

THE GLOBAL LOGISTICS REPORT 2019

GREAT SERVICES

TOP NOTCH

SUPERFINE

I AM HAPPY

SUPERB

HIGH QUALITY

EXCELLENT

IMPRESSIVE

FIVE STARS

PERFECTLY

VERY GOOD



Contents

Introduction	3
Executive Insights	4
Methodology	6
Identifying, Budgeting and Investing in Technology Solutions.....	7
Investments	8
Speed of Adoption of New Technology	10
Collaboration	12
AI / Machine Learning.....	14
ELDs and Telematics	19
Digital Platforms and Control Towers	22
Workforce	24
Conclusions	25
Final Remarks from JDA	26



Introduction

Technology continues to hold supply chains in its grasp as AI, machine learning, robotics and control towers are no longer just buzz words but are actually being implemented for enhanced, real-time visibility, predictive analytics, customer satisfaction and more.

For this year's survey, we surveyed partners across the supply chain – logistics providers; retailers, manufacturers and distributors; and technology providers and others – and we present each group's individual findings to gain a better understanding and appreciation of the needs of each group.

A key theme throughout the paper is visibility. All three groups value this concept and are investing in various ways to achieve it. But, at the same time, the labor force is affecting operations of all survey respondents and as such, strategies such as training, automation and other means are being utilized for improvements. Meanwhile, while the ELD mandate might have brought delays, loss of drivers and capacity constraints, it has yielded some positive outcomes in the form of more accurate data and improved visibility.

As supply chains innovate, different types of technologies will be embraced in order for organizations to compete successfully in an ever changing environment. The type of technology adopted will not only provide visibility but also the adaptability necessary in today's environment. Chief Supply Chain Officers are leading this charge and are taking their seats at the C-Level to collaborate across silos and with external partners in order to build today's supply chain.

Our special thanks to all who took the time to take our survey as well as to Eric Fuller, President of U.S. Xpress and Marcus Würker, DHL CIO UK & Ireland and Bill Goodgion, President, Ascent Global Logistics for their contribution and insights on supply chain technology.





Executive Insights

Labor force challenges, visibility, robotics, artificial intelligence (AI) and autonomous vehicles are the themes of the day. In 2019, competition for labor among third-party logistics (3PL) providers, distribution and retail is unprecedented. As such, mobility of – and competition for – labor resources has never been greater.

This year's eyefortransport (EFT) report shows increased momentum for the adoption of these new technologies, with companies seeking out the best technology options for enablement. Disruptive technologies and digitalization are blending together to create opportunities that will drive supply chain maturity into the collaboration phase, with many hoping to leapfrog into the orchestration phase.

Increasingly the focus is on visibility and labor, the conjoint of which makes for an interesting convergence of technology in the supply chain space. Not only is AI proving to be an enabler to reduce the need for hands and feet, but it is also allowing for better utilization of these valued resources.

Seventy-two percent of respondents in retail, and 53 percent in technology, indicated that they have suffered labor-related disruptions to their operations in the past 24 months. In both sectors, the overwhelming response to mitigate this exposure is through training and adoption of automation technology. Additionally, the introduction of non-monetary drivers for retention – e.g., training, flexible working schedules, AI-enabled demand forecasting, and a mobile-friendly user interface for labor scheduling – are four ways in which employers can better position themselves for the flexibility in labor demand/capacity.

The labor shortage (inclusive of the driver shortage) poses significant current and future challenges to the market. It is especially a challenge in the trucking industry – because of the lack of drivers and alternate infrastructure – where we expect to see an acceleration in the speed of adoption of AI and autonomous vehicles. The adoption rate will only be constrained by the availability of this option. Already companies are placing their orders for autonomous vehicles, which has in turn sparked competition among the manufacturers, and we see the players – e.g., Tesla, OTTO and Mercedes-Benz – all raising the stakes in this “futuristic reality.”

Visibility has been in the cards for 20 years, but now that the ability to ingest data from outside is possible, enterprise-wide visibility has become a seamless effort, bringing collaboration, coordination and ultimately the orchestration of supply chains within reach.

Sixty-five percent of respondents indicated that AI will have its greatest influence in predictive analytics. It will be the players with the ability to best leverage extraneous data points such as social, news, events and weather, together with their enterprise data and AI-enhanced forecasting capabilities who will occupy the leading positions in any industry vertical. The fact that 50 percent of respondents confirmed having dedicated teams working on projects to identify those technologies that will improve their bottom line confirms that we can expect to see an acceleration in the speed of adoption of new technologies – especially robotics – as enablement solutions.

With the changing dynamics of trade lanes, we expect to see AI/machine learning to play a greater role in defining supply chain networks by optimizing routes, reducing empty miles and improving visibility. This is underscored by the response of 60 percent of technology providers and 58 percent of logistics providers who are focused on the benefits they will derive from supply chain control tower and orchestration, with 20 percent of respondents believing it will enable them to better balance their supply chain networks.

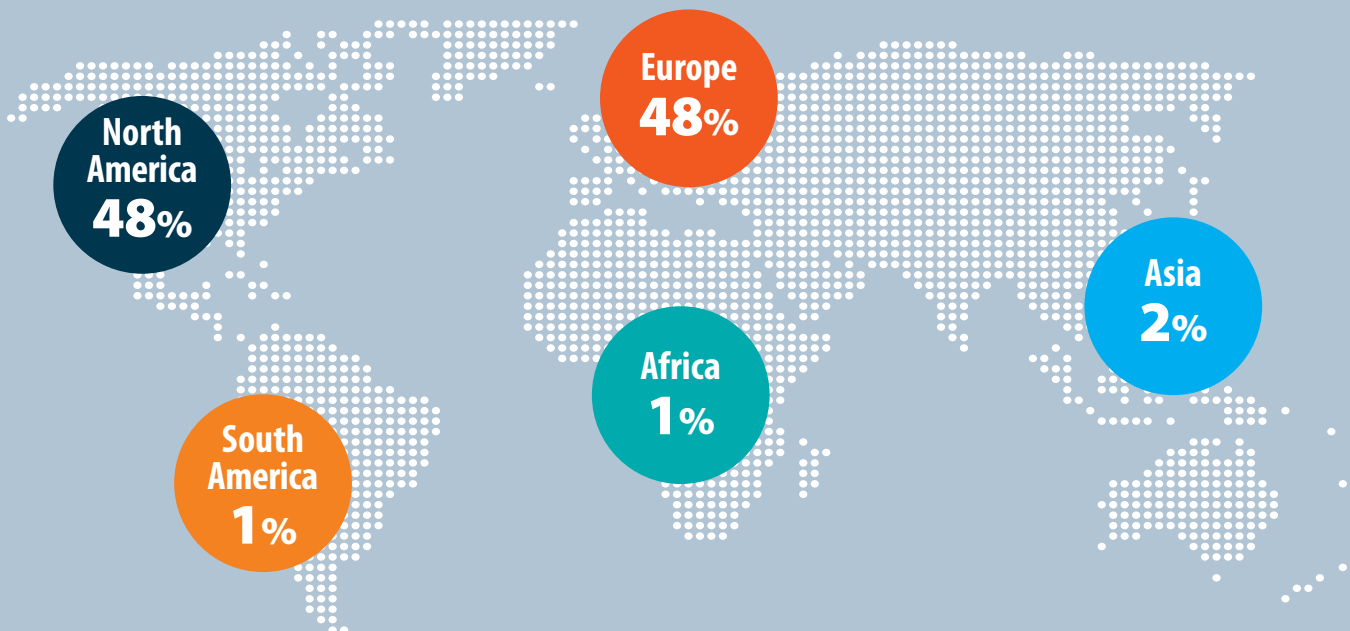
As with previous years, the main purpose of this report is to provide insight into critical industry trends and benchmarks that will help enable industry stakeholders to effectively navigate the logistics service provider (LSP) industry in 2019. The major motivation for the JDA sponsorship of this independent report is our strong belief that the insights gleaned from this research will support and guide strategy formulation and prioritization of strategic projects.



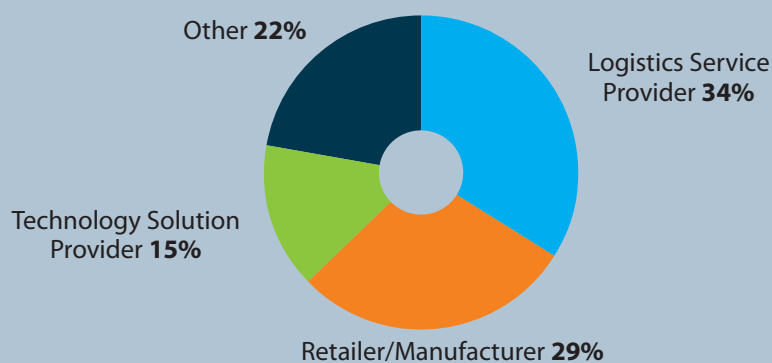
Methodology

EFT surveyed 533 supply chain executives from logistics providers, manufacturers, retailers and technology solution providers.

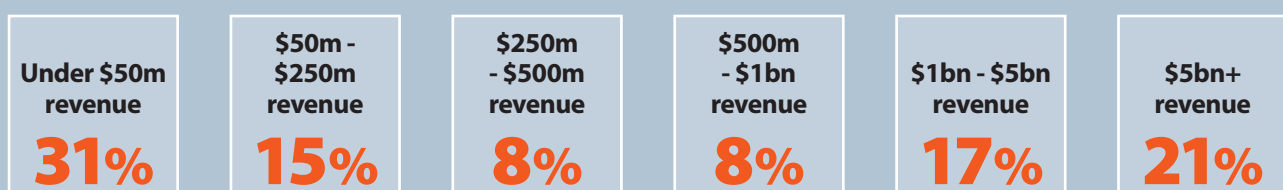
In which region is your role based?



What company do you work for?



How big is the company you work for?



Identifying, Budgeting and Investing in Technology Solutions

It seems each day brings a new technology offering. But how does one keep track of all the technologies that are available to supply chains? A combined 73% of logistics providers indicated that their organization has some type of team in place, dedicated or ad hoc, to identify technologies that improve efficiencies and produce higher productivity whereas a combined 84% of retailers, manufacturers and distributors and 88% of technology providers have established either dedicated or ad hoc teams.

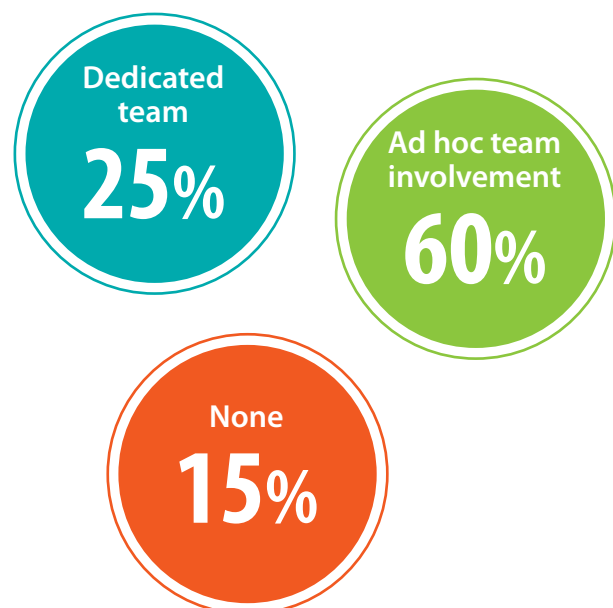
In addition, a wide range of technology solutions are budgeted for this year with robotics leading the way at just over 21% for logistics providers, 23% for retailers, manufacturers and distributors and 18% for technology providers. The implementation of robotics, particularly in warehousing and distribution, is creating efficiencies that are allowing faster fulfillment services which is highly important in e-commerce services.

Budgets of \$500k or less was the most popular response with almost 33% logistics providers and is an indication that many organizations are still testing and sifting through the numerous options. Retailers, manufacturers and distributors face a similar situation with 31% indicating budgets of \$500k or less.

Logistics Service Providers - How much focus is there in your organization to identify technologies that will enable higher productivity or unlock efficiencies?



Retailers/Manufacturers - How much focus is there in your organization to identify technologies that will enable higher productivity or unlock efficiencies?



Investments

Splashy headlines of technology investments by logistics providers are numerous but at the same time, these investments are necessary to remain relevant in the market. Of the logistics providers that responded, 37.5% are investing 1% to 2% of gross revenue in innovation whereas almost 10% of such providers are investing more than 5% of gross revenue in innovation and the exploration of edge technology. Similarly, retailers, manufacturers and distributors are making investments with almost 41% investing 1% to 2% of gross revenue and like logistics providers, 10% are investing more than 5% of gross revenue while 32% of technology providers, as their trade implies, are investing more than 5% of gross revenue.

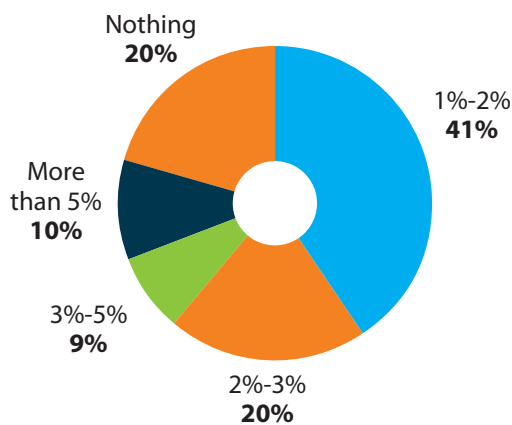
When it comes to (Warehouse Execution System) WES and (Warehouse Control System) WCS investments, the majority of all respondents either indicated they were not making such investments or not applicable.

Do you plan on investing in WES/WCS in the near terms to enable higher efficiency in your operations?





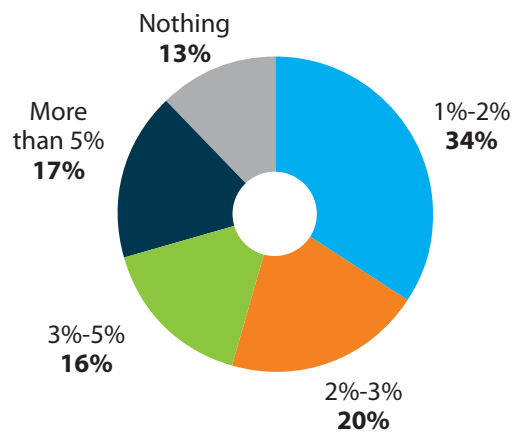
Retailers/Manufacturers - What percentage of Gross Revenue is your company investing in innovation and exploring of edge technology?



Do you plan on investing in WES/WCS in the near terms to enable higher efficiency in your operations?



Tech Providers - What percentage of Gross Revenue is your company investing in innovation and exploring of edge technology?



Do you plan on investing in WES/WCS in the near terms to enable higher efficiency in your operations?



Speed of Adoption of New Technology

New technology is fascinating but, how will it be used in organizations? Almost half of logistics providers, 35% of technology providers and 32% of retailers, manufacturers and distributors indicated that lack of resources to drive adoption is their biggest challenge with respect to speed of adoption of new technology. This lack of resources may be attributed to lack of training or know-how in how to fully utilize such technology.

A close second 31% of technology providers and 28% of retailers, manufacturers and distributors indicated resistance to change, a common complaint throughout many organizations. The fear of employment loss is perceived to be the main barrier to driving change.

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



“It’s certainly a learning curve identifying the right solution for each customer from the wealth of new technologies now available and it’s important that we consider the pay-back time for any we adopt – be that increased productivity, improved quality of service or simply adding value for our employees. For example, we’ve had great success recently in improving expense management automation through a combination of Robotic Process Automation and Artificial Intelligence.”

Marcus Würker, CIO UK & Ireland



Retailers/Manufacturers - What is the biggest challenge within your organization in respect of the speed of adoption of new technology?

No buy-in from leadership

7%

Lack of resource to drive adoption

32%

Resistance to change

28%

No perceived return on investment

22%

Too challenging and complicated

11%

Technology solution providers - What is the biggest challenge within your organization in respect of the speed of adoption of new technology?

No buy-in from leadership

2%

Lack of resource to drive adoption

35%

Resistance to change

31%

No perceived return on investment

16%

Too challenging and complicated

16%





Collaboration

Data sharing collaboration between supply chain partners is important particularly as supply chains become more global and complex. Benefits are numerous as indicated by survey respondents.

Visibility remains the biggest reason for such collaboration. A majority of respondents including 88% of logistics providers, 87% of retailers, manufacturers and distributors and 74% of technology providers identified visibility as the biggest reason for such collaboration.

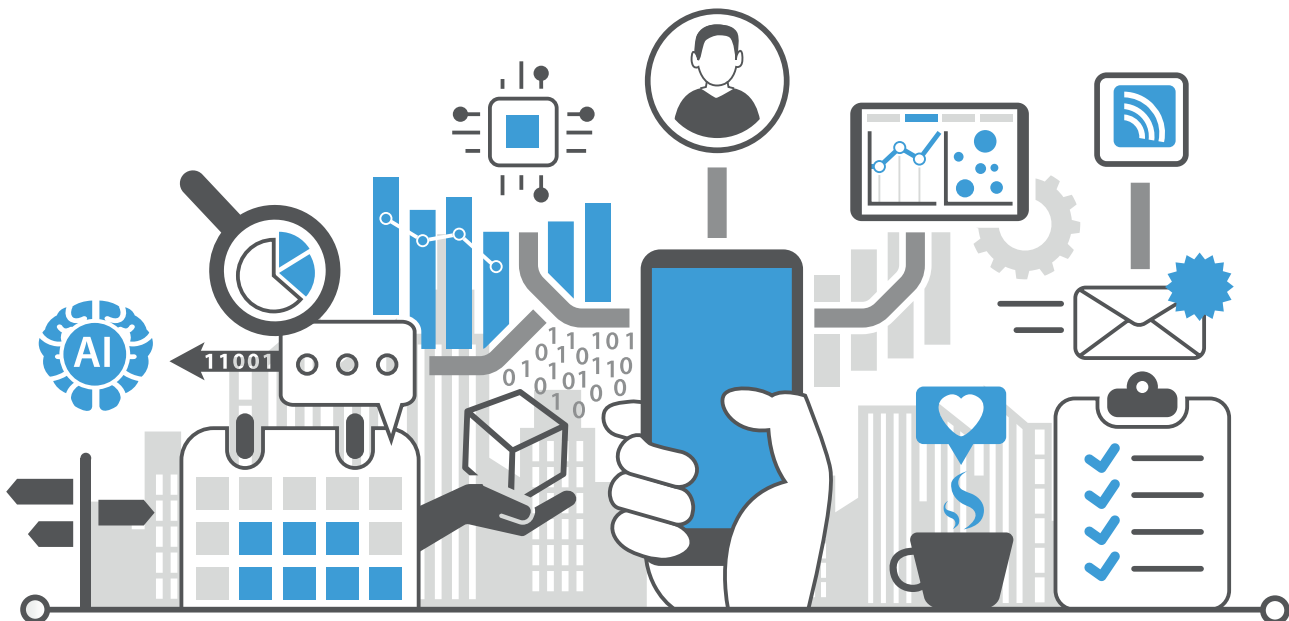
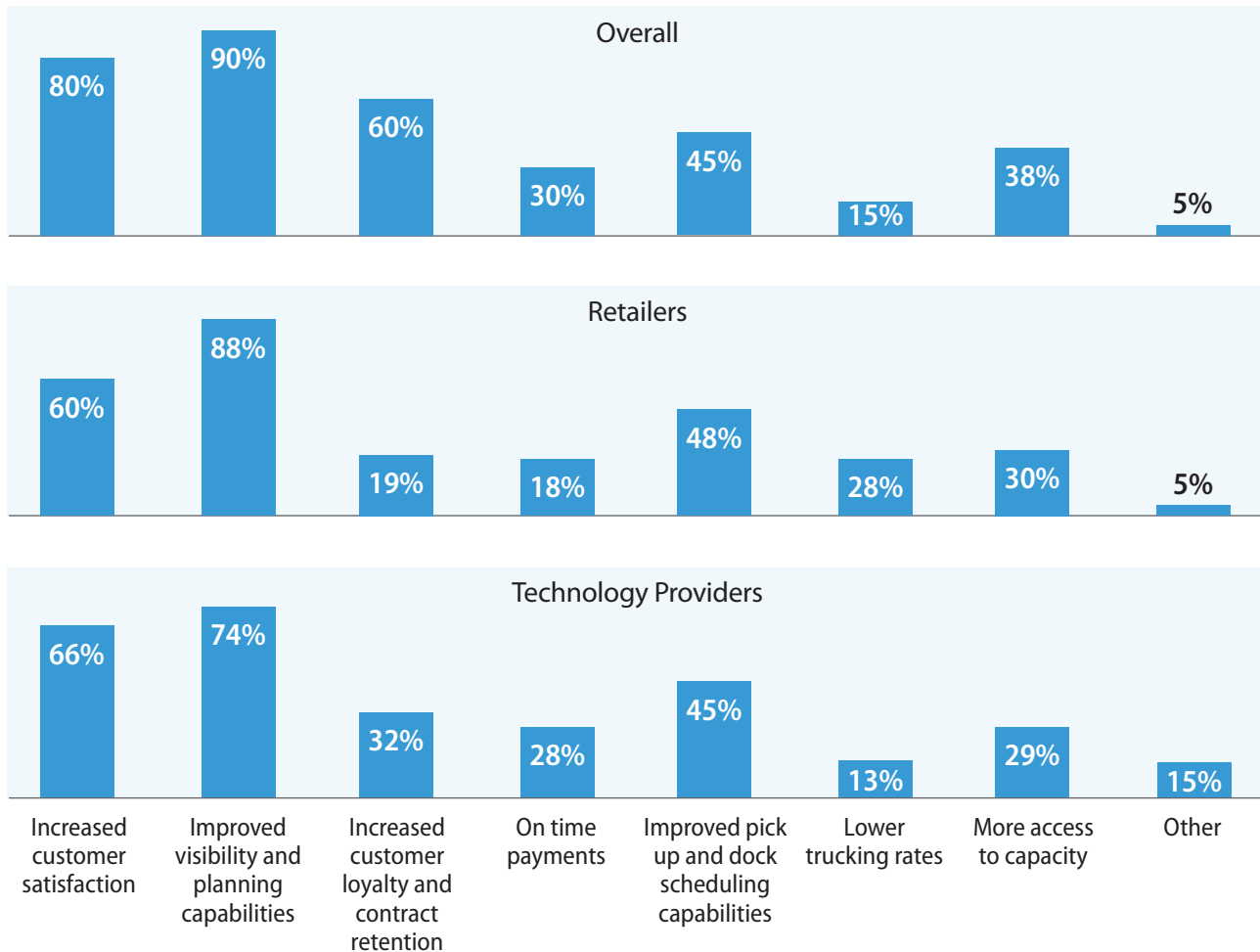
Visibility aids in the timeliness of inventory flows and management, mitigating supply chain risks, compliance of regulatory requirements and more. In addition, as noted by survey respondents, improved data sharing collaboration is also helping to increase customer satisfaction and customer retention.

“ When we are able to provide customers with improved business intelligence surrounding the work we do for them, it increases the level of trust and moves the conversation away from only focusing on costs and rates. We want to be more involved upstream with our customers and steer our discussions more about planning, forecasting and where their business is headed. We want to be more than just a transactional provider for our customers. ”

Bill Goodgion, President, Ascent Global Logistics



What are the benefits of improved data sharing collaboration between your shipper / 3PL counterpart?



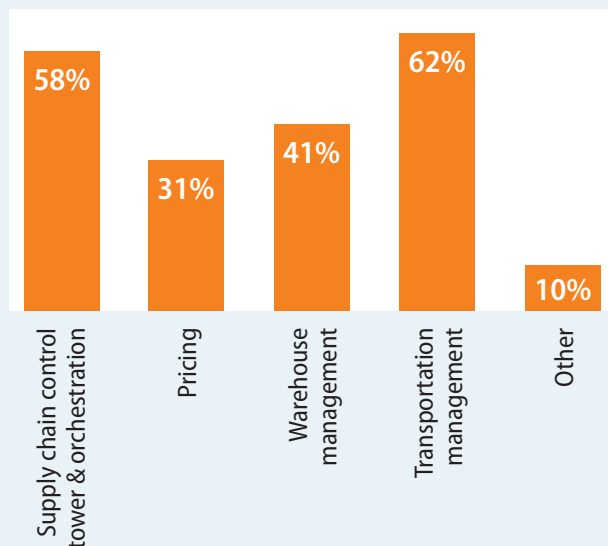
AI / Machine Learning

Artificial intelligence (AI) and machine learning continues to be a technology that has captured the attention of supply chains as adoption of such solutions grows. In EFT's 2018 Supply Chain report, manufacturer and retailer respondents spent on average 17m USD on AI. Although we did not ask the question in this year's survey, we do believe spending has increased based on a number of surveys conducted by consulting firms such as McKinsey. McKinsey reported that half of their respondents said their organizations have adopted at least one AI function into their standard business processes, while another 30% reported AI pilot programs.

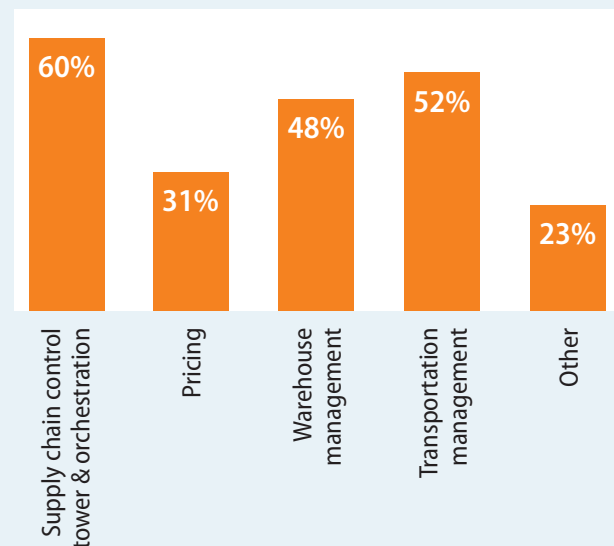
While its applications are numerous, over 62% of logistics providers and 52% of technology providers indicated that transportation management lends itself as the best for practical application. Indeed, AI/machine learning can be used to optimize routes, reduce empty miles and improve visibility.

However, 60% of technology providers and 58% of logistics providers said supply chain control tower and orchestration. AI/machine learning can be used to further enhance real-time visibility and collaboration by providing supply chain partners with decision-making and autonomous control.

Retailers/Manufacturers - Where do you see or expect the practical application of AI/ Machine learning for your organization?



Technology solution providers - Where do you see or expect the practical application of AI/Machine learning for your organization?



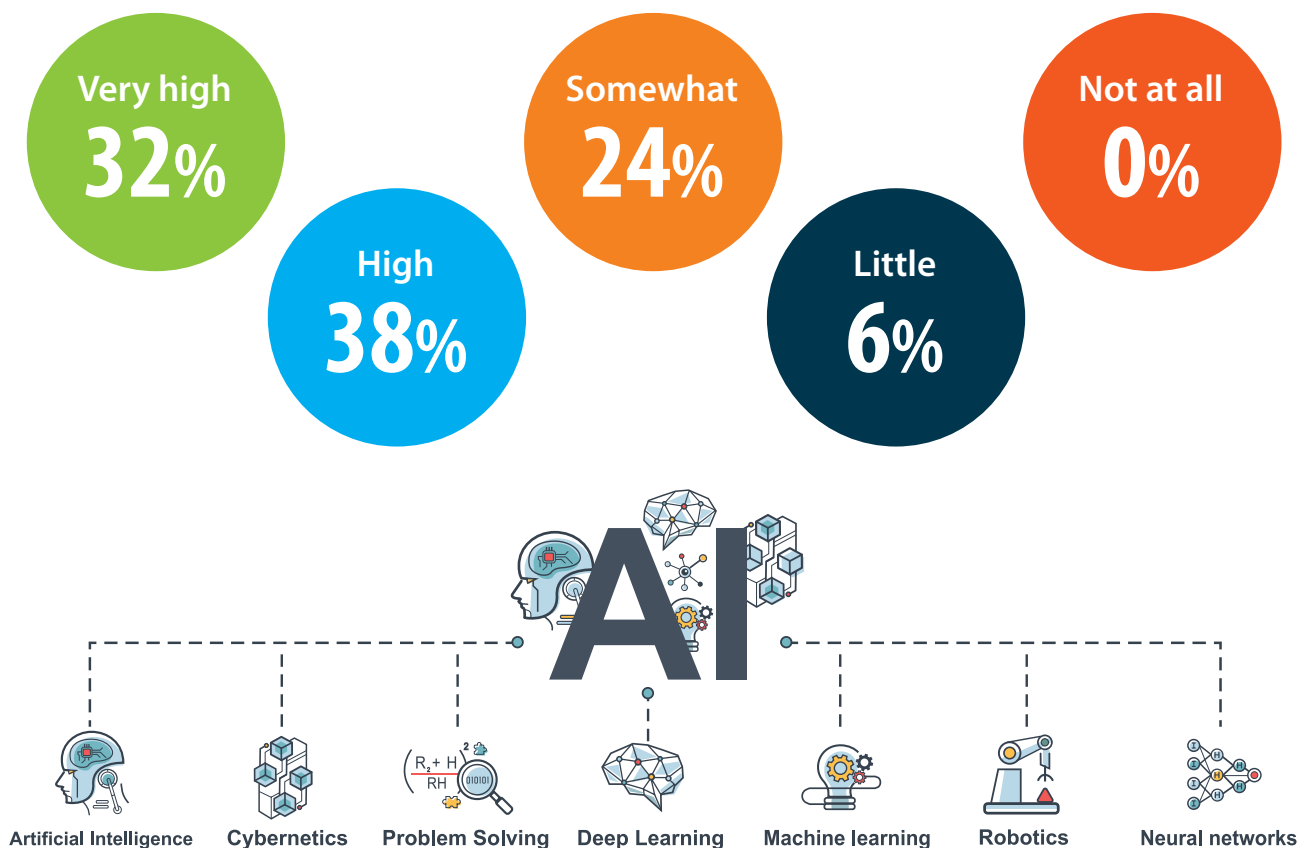
How do you perceive the adoption of AI/IoT as part of your business's ability to remain relevant in the next ten years?

A combined 72% of technology providers, 70% of logistics providers, 60% of retailers, manufacturers and distributors indicated that AI/IoT is either very important or important in order to remain relevant. The capabilities AI/IoT offer supply chains are immense and have yet to be fully taken advantage of.

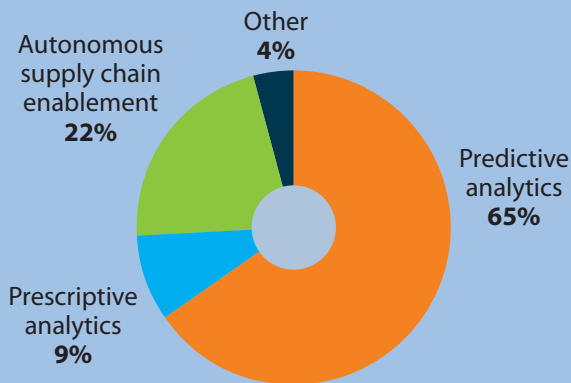
66% of logistics providers and retailers, manufacturers and distributors as well as 49% of technology providers surveyed consider predictive analytics through implementation of AI tools to be a game changer in the next five years.

Meanwhile, IoT adoption will grow as most logistics providers plan to partner with data sources to enable them to ingest and analyze data . Only 43% of retailers, manufacturers and distributors and technology providers plan to partner with data sources . 27% of technology providers and 21% of retailers, manufacturers and distributors expect to utilize control towers while 26% of retailers, manufacturers and distributors do not plan to use control towers at all.

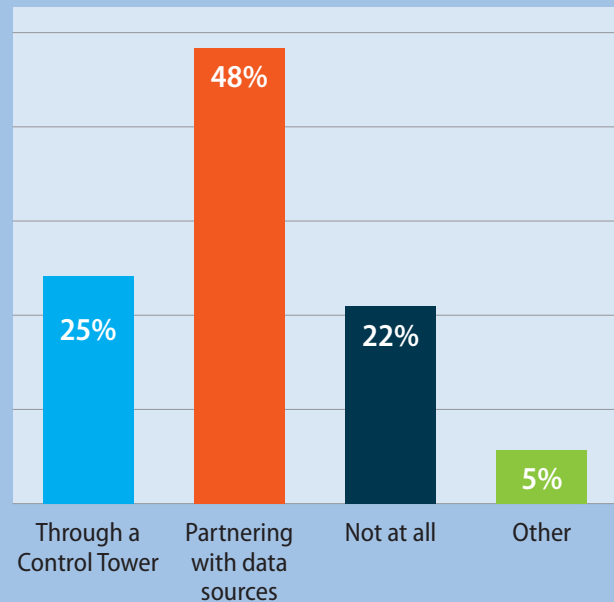
How do you perceive the adoption of AI / IoT as part of your business's ability to remain relevant in the next ten years?



In which following areas do you think AI/ Machine learning will be most relevant as game changers for your industry in the next five years?



How are you planning to ingest the data from IoT?



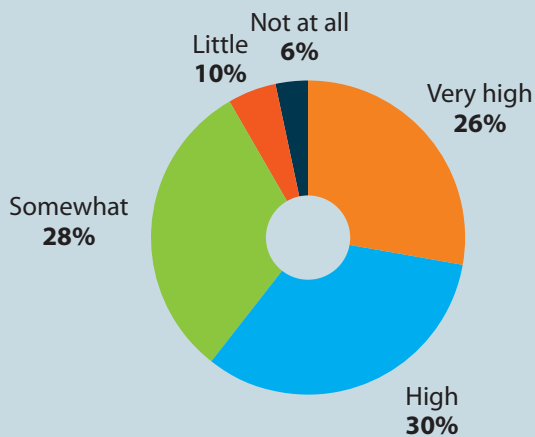
“ The further adoption of AI combined with IoT capable devices has a huge potential upside within the logistics industry, as well as within our customer’s supply chains. Potential is present for things like enhanced forecasting, improved algorithms that allow for predictive matching of supply with demand in our transportation services, more effective slotting of inventory in our distribution facilities and radical transformation of our documentation intensive businesses. ”

Bill Goodgion, President, Ascent Global Logistics

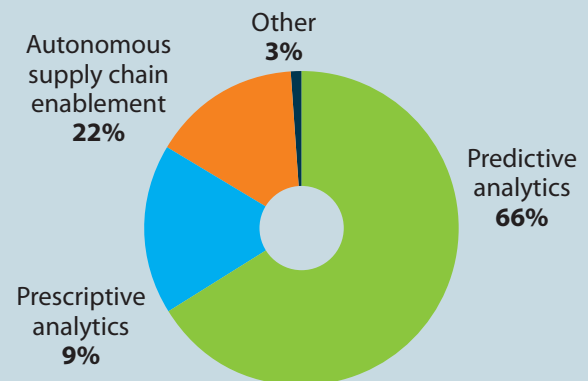




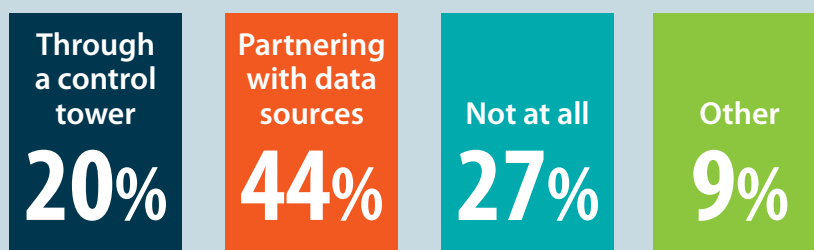
Retailers/Manufacturers - How do you perceive the adoption of AI/IoT as part of your business's ability to remain relevant in the next ten years?



Retailers/Manufacturers - In which following areas do you think AI/Machine learning will be most relevant as game changers for your industry in the next five years?



Retailers/Manufacturers - How are you planning to ingest the data from IoT?





“ There’s no doubt that decision-making is shifting from the periphery to the centre, and from the physical world to digital. In the last decade, we’ve seen a significant emergence of visibility tools which have helped us facilitate this. The advent of Artificial Intelligence and self-learning systems are enabling us to go one step further and (semi-)automate the decision-making in a digital environment. We call this the Digital Twin. ”

Marcus Würker, CIO UK & Ireland, DHL



ELDs and Telematics

Electronic logging devices (ELDs) went into effect in 2018. Alarms were sounded as many supply chain partners feared truck drivers would leave in droves, resulting in an increase in costs and services disrupted.

These concerns were evident in the survey. Costs did rise for 18% of logistics providers and 17% of retailers, manufacturers and distributors while 5.7% of logistics providers indicated an increase in delayed shipments and less than 1% of logistics providers and 3.6% of retailers, manufacturers and distributors noted an increase in driver turnover. But 28% of logistics providers, 19% of retailers, manufacturers and distributors and 17% of technology providers said more accurate data and increased visibility was achieved.

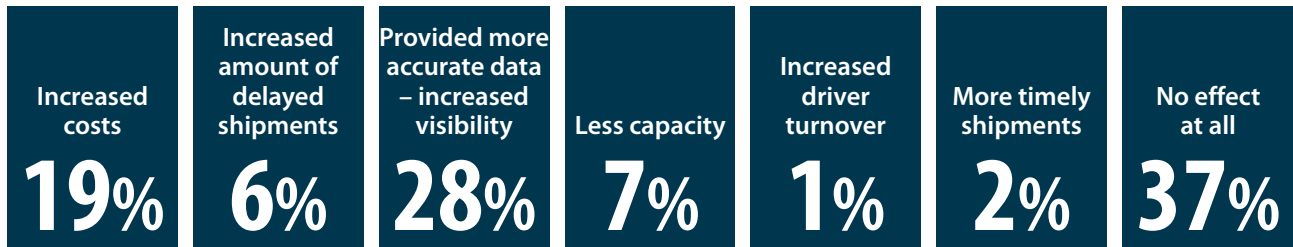
Furthermore, 50% of logistics providers and 40% of retailers, manufacturers and distributors believe the enforcement of telematics and ELDs will benefit drivers. 23% of logistics providers and 29% of retailers, manufacturers and distributors are concerned that it will exacerbate the driver shortage even more and 22% of retailers, manufacturers and distributors are concerned it will exacerbate the availability of truck capacity.

“ We are seeing a material impact to the driver population from ELDs. But it will allow us to better manage our drivers and hold them accountable. I believe the single most important thing we can do in regards to turnover is to reduce the daily friction/frustration from a driver’s day. ”

Eric Fuller, President, U.S. Xpress

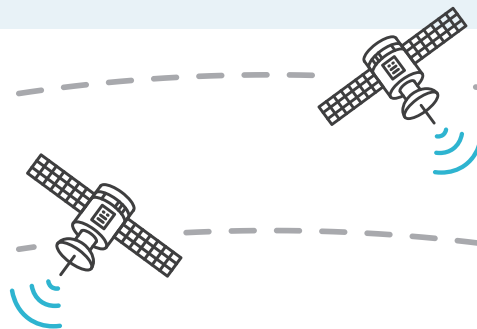


How has the implementation of the ELD mandate affected your business?

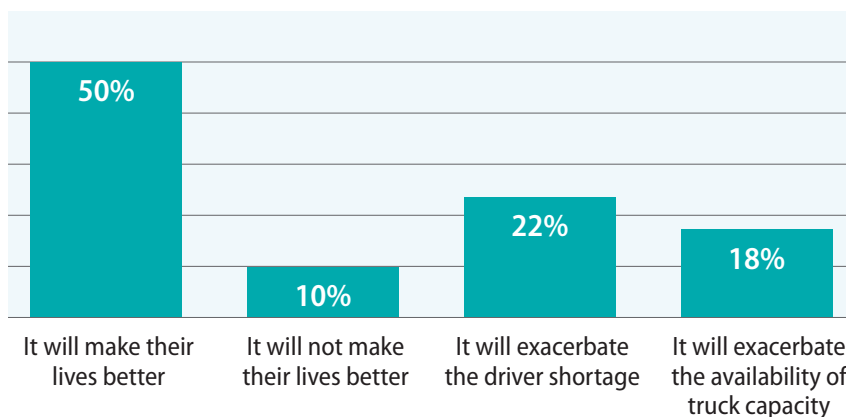


“ AI and IOT will be requirements for competing in the future. In ten years only the most technologically advanced companies will survive. The biggest focus of AI will be in optimization and automation of the order to cash process. ”

Eric Fuller, President, U.S. Xpress



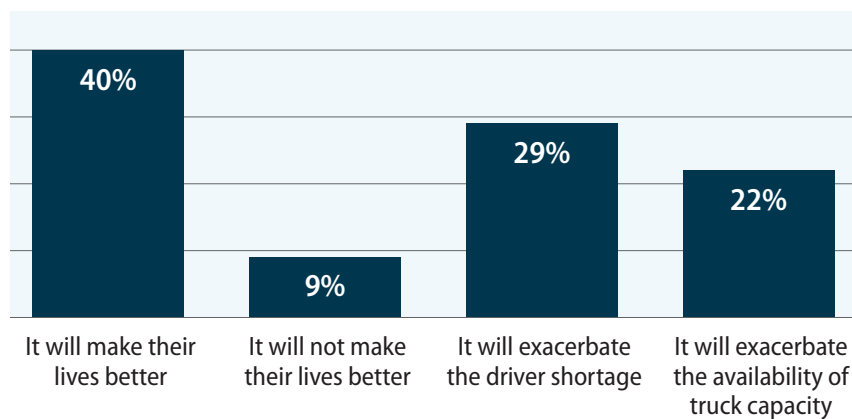
What do you believe the enforcement of telematics and ELDs in the transportation industry will have on the availability of drivers?



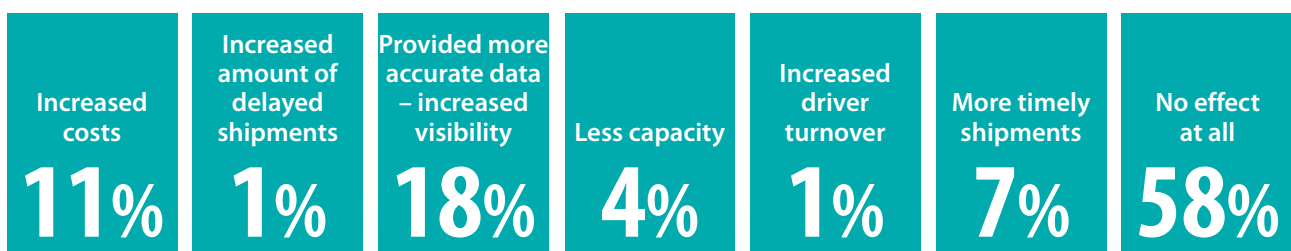
Retailers/Manufacturer - How has the implementation of the ELD mandate affected your business?



Retailers/Manufacturers - What do you believe the enforcement of telematics and ELDs in the transportation industry will have on the availability of drivers?



Technology Providers - How has the implementation of the ELD mandate affected your business?



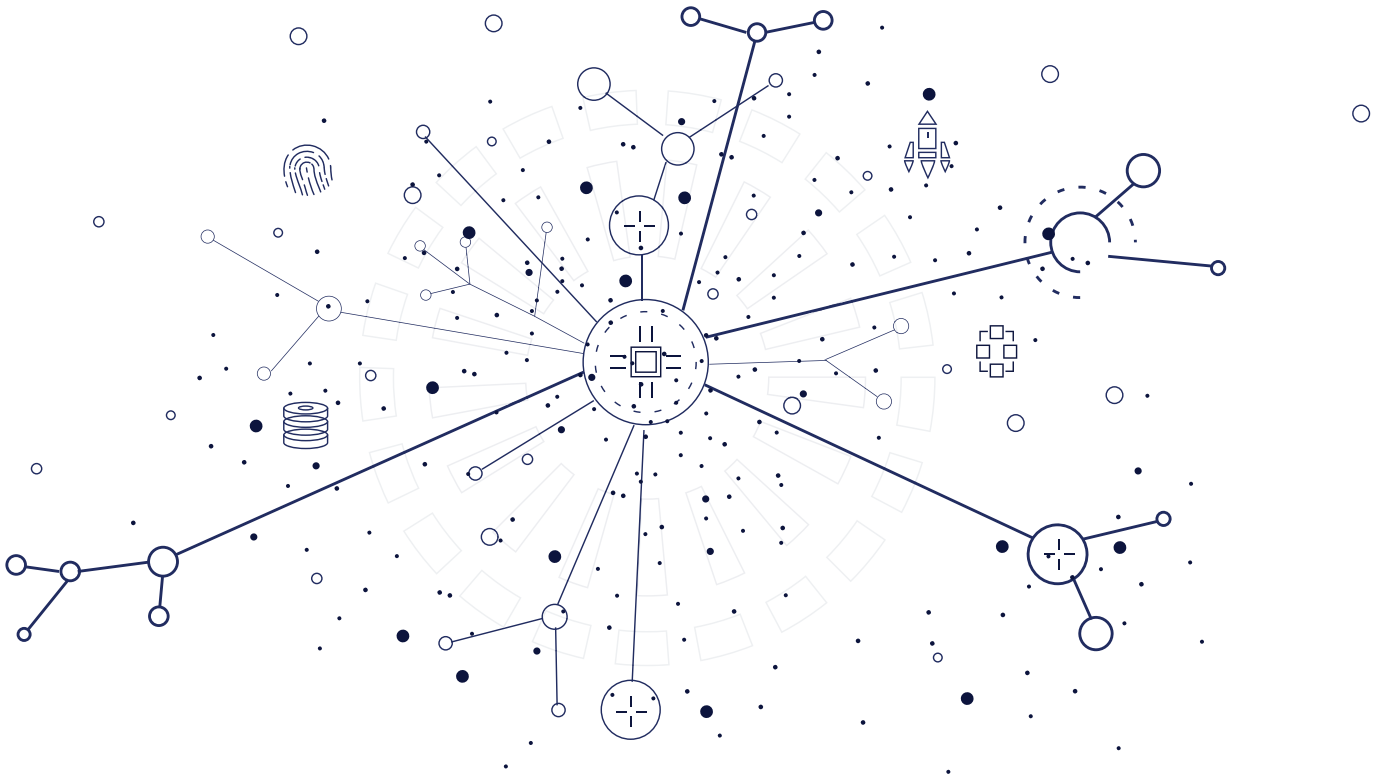
Digital Platforms and Control Towers

As independent, third-party digital freight matching platforms become accepted in the marketplace, 50% of logistics providers, 65% of retailers, manufacturers and distributors and 72% of technology providers still do not plan to acquire or build their own platforms.

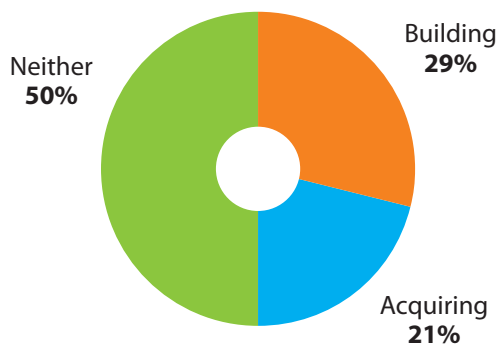
While digital platforms may not be on logistics providers' build or investment plates, control towers seem to be. Almost half of logistics providers indicated they are exploring the use of control towers while over 50% of retailers, manufacturers and distributors have no such plans. Less than half of technology providers, 40%, are exploring the use of control towers.

Once again, visibility is playing a major role in this year's survey. Control towers provide a wealth of capabilities such as route planning, collaboration and transparency. Indeed, for those logistics providers that indicated they were reviewing the use of control towers, the majority, 20% of logistics providers and technology providers and 30% of retailers, manufacturers and distributors, indicated they were doing so to balance their supply chain network.

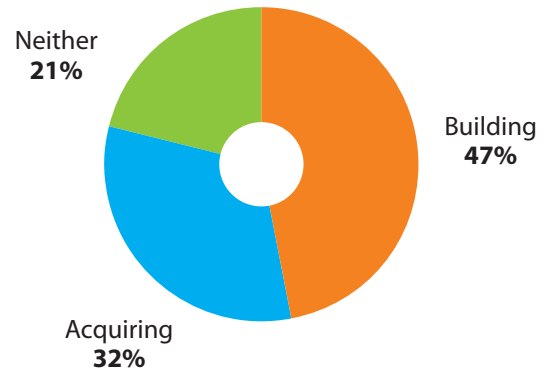




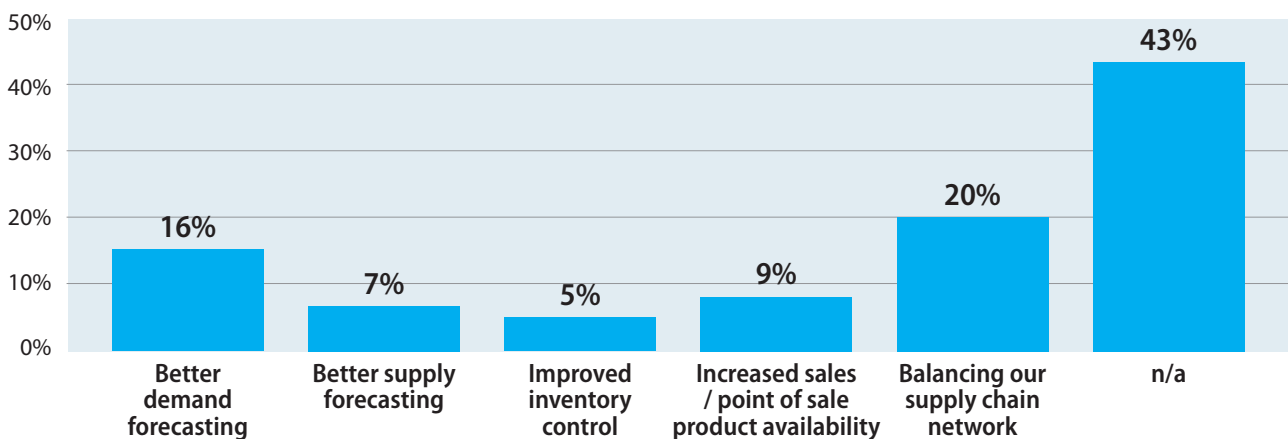
Are you looking at acquiring digital freight matching platforms or building your own?



Are you exploring the merit of a control tower in your environment?



If Yes to the above, what are you trying to achieve with the adoption of new technology and / or the ingestion of external data eg. SNEW?



Workforce

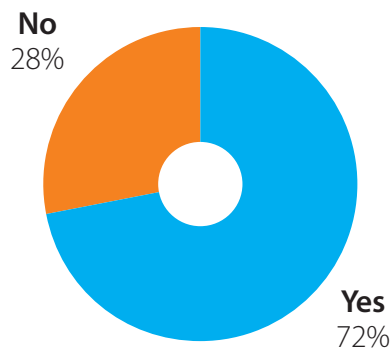
Attracting and maintaining qualified labor has become difficult for many organizations as other industries likely appear more attractive. 72% of logistics providers, 66% of retailers, manufacturers and distributors and 53% of technology providers indicated that the availability of labor has affected operations in the past 24 months.

49% of logistics service providers are looking at various strategies, including training and retention programs, and 36% of retailers and manufacturers are deploying similar strategies.

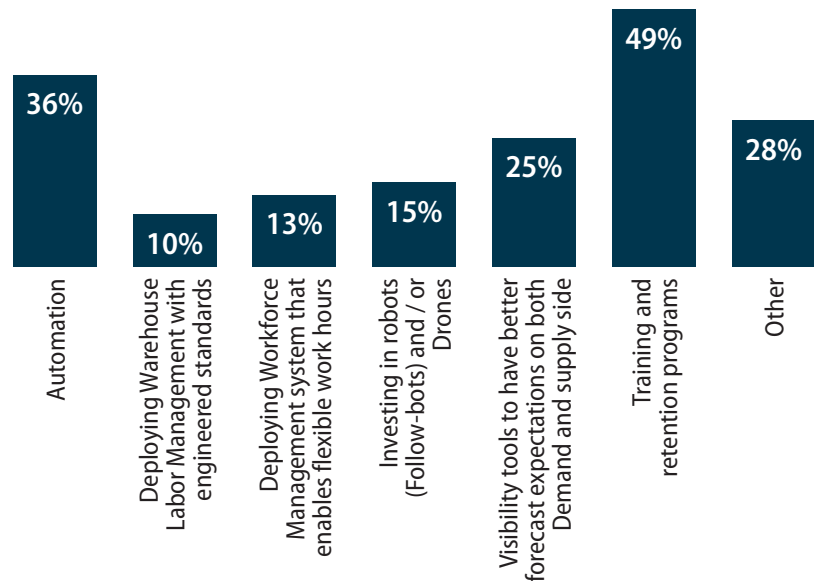
On the other hand, automation is being used by 36% of logistic service providers and 31% of retailers and manufacturers to solve this problem.

Technology providers noted a variety of strategies as well – 31% use training and retention programs while 28% indicated automation and 21% reported visibility tools for forecasting.

Has the availability of labor affected your operation in the past 24 months?



If Yes, which of the following strategies are you considering?



“Labor has particularly been a challenge for us with our distribution operations – and, of course, our drivers. We have rolled out several base pay increases in the last 24 months to our warehouse employees as well as modifying our pay for performance incentives. We have also looked at how to improve the overall work environment to ensure not only the safety of our employees but their enjoyment while at work, which is an important part of our culture. Lastly, the introduction of improved technology and more ergonomic devices allows for our warehouse employees to be more productive. On the driver side, we are certainly not unique in having difficulty recruiting and keeping drivers on. What we are seeing is part of a much greater problem plaguing the entire industry with unfortunately few transformative changes happening. We are doing everything we can to offer competitive wages, good equipment and work/life balance by trying to keep our drivers in regional lanes and get them home more often.”

Bill Goodgion, President, Ascent Global Logistics



Conclusions

We appreciate our readers taking the time to read the 2019 Supply Chain Study. We hope you found this information to be both insightful and applicable to your company. EFT has produced this survey for several years now and the speed of change always continues to amaze. Supply chains typically rise to this environmental response and the result is creative, out-of-the-box solutions utilizing technology that may have been considered just science fiction just a few years ago.

Today, organizations are achieving a better understanding of customers' needs sooner and addressing them in a faster, agile way thanks to technology implemented in their supply chains. Technology is one of the greatest tools that supply chain practitioners can utilize to gain such insight into their operations and to respond to various needs. However, while technology is important to the efficient running of supply chains, one must never forget the importance of communication between all supply chain partners.



Final Remarks from JDA

We are at a tipping point of technology adoption and are seeing faster innovation cycles and adoption curves. LSPs are conscious of their need for innovation and technology adoption to secure their position in the market.

Many players are looking to technology for enablement of their supply chain orchestration goals and understand that alliances with technology partners will define the successful execution of their strategic goals. Visibility, as a monetized asset, is most likely the “currency” of future supply chains. No longer is it enough to be backward-looking and reactive; it is key to be forward-looking with tools that enable the mitigation of events that are expected to disrupt supply chains as far as four-plus weeks into the future. Players who fail to adopt the technology that will enable this will find themselves trapped in a data ice age as both customers and clients seek out those partners with superior predictive capabilities embedded in their solution platforms.

Lastly, the less ethereal problem of labor shortages will drive much of the innovative technology adoption as LSPs continue to compete to recruit and retain talent. It is the adoption of innovative technology that will enable better alignment and interaction between business and resources, balancing demand and supply in a more flexible way that will benefit both the individual and the enterprise.



ElMarie Hugo

Senior Director, 3PL, Distribution & Logistics Industry Strategy
JDA Software Group, Inc.

For more on JDA, visit www.jda.com

Industry Strategy Team

ElMarie is an accomplished industry and supply chain leader with extensive experience in supply chain orchestration, contract logistics/3PL and 4PL. Prior to JDA, ElMarie was the director of supply chain excellence at Johnson Controls and held many leadership roles at DSV, UTi Integrated Logistics, and Barloworld Logistics.

She has extensive experience working across multiple regions with pharmaceutical, automotive and retail clients, supporting manufacturers to define their go-to-market strategies and advising both public and private sectors how to secure product in market. Given her unique experience, she is well positioned to provide go-to-market strategy and thought leadership. She is focused on the 3PL, distribution and pharmaceutical/life sciences segments with a keen interest in JDA® Luminate™ Control Tower and the value this will unlock in supply chain orchestration.

ElMarie was born in South Africa, graduated from the University of Pretoria and the University of South Africa and has lived in many countries, including the U.S., Netherlands, and Switzerland, and today she resides in Milwaukee, Wisconsin. In her personal time, she supports the fundraising effort for “Autism in Africa.”

Align with your customers' digitalization strategies

Engage with your customers on their supply chain digitalization roadmap, collaborate with their supply chain strategy team and develop a roadmap for co-innovation. Without innovation and digitalization of your supply chain, you risk losing mindshare with your customers.

Embrace the digital ecosystem

Many players have ventured down the path of in-house developed solutions to enable visibility through the digitalized platform. The speed of adoption required in this accelerating environment will pressure LSPs to explore platforms that enable the seamless ingestion of multiple data sources, at the same time offering the predictive and prescriptive data analytics required to maintain relevance in the digitalized supply chain. A roadmap that defines the path to digitalization and innovation that enables an orchestrated supply chain is an invitation for a seat at the table in 2020.

Engage your workforce

The adoption of innovative technologies that will enhance the work environment must be a priority for every LSP. The ability to engage the labor pool into active participation in establishing labor standards and integrating robotics into the labor pool will define success. There are many examples of leading LSPs in the industry that have successfully developed a high-performance culture by effectively engaging their employees. Establishing performance standards, continuous improvement initiatives, coaching and mentoring, flexible work hours, self-service scheduling and gamification programs are just a few examples of proven methods.

