality that cannot be predicted. Reliance upon historical data must give way to dynamic forms of demand planning and organization around the planning function, including: forecasting, model planning, and sales & operation planning (S&OP). It’s essential we move to more of an end-to-end supply chain process, where everything is joined up. This is the only way that we can respond dynamically to disruption.”

What is the biggest challenge that you have in your supply chain execution processes? (Retailers/Manufacturers)



Our shippers told us that the biggest challenge they faced in supply chain execution was found in demand planning (20%). As previously noted, the past year has seen extraordinary shifts, both in customer demand and consumer expectations (15%). However, it has been fettered slightly by issues with product sourcing (12%) and by a lack of transportation and warehouse capacity (18%).



Chapter 3: Tech & Innovation

Omni-channel

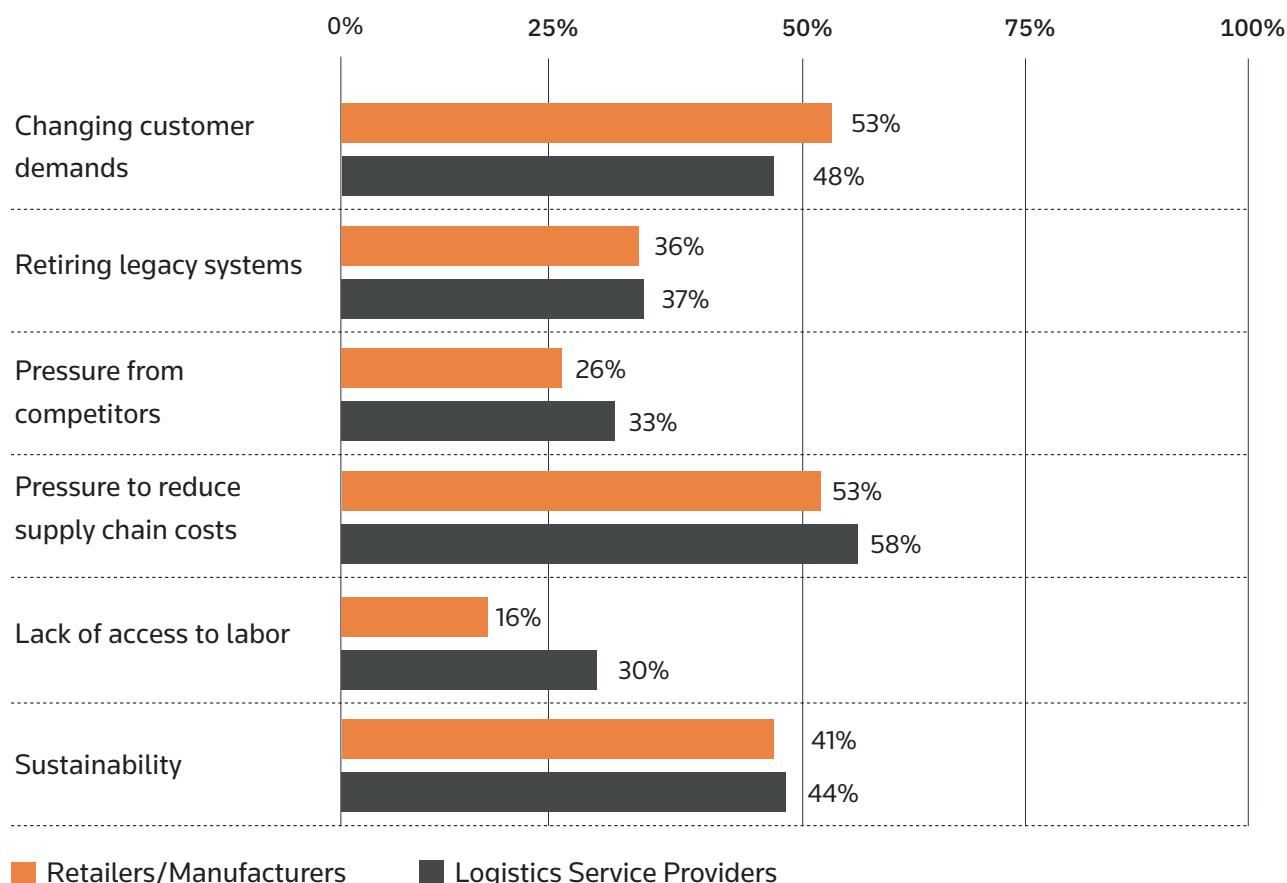
In order to maximize omni-channel opportunities presented by the growing volume of e-commerce sales, contract-logistics companies must offer up unique services that meet the needs of e-commerce and traditional retailers. In order to do so, investment in modern technologies and new approaches is essential for businesses looking to adjust to changing trends and customer expectations.

At minimum, companies must seek to have a more holistic technical infrastructure in place. Integrating the WMS, TMS and OMS is essential. While the digital logistics landscape is still relatively nascent, contract-logistics companies can use this fractured space as an inroad. By providing integration capabilities for customizable and modular approaches to ERP systems and modern e-commerce platforms (through open APIs or extended support for legacy tech stacks). An interconnected system is much more capable of converting insight into action. Though it is worth being cautious so as to not over-analyze and over-respond to granular changes surfaced in such occasions, especially in automated workflows. By instituting experienced human oversight with automated analysis systems you can ensure that experienced and responsible judgement is matched with efficient and responsive action, ensuring that an expansion of insight does not induce an abdication of oversight.

Raj Patel: Sr. Director, 3PL Global Industry Strategy, Blue Yonder

"As a legacy retailer, if you weren't thinking omni channel 18 months ago, or even before COVID-19, then you were already behind the game and are probably struggling to keep up. Given what we're seeing now, where your online sales could be 15 to 20% of your overall sales, it is important for retailers to have a strategy in place for omni-channel fulfillment."

What's driving investment in supply chain technologies in your organization?



Note: Respondents could select multiple options

As we have found throughout this report, 2020 and the first half of 2021 have proven to be full of intense changes in the logistics industry, with long-awaited digital transformation in full swing. As companies try to refocus their efforts on a new consumer landscape shippers told us that one of the main drivers of investment was changing customer demands, with 53% of respondents noting that fluctuating consumption patterns and growing expectations from customers had exerted a force on investment.

Elevated consumer demand and sales volume has placed extra pressure on shippers to reduce supply chain costs (53%) as they strive to remain competitive with the rising class of digital-first disruptors and other digitized competitors in the market (26%). The uptick in volume has come at a time when companies are increasingly dealing with labor shortages, a factor which 16% of our shippers and 30% of LSPs have found to be driving investment in supply chain technologies in order to compress this timeline period between legacy systems and a digital-first approach.

Indeed, the drive towards greater visibility and efficiency in the name of competition pushes organizations to retire legacy systems in order to embrace greater degrees of automation and data-centric workflows, with an emphasis on real-time visibility. These drivers also have secondary impacts from LSPs, who told us that their greatest driver of investment was pressure to reduce supply chain costs (58%) while also improving service levels for their retailer customers (48%). 37% of LSPs have taken this as an impetus to invest in a move away from legacy technology in their organization as, like the retailers and manufacturers we surveyed, the combination of customer pressure and competitor pressure (33%) has necessitated a move towards digital-first practices.

Jan Harnisch: Global COO, Rhenus Logistics

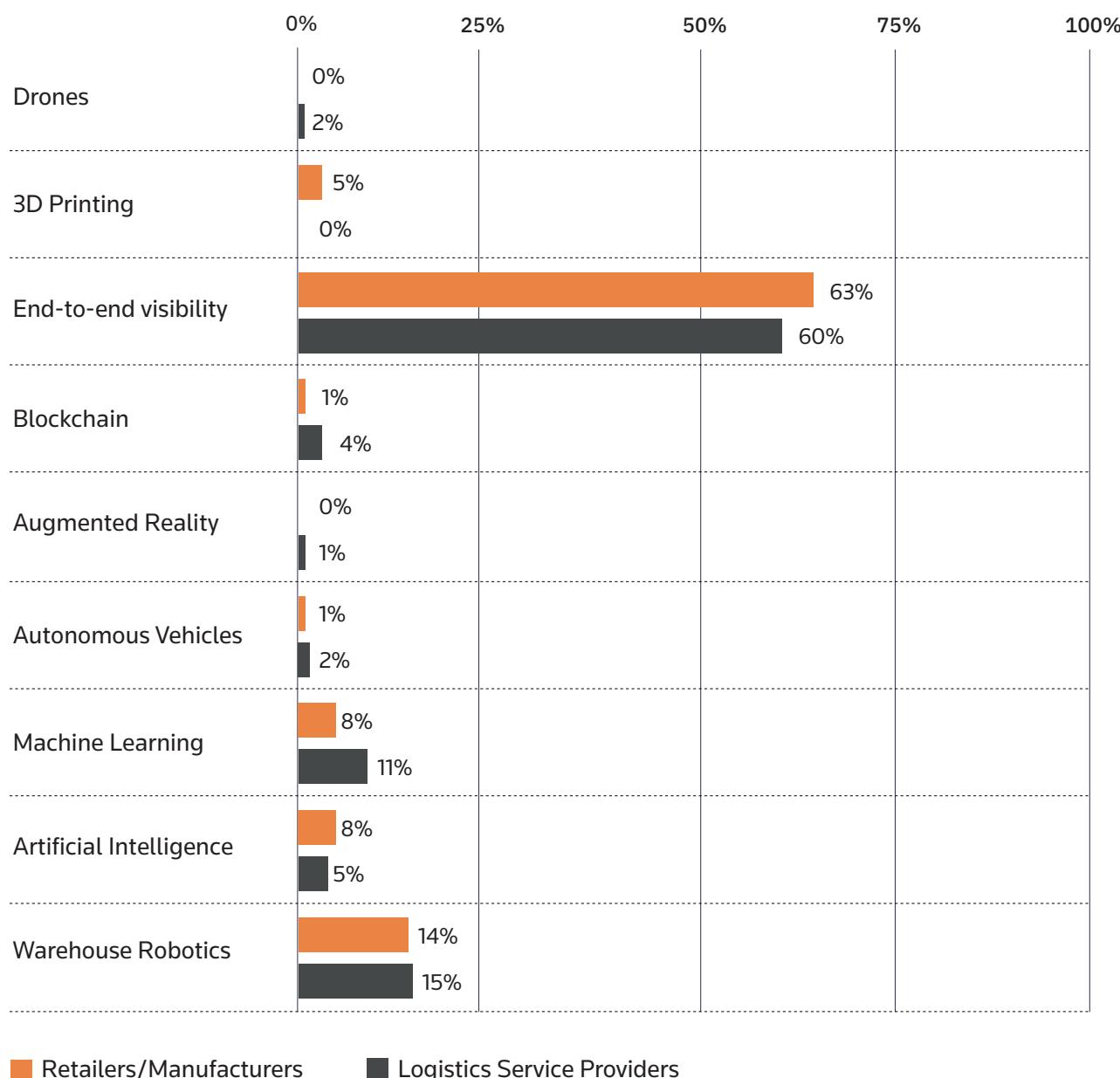
"At Rhenus, we invest in technologies to gain efficiency in the work processes, provide transparency and accuracy in the system especially when it comes to the improvement of data quality for both internal stakeholders and external (customers)."

The growing share of e-commerce sales is also tied to rising urbanization around the world. Higher order volumes have butted up against increasing urban access regulations as public administration stakeholders struggle to balance the high ecological impact (noise, emission and particulate matter pollution) as a result of increased shipments to densely populated metropolitan area. To this extent sustainability was a key feature for both shippers and LSPs alike, with 41% and 44% respectively citing it as an investment driver. Businesses have to find ways to adapt to this new environment and, whether it is through alternative energy vehicles or automation in micro-fulfilment centers to facilitate a shorter roundtrip for deliveries and returns, sustainability now requires a greater level of investment and focus than previous years.

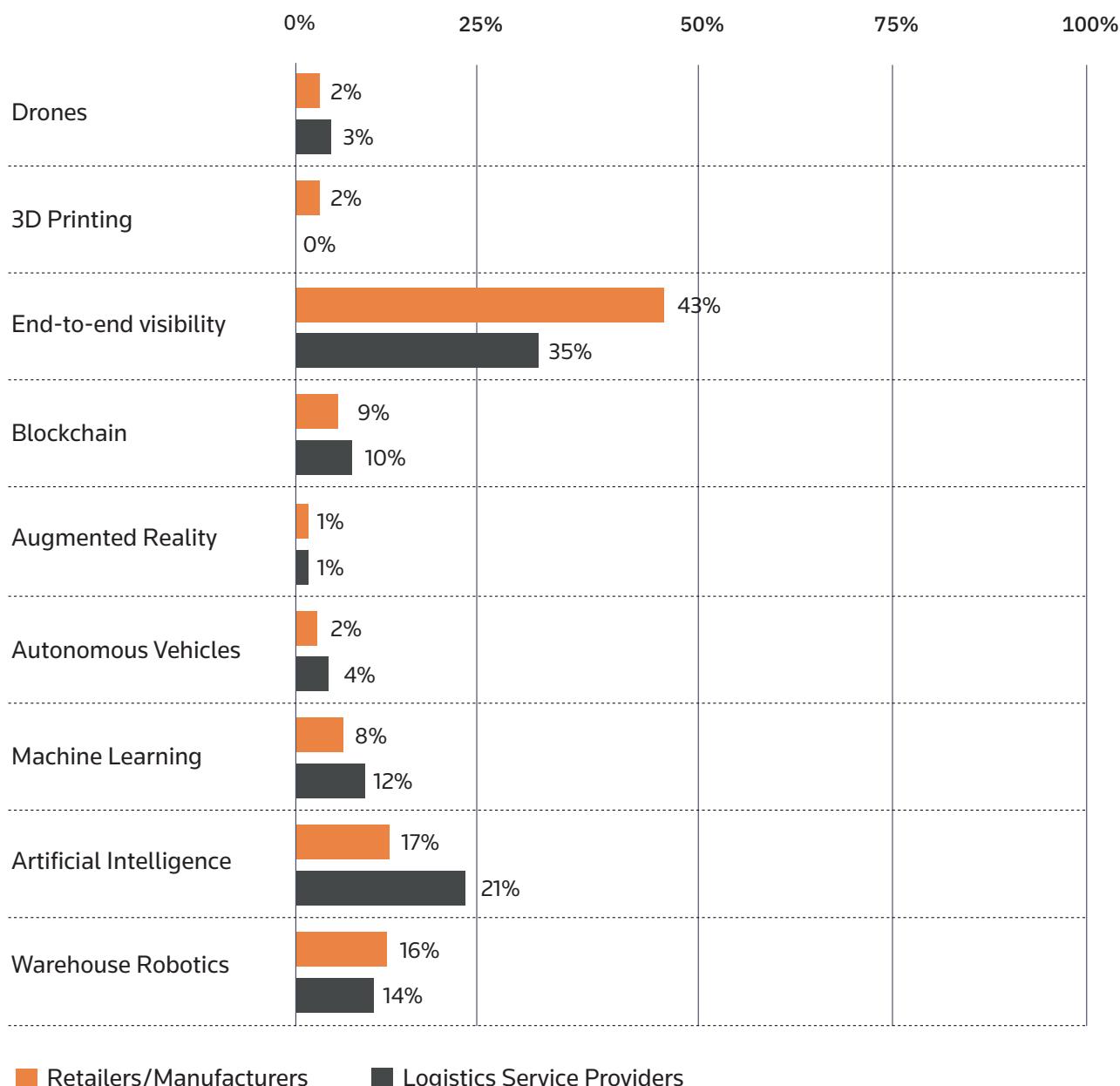
Jesper Riis: Group CIO, DSV Panalpina

"As a global digital and platform-based freight forwarder, DSV is continuously digitizing our products and services to be able to accommodate our customers with the most user-friendly, up-to-date and secure services. That's, of course, DSV priority number one. Overall, our aim with the investments in technology is to increase operational value through higher efficiency, increasing the data quality and 'integrations at pace' where we integrate both traditional on-premise, as well as cloud architectures. Furthermore, focus is on improving governance and transparency. Whenever we assess investments in new technologies, for instance, in the IT landscape, another objective is to make sure we can scale it and that it supports standardized IT platforms in our vast, global organization."

Which of the following technologies is yielding the best ROI in your current supply chain execution processes?



Which of the following technologies do you expect will yield the best ROI in your supply chain execution processes in 18 months?



With a total of 63% and 60% respectively, both our retailer/manufacturer respondents and LSPs overwhelmingly concurred that end-to-end (E2E) visibility is currently yielding the best ROI in their supply chain processes. Furthermore, both groups felt that it would continue to yield the best ROI in the coming 18 months (43% and 35% respectively).

Richard Ebach: CIO Americas, DB Schenker

"In the current supply chain environment, companies need good visibility into their transportation/freight and partners that help them operate in a very agile, resilient manner. Knowing this, we've been investing in technology that provides good visibility for customers and their operations; tools that support enterprise agility; supply chain automation solutions; and zero-trust IT security tools. Combined, these technology solutions help our customers address their most pressing supply chain challenges while also helping them build stronger, more resilient organizations for the future."

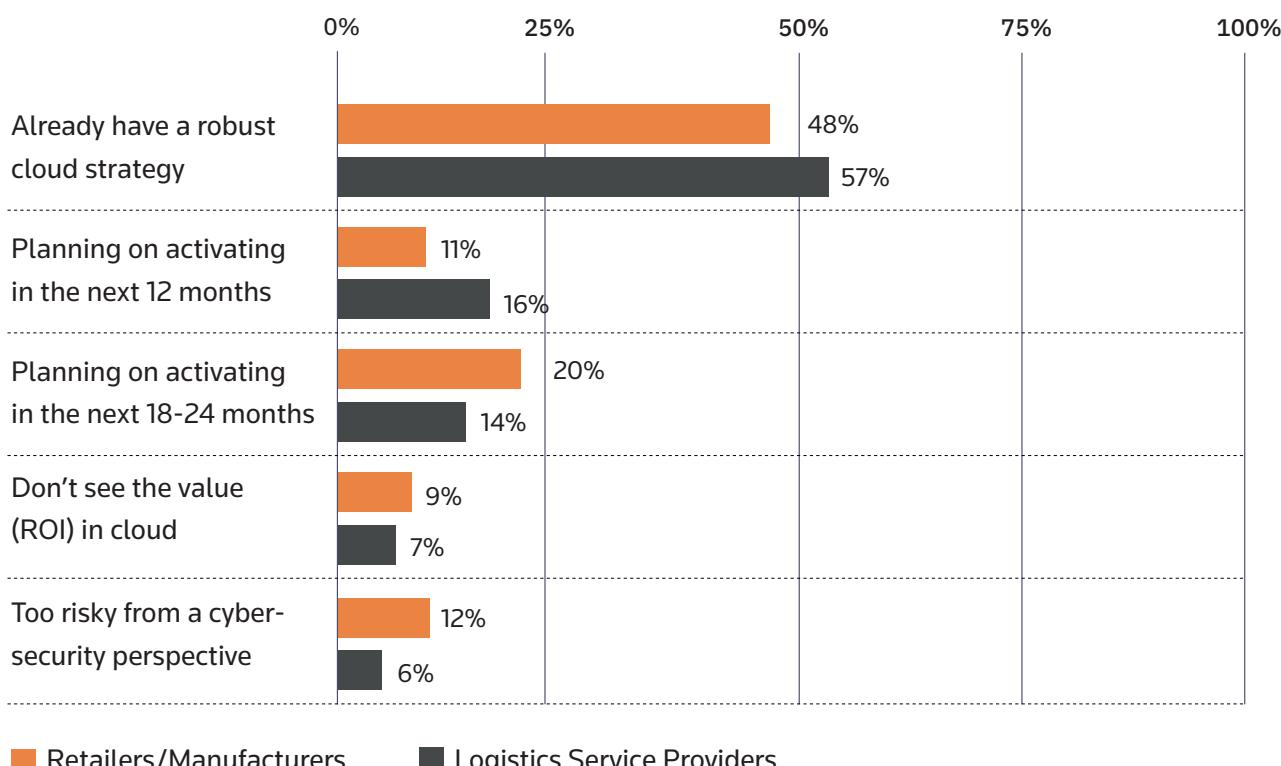
As is familiar to many by now, access to more information, whether it be real-time inventory data, supplier information or warehouse capacity, has the ability to foster a productive and insightful decision-making process. When supplemented with ML and AI technology, this data can become a powerful aid for businesses looking to make better predictions and plan more effectively.

Jim Bralsford: Sr. Industry Strategies Director, EMEA, Blue Yonder

"The key to me is visibility of your supply chain. A reflection of the supply chain in a digital format, 'the digital twin.' You can only assess and overcome a particular issue, if you can see what's actually happening, when it's happening. This highlights the need for systems to be working together. We evangelize and execute unified logistics and not working in silos. Working in silos is inevitably going to cause inefficiency. Given the challenges in modern supply chains, that's an issue that absolutely must be overcome so you truly have that end-to-end visibility of your supply chain."

Furthermore, as E2E visibility improves, so too does the ROI on infrastructure investments such as ML, which aid with intelligent data-centric decision making. Better, more current data will bolster the ROI on predictive analytics for decision making, inventory management and demand planning. Drones and blockchains, both much touted and seldom piloted, are not currently seeing much ROI in supply chain execution processes for shippers and LSPs. While blockchain is yet to produce much ROI for many, there is still an expectation that in the near- to medium-term it will begin to produce a substantial ROI for at least 10% of shippers and LSPs.

Does your company have a cloud strategy?



The majority of shippers and LSPs we surveyed were already invested in a cloud strategy. 48% of shippers have a robust cloud strategy, with 31% planning to activate a cloud strategy either in the next 12 months (11%) or the next 18-24 months (20%). This was mirrored by our LSPs, with 57% telling us that they have a robust cloud strategy in place, and a further 30% planning on activating one in the next 12 months (16%) or the next 18-24 (14%).

There was some hesitancy, as a minority of respondents fail to see the ROI in cloud strategies (9% shippers and 7% LSP), or found them too risky from a cybersecurity and reliability perspective (12% shipper and 6% LSP).

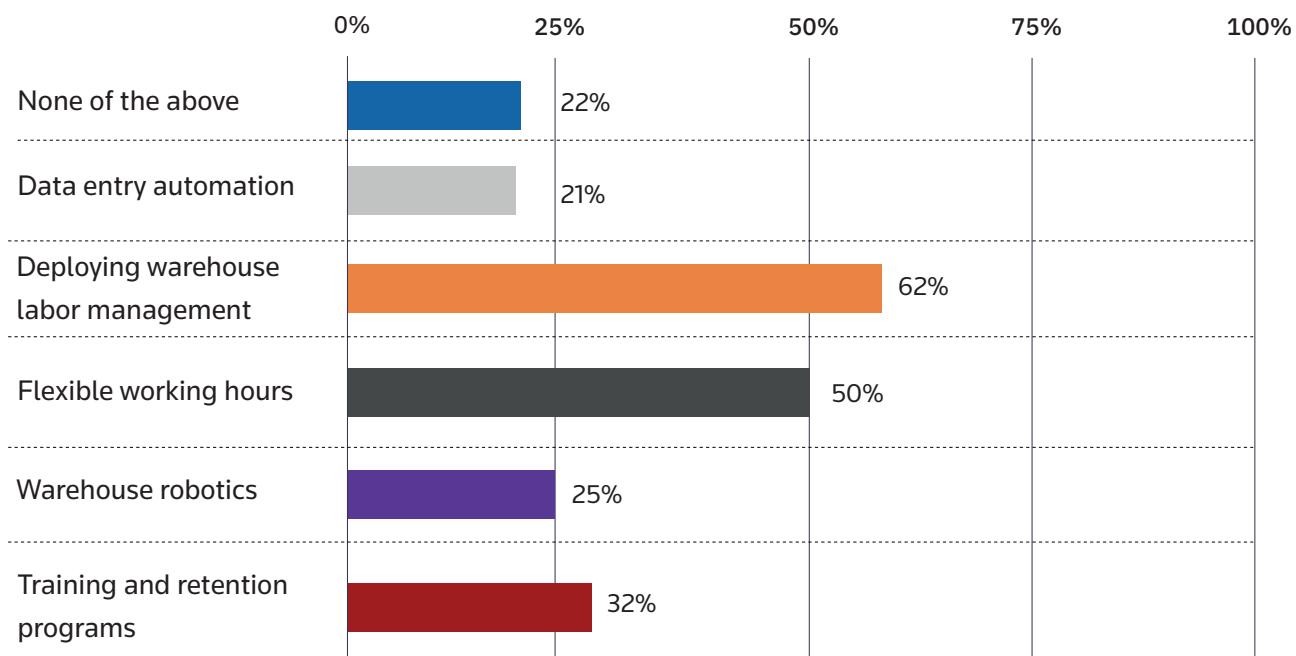
Richard Ebach: CIO Americas, DB Schenker

"We have a hybrid cloud strategy focused on GitOPS, IT security and infrastructure agility. Through GitOps, developers are empowered to perform tasks which would generally fall under the purview of our IT operations. Our IT security team is also continually looking for ways to leverage cloud as part of our overall IT infrastructure, knowing that doing so can help create high levels of infrastructure agility that on-premises, legacy technology systems can't achieve. Like most companies right now, we're continually looking for new ways to leverage the cloud and create more agile, flexible systems that can scale up along with us as we grow, expand, and serve a larger customer base."

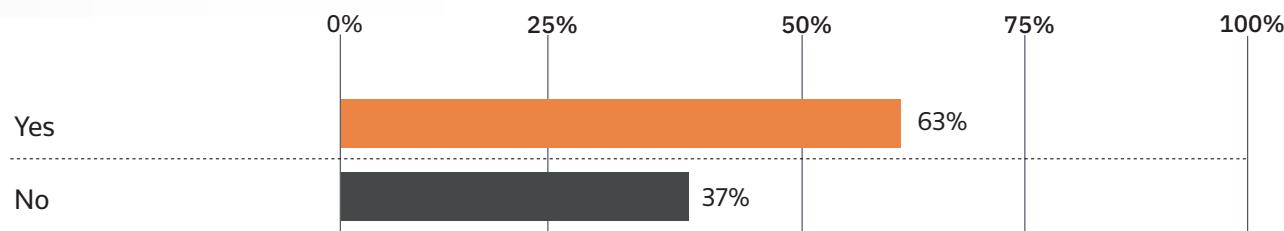
Chapter 4: Collaboration & Change Management

The rise in e-commerce activity over the last 12-18 months has led to a dramatic improvement in inter-departmental collaboration and communication. The high penetration of e-commerce trends, guiding the shift towards omni-channel, has required the industry to break down the walls and decrease the operational silos within the business. Part and parcel of doing so is the adoption of new technologies to facilitate greater collaboration. Forecasting can only do its job if warehouse management backends are providing accurate inventory data; all of this needs to be brought together in a digestible format, whether it be automatically generated analytics reports, or real-time data visualisation in company-wide dashboards. Continuing to operate as distinct entities, where the head doesn't know what the arm is up to, is no longer feasible; businesses who fail to adapt to these interdependent and collaborative models - facilitated by new technological interventions - are seeing a loss in market share and struggling to catch-up.

Are you employing any of the following labor strategies? (Retailers/Manufacturers)



Note: Respondents could select multiple options

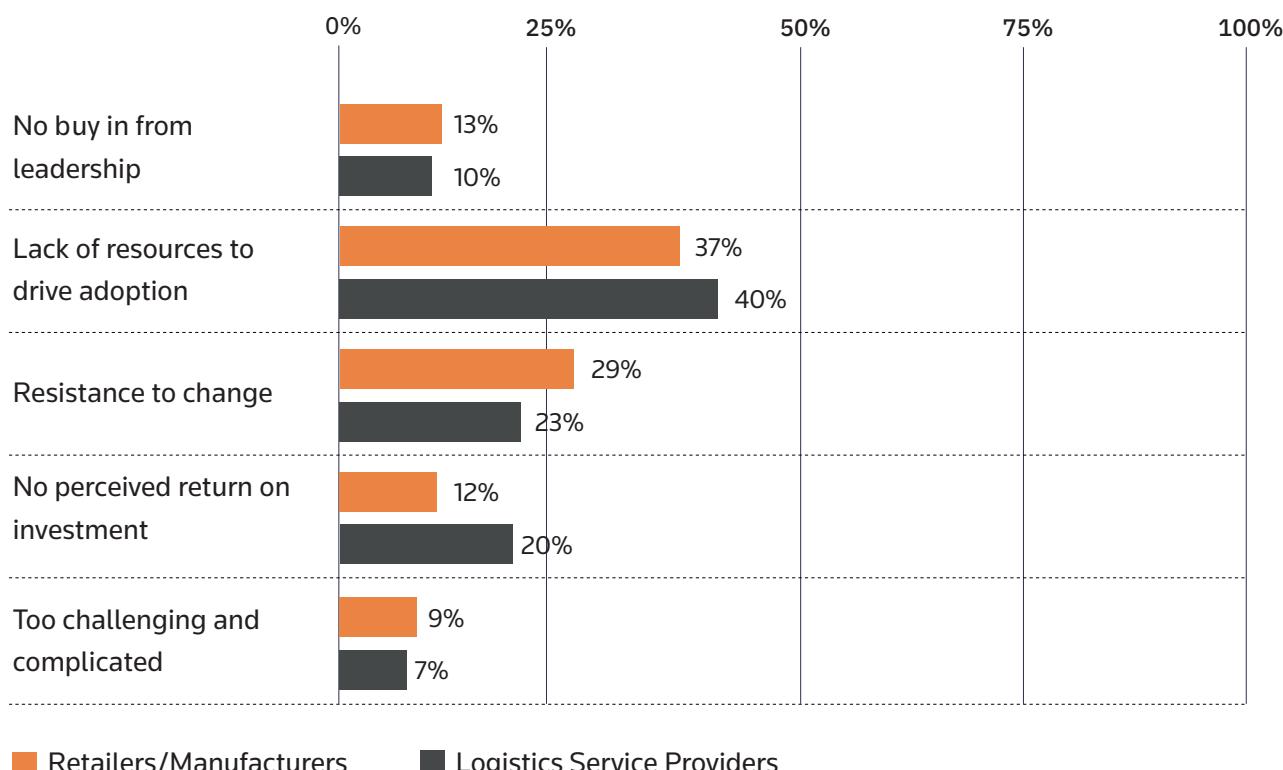
Has the availability of labor negatively impacted your operations in the past 12 months? (Retailers/Manufacturers)

The majority of retailers and manufacturers have been affected by the availability of labor over the past 12 months (63%), though a substantial third had been able to continue as normal (37%). In general, our respondents told us that they have employed a wide range of labor strategies in an effort to retain talent and reduce turnover, the most common of which was the deployment of warehouse labor management with engineered standards (62%). Another common method was to be found in enabling flexible working hours (50%). The pandemic has changed working culture forever, in what may be a long overdue push towards greater flexibility and remote working. In addition to more flexible hours, organizations are finding that improving their training and retention programs ensure that employees stick around (32%). Our survey also found that labor shortages were being managed by implementing automation at different scales throughout the business. Whether this be for jobs such as data entry (21%), or in the warehouse through greater investment in warehouse robotics (25%), investment in emerging solutions is one method to make up a labor shortage and ensure that more attractive jobs are available to keep employees engaged.

Raj Patel: Sr. Director, 3PL Global Industry Strategy, Blue Yonder

"A lot of people say that COVID-19 brought the labor shortages to steam. But if you look at the transportation industry, they were faced with labor shortages way before we got into this pandemic. Issues with lack of throughput, product availability and storage, and long lead times in replenishment due to raw material shortages all compound upon each other and become sticking points when you can't move product quickly through the warehouse. Couple these together with COVID-19 and you've got the perfect storm."

What is the biggest challenge within your organization with respect to the speed of adoption of new technology?



■ Retailers/Manufacturers ■ Logistics Service Providers

Across shippers and LSPs, the biggest challenge faced was by far a lack of resources to drive the adoption of new technologies (37% and 40% respectively). As expected, given the technological infancy of the logistics/supply chain industry, resistance to change was the second biggest challenge for both shippers and LSPs when it came to the speed of adoption of new technology.

Jim Bralsford: Sr. Industry Strategies Director, EMEA, Blue Yonder

"The one thing that's certain in this world, and particularly in supply chain right now, is you've got to keep changing to stay current. That's a scary proposition for many organizations. Legacy systems are inherently inflexible. They've been customized over time, and people get comfortable with doing it this way. The advice I'd give is never fear to ask, 'Why do you do it that way? Because it's always been that way?' Could it be improved upon? No matter the size and complexity of the task at hand, develop a roadmap and recognize this isn't going to be a 'big bang' change. Be willing to pivot and augment that roadmap along the way."

Raj Patel: Sr. Director, 3PL Global Industry Strategy, Blue Yonder

"From a technology perspective, we're seeing a shift in the industry away from multiple providers on short-term contracts towards cloud-based, single-service providers. Rather than picking the 'best of breed' for each WMS, TMS, ERP and so forth, we've seen many looking towards engaging cloud providers on a single technology stack to go end-to-end on an operation – taking them from planning all the way through execution and visibility. Supply chain as a service is going to be critical as we move towards a more collaborative partnership with one provider who you can innovate with to bring new products to market, rather than just engaging providers on a transactional basis."



Conclusion

By Terence Leung

Senior Director, Solutions Marketing, Supply Chain Execution, Blue Yonder

Different operations in the same supply chain can be at various levels of maturity of digitization. To get away from reactive / siloed supply chain operations with fragmented processes, companies need to have end-to-end visibility of their logistics operations, which comes from connected platforms to detect disruptions and a high degree of intelligence to resolve problems. Autonomous supply chain execution especially in transportation and warehouse management needs to be something companies are striving for now.

The pandemic, customer centricity, rising e-commerce complexity and costs, and several other key factors have accelerated the need for an autonomous supply chain. Compared to 2020 when the pandemic was causing global lockdown and high levels of supply chain disruptions, 2021 brings new business opportunities and investments in disruptive technologies to attain real transformational results. While the new normal is still taking shape, companies need to be able to predict and pivot to meet their full potential – and their customers'.

This report provides logistics executive with the latest pulse of the market and the next wave of solutions that companies are implementing. The calls to action we hope you take away from this report are:

1. Start the Digital Transformation

In the post-pandemic world, companies are finding it very challenging to handle the higher volume of orders that comes with increased e-commerce activities and more frequent changes and disruptions. A new level of control, agility and resilience is needed in logistics operations. The breakdown of silos among partners in the ecosystem and a new level of intelligence brought on by digital systems and devices will help companies shift their logistics operations to be more competitive. This is described further in the [Future of Logistics eBook](#).

2. Unify Logistics Operations

The isolated management of channels can no longer be responsive enough to serve the needs of the customer. The massive increase in order volumes and returns, as well as changes in demand, require a unified way to manage logistics and the broader supply chain in order to attain top-caliber e-commerce service levels. Customer expectations around the speed of click-to-deliver motions will drive significant changes in supply chain network footprints, where the inventory is held, and how the fulfillment and delivery happen, while keeping the focus on cash flows, fulfillment costs and sustainability. The new way of thinking is described in the [Unified Logistics eBook](#), the eBook "[Moving On: Transportation Management for a Transformed World](#)", and "[A Hero at the Suez Canal.](#)"

3. Embrace the Constant Change

The logistics footprint and network are becoming more expansive, with more types and a larger number of distribution and fulfillment nodes. Transportation, warehouse, labor ([Warehouse Labor and Workforce Management](#)) and fulfillment workflows will continue to merge or cross paths, in order to speed up reaction time and proactive action time.

From a transportation perspective, smaller and more frequent shipments across the nodes are happening. The activities and operational requirements for last miles have increased. Freight networks and last-mile supplier networks are increasingly being tapped. From a warehousing perspective, humans and robots will work closer together and in certain aspect be managed as a single pool. This will ensure higher throughput and higher resiliency to disruptions. A connected, flexible logistics footprint and intelligent and adaptive systems can be leveraged to satisfy the ever-increasing customer expectation. These are paradigms that are being realized and, very soon, the next opportunities to improve competitiveness will emerge.

About Blue Yonder

Blue Yonder is the world leader in digital supply chain and omni-channel commerce fulfillment. Our intelligent, end-to-end platform enables retailers, manufacturers and logistics providers to seamlessly predict, pivot and fulfill customer demand. With Blue Yonder, you can make more automated, profitable business decisions that deliver greater growth and re-imagined customer experiences.

Blue Yonder - Fulfill your Potential™

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