

The Jabil logo, featuring the word "JABIL" in a bold, white, sans-serif font. A blue stylized arrow points from the "J" towards the "I".

JABIL

IndustryWeek

A low-angle photograph of stacked shipping containers. On the left, a brown container is visible. On the right, a tall stack of teal containers reaches towards the sky. The containers have various markings, including "MAX. GROSS TARE NET" and "CAUTION 9'6\"/>

Global Supply Chain Readiness Report:

The Pandemic and Beyond

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Executive Summary

Talk of localizing supply chains closer to the point of consumption, including reshoring, has gained more attention since the early days of the pandemic. It's a seemingly natural response to long shipping delays from overseas suppliers, which have led to inventory shortages and frustrated customers. Others are questioning whether some lean manufacturing approaches, such as just-in-time delivery, are still effective given the current challenges.

But findings from an *IndustryWeek* and Jabil survey on the current state of global supply chains indicate that manufacturers are not quite ready to make such sweeping changes to their existing strategies. Many respondents are more focused on supplier relationship management and technology investments. In the years ahead, manufacturers will need to continue monitoring and adjusting their supply chain practices to remain flexible in an unpredictable economic climate. For instance, this survey was conducted prior to Russia's invasion of Ukraine, which is further exacerbating supply chain disruptions.

The good news is manufacturers are taking much-needed steps to close supply chain gaps, such as long order-to-delivery lead times and component shortages, which caused a moderately to significantly negative impact for 64% of survey participants.

The findings show many manufacturers struggle during a crisis because they lack the internal capabilities to build lasting agility, resiliency and transparency into their supply chains. Shortly after the pandemic led to global business shutdowns and stay-at-home orders, a Harvard Business Review report concluded that reshoring may not be feasible for all manufacturers because domestic suppliers could not scale quickly enough, or they may not have the expertise to produce certain highly specialized components or assemblies made in other parts of the world.¹

These survey findings underscore why it's so important for manufacturers to build long-term, collaborative relationships with suppliers, manufacturing solution providers and other service providers who have the technology, global reach and capacity to meet their needs. Consider what happened in the medical equipment industry over the course of the pandemic.

Nearly 40% of respondents in this sector said component shortages had a significantly negative impact on operations. Meanwhile, most respondents from this sector indicated that demand for their products rose during the period. The industry responded with 57% of respondents saying they increased communication with suppliers, with 44% reporting more collaboration with hospitals to deliver their products when needed.

This report highlights why similar levels of coordination and transparency among supply chain partners across all sectors will be needed in the years ahead to minimize the impact of future disruptions.

¹ Harvard Business Review, "Bringing Manufacturing Back to the U.S. is Easier Said than Done," <https://hbr.org/2020/04/bringing-manufacturing-back-to-the-u-s-is-easier-said-than-done>, April 15, 2020.

COVID-19 Supply Chain Pain Points and Solutions

What are the key supply chain challenges manufacturers face due to the pandemic?

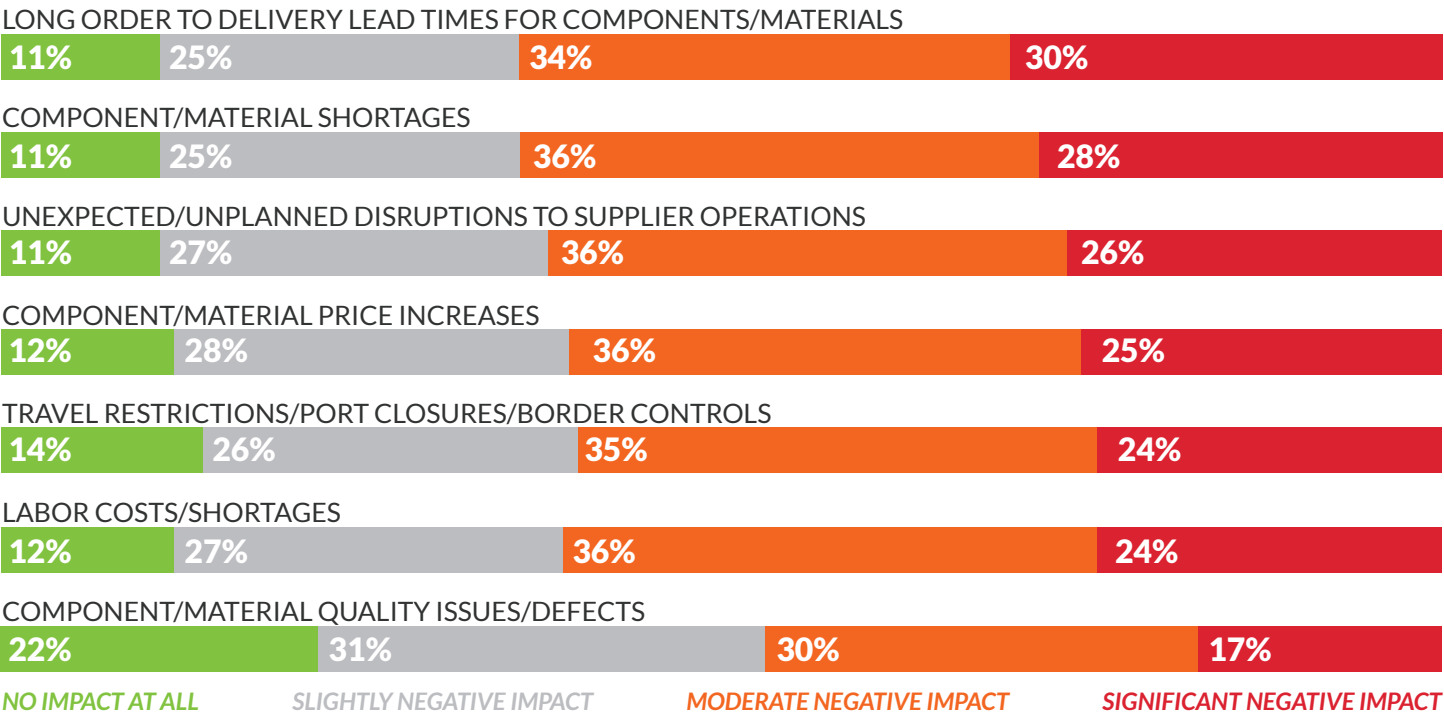
Barren store shelves and empty new car lots have been common scenes during the pandemic. Much of this is attributable to component shortages and long delivery lead times, which were among the top supply chain pain points that respondents cited. This includes 30% who indicated that lead times had “significant negative impact” on their operations and 28% who agreed that material shortages significantly hindered their performance (Figure 1).

More than one-third of respondents also report moderately negative impact related to:

- Material price increases
- Travel restrictions
- Unplanned supplier disruptions
- Labor shortages

It appears that supplier quality did not decline significantly during the pandemic, with nearly a quarter of manufacturers agreeing that quality issues had no impact at all on their operations, and 31% saying it only resulted in a slightly negative impact on their performance.

FIGURE 1 Please indicate to what extent the following supply chain challenges have impacted your operations during the COVID-19 pandemic:



How are manufacturers responding to these challenges?

It’s evident, based on the responses, that strong supplier relationships play an integral role in a healthy supply chain. Common supplier relationship management strategies adopted during the pandemic include supplier diversification, renegotiating agreements and evaluating the capabilities of existing partners via various measurement tools, such as surveys and supplier scorecards (Figure 2). Among all respondents:

- 35% diversified their supply base during the pandemic
- 31% say they plan to diversify their supply chain
- 34% began reevaluating supplier performance during the pandemic
- 29% say they plan to reevaluate supplier performance
- 35% renegotiated supplier agreements during the pandemic

Interestingly, reshoring or nearshoring production was less of a priority in the short term for many respondents. The responses indicate that manufacturers are opting for less dramatic changes for now. But looking ahead, more manufacturers are considering transformative moves to protect their supply chain from the next major disruption. This includes:

- 26% who plan to nearshore or reshore production
- 27% who plan to outsource supply chain management and manufacturing

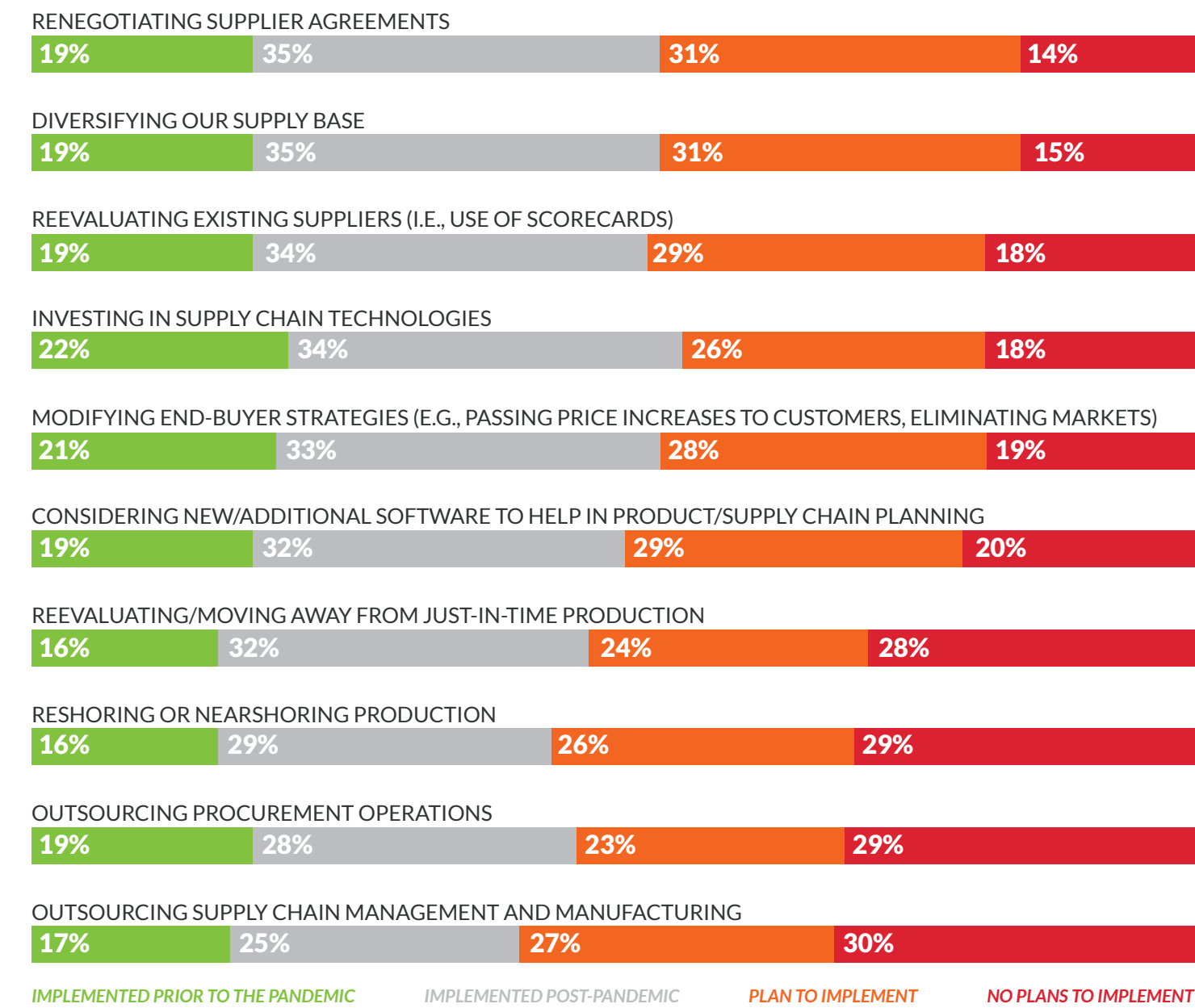
It’s clear that patchwork approaches to supplier relationship management are not sustainable. All the tactics identified in Figure 2 will likely need to be implemented on some level, including the deployment of new technologies and strategic sourcing initiatives.

Supply chain resiliency also requires a steadfast focus on relationship building. During tough times, suppliers often prioritize deliveries of scarce materials to long-term, reliable partners.²

Getting to this stage requires ongoing collaboration and transparency, which may involve on-site visits and sharing of manufacturing best practices and technologies. It’s a process that requires a years-long commitment with trustworthy partners.



FIGURE 2 Have you implemented or are you considering any of the following supply chain strategies to mitigate future disruptions?



²Jabil, <https://www.jabil.com/blog/successful-supply-chain-resilience-strategy.html>

Technology as an Enabling Tool

How is digital transformation helping manufacturers address supply chain challenges?

Manufacturers are using smart, connected technologies that deliver big data in real time from plants, warehouses and partner sites. They're often accessing this information from the cloud and then applying advanced analytics to make more informed decisions. For survey respondents, the pandemic seems to have accelerated many digital transformation plans, which includes automation, artificial intelligence/machine learning, robotics and automation (Figure 3). Respondents are looking to increase visibility across the supply chain and free workers from repetitive, manual tasks so they can focus on higher-value activities.

Key technology implementations to note include:

Supply chain risk management

- 54% indicate they plan to implement in the short to medium term. It's a newer supply chain software product category that combines third-party datasets with visual depictions of the organization's supply base and relevant alerts
- 24% are planning to implement in the long term

Cloud computing

- 50% indicate they plan to implement in the short to medium term. It's a key enabling tool for supply chain collaboration, allowing stakeholders across the network to view important data and analytics in real time
- 26% plan to implement in the long term

Demand planning/forecasting

- 59% plan to implement in the short to medium term. Demand planning/forecasting tools help manufacturers anticipate market changes and proactively respond to them. They may use the data to preorder supplies, increase safety stock or increase capacity to meet future demand
- 23% plan to implement in the long term

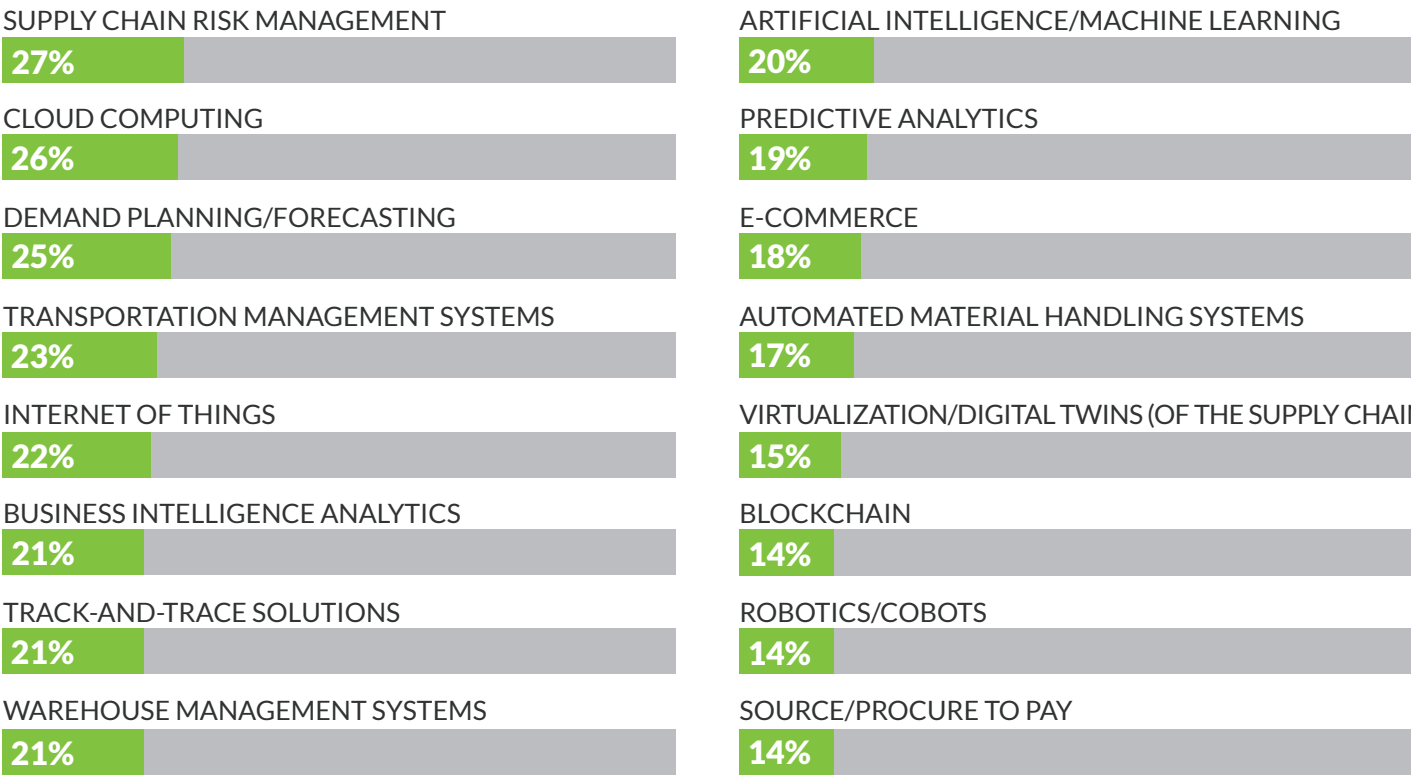
Artificial intelligence/machine learning

- 44% plan to implement in the short to medium term. Manufacturers that are more mature in their digital transformation journey have implemented AI/ML to perform more advanced and predictive analytics
- 31% plan to implement in the long term

³ ARC Advisory Group, "Why Supply Chain Risk Management," <https://www.arcweb.com/industry-best-practices/why-supply-chain-risk-management>

FIGURE 3

Since the pandemic began, which of the following technologies have you implemented to improve your supply chain performance? (Please select all that apply.)



Is implementation happening fast enough?

The pace of adoption continues to increase, but it may not be fast enough. The next disruption is right around the corner, as Russia's invasion has already shown the world with a significant rise in fuel costs and logistics challenges. Meanwhile, the lack of available talent continues to place additional pressure on manufacturers. Track-and-trace solutions and transportation management systems, which increase visibility into inventory and shipping status, are underutilized. Slightly less than half of manufacturers are planning short to midterm investments in both technologies. Also, only 14% of respondents are already using cobots or robotics, while 37% of respondents indicated plans to do so within the next three years.

Some manufacturers may not have the budgets to implement or may need additional support to incorporate more advanced technologies, such as automated material handling, robotics, blockchain and virtualization. They may need to partner with manufacturing solutions providers that already have advanced capabilities in place, such as 3D printing and robotic assembly, to meet their customers' demands.

Indicators of Success

What supply chain metrics matter most to manufacturers?

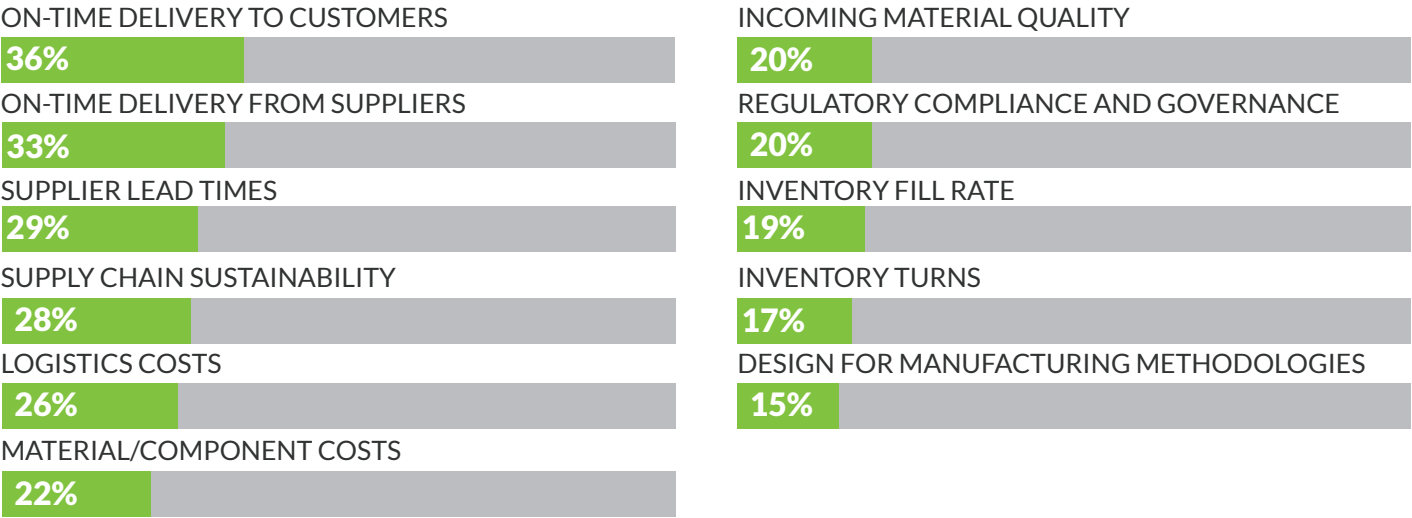
The pandemic exacerbated one of the biggest supply chain headaches all manufacturers face: Their customers want products delivered much more quickly than ever before, and they have very little patience in waiting for deliveries.

For this reason, it's not surprising that on-time delivery to customers and from suppliers are the two top KPIs, respectively, that manufacturers track to determine the success of their supply chain. Supplier lead times (29%), supply chain sustainability (28%), and logistics costs (26%) were also among the top metrics manufacturers monitor to measure their supply chain success (Figure 4).

It's reasonable to expect that sustainability will become increasingly important as more manufacturers look to meet regulatory mandates, including global carbon neutrality goals. This is another example of supplier relationships and visibility playing a critical role in future success. Participating in the circular economy, including sustainable raw-material sourcing and reuse to part recycling, requires expertise in product development, procurement and remanufacturing. Tools that track waste streams, raw material ingredients, supplier sourcing and power consumption will become increasingly necessary to measure progress.

While technology will play an important role in sustainability efforts, organizations might also need the help of third-party providers, such as manufacturing solutions providers and third-party logistics, to help manufacturers track KPIs and deliver on their goals and commitments to customers.

FIGURE 4 Which of the following key performance indicators are most important to the success of your supply chain? (Please select your top three.)



Areas of Focus for Future Success

What type of support do manufacturers need to remain competitive?

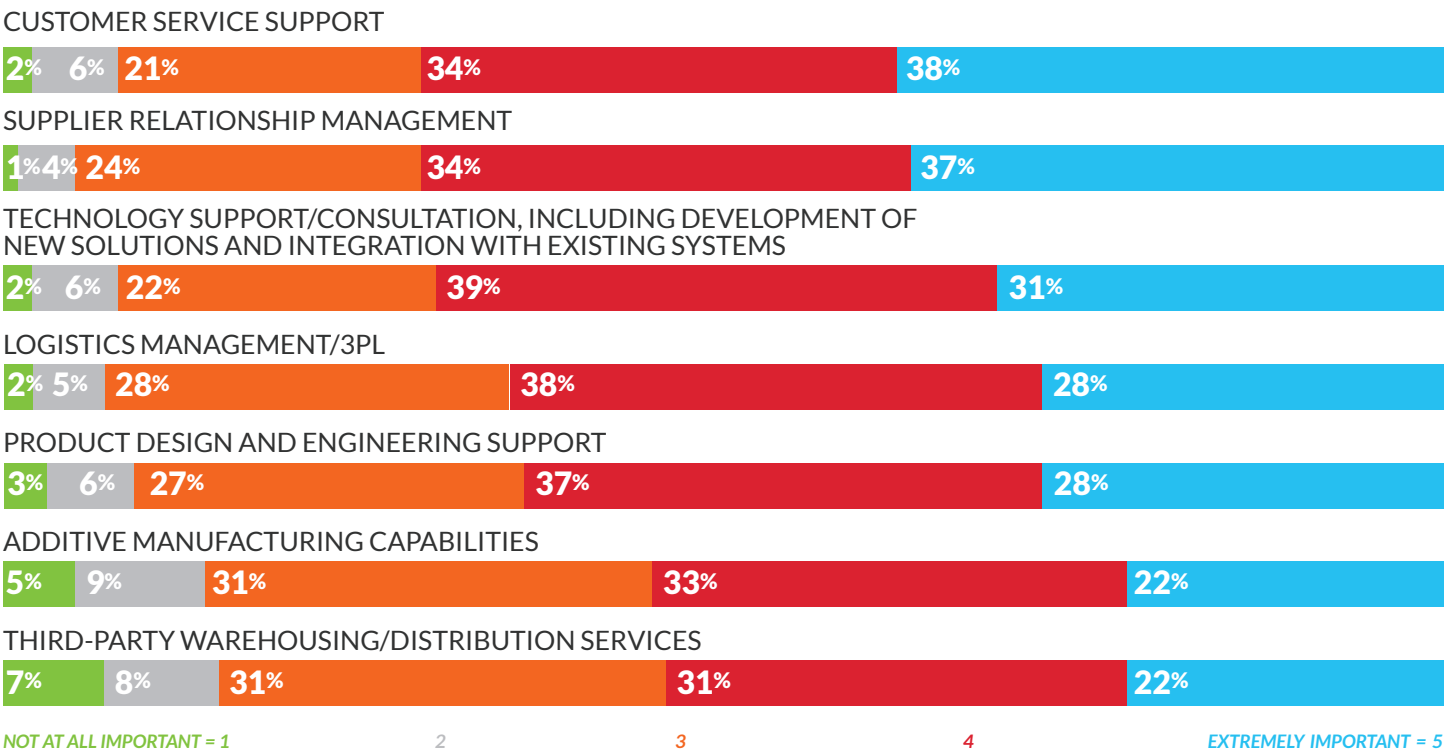
The fast pace of change in the manufacturing industry is stressing many firms beyond their capacity. As Carrier CEO David Gitlin told CNN in February 2022: “Demand is not our issue. Keeping up with it is.”⁴ Securing critical materials, attracting and retaining talent and managing logistics costs are the primary challenges Gitlin cited in the article.

Survey responses related to support services are consistent with many of the same issues that Gitlin cited. Customer service support and SRM received the top number of “extremely important” responses on a five-point scale when asked which services are critical for optimizing supply chain resiliency (Figure 5). Another 31% ranked technology support and consultation as “extremely important.” Other areas that received at least a quarter of “extremely important” responses include logistics management/3PL support and product design or engineering help.

More than 30% of respondents also ranked third-party warehousing and distribution support and additive manufacturing capabilities as high priorities, giving both a “4” rating in level of importance.

Business process outsourcing or consulting firms that offer engineering, rapid prototyping, logistics and supply chain management services specialize in these areas so manufacturers can focus on innovation and strategic decision making.

FIGURE 5 How important are the following when it comes to optimizing the effectiveness of your supply chain resiliency?



⁴ CNN.com, “Manufacturing CEO: Demand isn’t our problem. Keeping up with it is” <https://www.cnn.com/2022/02/09/business/inflation-supply-chain-manufacturing-carrier/index.html>, Feb. 9, 2022.

Looking ahead: Challenges to Address Beyond the Pandemic

Which supply chain issues will persist and how can manufacturers address them?

Supply chain complexity was already creating issues for manufacturers prior to the pandemic. The lack of available labor placed additional pressure on businesses as they try to meet customer demands for faster deliveries and more customized products. Consider that one-quarter of respondents indicated that labor shortages had a “significant negative impact” on operations, while another 36% said they experienced a “moderate negative impact” due to workforce issues.

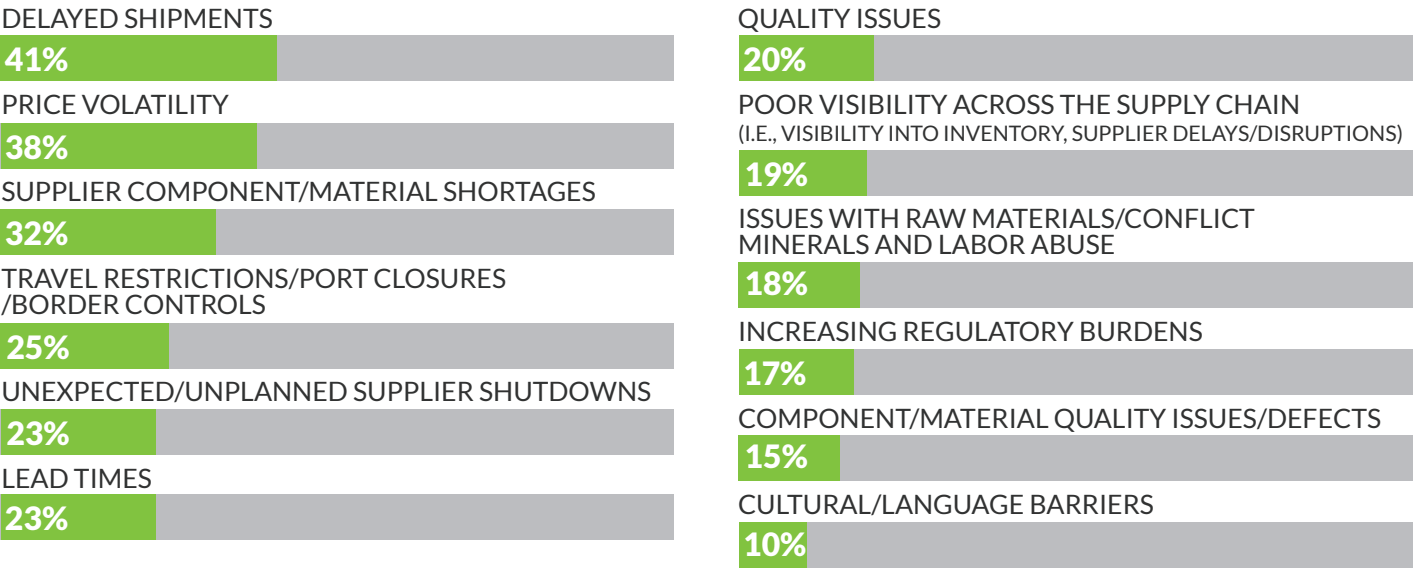
As manufacturers look to the future, they anticipate they will expect to continue to contend with a wide range of supply chain challenges, including:

- Delayed shipments (41%)
- Price volatility (38%)
- Supplier component/material shortages (32%)

To a lesser extent, they also foresee more unexpected shutdowns, travel restrictions, quality issues and lead times impacting their operations. Many manufacturers are adopting a more collaborative position with their suppliers to increase resiliency and address many of the challenges cited above (Figure 6). This includes the sharing of technological capabilities with suppliers, increasing on-site visits, evaluating supplier manufacturing practices and conducting more supplier surveys.

Fortunately, 81% of manufacturers indicate they are in a “good” to “excellent” position to weather future supply chain disruptions. Another 18% rate their supply chain resiliency as “acceptable,” while 2% say it’s poor.

FIGURE 6 Please select the top three supply chain-related challenges you expect to continue beyond the pandemic. (Please select your top three.)



Building the Resilient Supply Chain

Supply chain resiliency isn’t something that manufacturers can establish overnight. In a previous Jabil survey, 95% of participants agreed that they care about their supply chain resilience. But only two-thirds adequately fund resilience strategies and efforts. An agile supply chain requires investments in supply chain experts who can identify key suppliers and foster long-term relationships; sourcing, demand planning and inventory management strategies; and technologies that enable end-to-end visibility for predictive insights and real-time decision making.

Manufacturers responding to the *IndustryWeek*/Jabil survey understand that they have room for improvement. Only 31% rate their ability to weather future disruptions as “excellent,” while 68% rate it as “good” or “acceptable” (Figure 7).

Future disruptions don’t have to derail current strategies or lead to major losses if manufacturers carefully evaluate which processes they can outsource and strengthen relationships with their top-performing suppliers.

The goal, of course, is to reach a level of excellence, and based on the survey responses, manufacturers know they have some work to do. It may require outsourcing non-core functions to contract manufacturers or service providers with 3PL and supply chain management expertise to minimize risks in the years ahead.

FIGURE 7 How would you rate your organization’s ability to weather future supply chain disruptions?





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