

**ECONOMIST
IMPACT**

The cost-plus world of supply chains



SPONSORED BY



STRATEGY
SOFTWARE
MANAGED SERVICES

Contents

- 3** About this report
- 4** New world, new supply chain priorities
- 6** Executive summary
- 7** Supply chain management is growing more complicated
- 9** How are organisations responding to challenges of the future?
- 16** Covid-19's persistent impact combines with geopolitics and inflation to wreak havoc as geopolitical conflict adds to the disruption
- 21** Organisations are looking for competitive advantage in a cost-plus world
- 24** No turning back

About this report

The cost-plus world of supply chains is a report Economist Impact, commissioned by GEP, exploring the evolving world of supply chain disruption and businesses' response. The report is based on a survey conducted between December 2021 and February 2022 of 400 executives in the US and Europe familiar with their organisation's supply chain strategy and operations.

Economist Impact analysts John Ferguson, Michael Frank and Siddharth Poddar are the authors of the report. Economist Impact is solely responsible for the views expressed in this report, and the content does not necessarily reflect the perspectives of the sponsor.

The report's authors would like to thank the following executives and experts for contributing their time and insights to the report:

- Sangram Bhosale, Xcel Energy
- Stephen Ezell, Information Technology and Innovation Foundation
- Pardeep Gill, Ameren
- Aoife Hanley, Kiel Institute for the World Economy
- Robert Koepp, Geoeconomix
- Pamela Mar, Fung Group
- Paolo Montrone, Kuehne + Nagel
- Susan Johnson, AT&T
- Stephen Olson, Hinrich Foundation
- Josué Velázquez Martínez, MIT Sustainable Supply Chain Lab

New world, new supply chain priorities

For the past two decades, enterprises have focused on building lean and cost-efficient supply chains with limited capacity headroom. Unfortunately, that rendered most supply chains rigid and inflexible.

Enterprises never built the necessary muscle memory to sense ensuing supply chain risks. We all have fire drills for emergencies, but there is no training or drill for supply chain risk crises. As a result, the business continuity plans that most enterprises had been largely half-baked and rarely, if ever, used.

In addition, COVID has tested supply chain resiliency beyond the breaking point. We all

experienced shortages in essential goods until enterprises developed alternative supply chains. In response, a just-in-time philosophy is giving way to a just-in-case mindset.

The past year's C-suite conversations have been about supply chain risk management. There is a visible strategic shift from operating cost-efficient supply chains to engineering efficiently flexible supply chains.

What is the path forward? Enterprises need the data, tools and tactics to build a more resilient and agile supply chain to thrive in any environment.





GEP delivers transformative supply chain solutions that help global enterprises become more agile and resilient, operate more efficiently and effectively, gain competitive advantage, boost profitability and increase shareholder value.

Fresh thinking, innovative products, unrivaled domain expertise, smart, passionate people — this is how GEP SOFTWARE™, GEP STRATEGY™ and GEP MANAGED SERVICES™ together deliver supply chain solutions of unprecedented scale, power and effectiveness. Our customers are the world's best companies, including hundreds of Fortune 500 and Global 2000 industry leaders who rely on GEP to meet ambitious strategic, financial and operational goals.

A leader in multiple Gartner Magic Quadrants, GEP's cloud-native software and digital business platforms consistently win awards and recognition from industry analysts, research firms and media outlets, including Gartner, Forrester, IDC and Spend Matters. GEP is also regularly ranked a top supply chain consulting and strategy firm, and a leading managed services provider by ALM, Everest Group, NelsonHall, IDC, ISG and HfS, among others.

Headquartered in Clark, New Jersey, GEP has offices and operations centers across Europe, Asia, Africa and the Americas. To learn more, visit www.gep.com.



GEP SMART™ is an AI-powered, cloud-native software for direct and indirect procurement that offers comprehensive source-to-pay functionality in one user-friendly platform, inclusive of spend analysis, sourcing, contract management, supplier management, procure-to-pay, savings project management and savings tracking, invoicing and other related functionalities.



GEP NEXXE™ is a unified and comprehensive supply chain platform that provides end-to-end planning, visibility, execution and collaboration capabilities for today's complex, global supply chains.

Built on a foundation of big data, artificial intelligence and machine learning, GEP NEXXE is next-generation software that helps enterprises make supply chain a competitive advantage.

100 Walnut Avenue, Clark, NJ 07066 | P 732.382.6565 | info@gep.com | www.gep.com

Clark, NJ | Austin | Chicago | Atlanta | Toronto | Mexico City | San José | São Paulo | Dublin | London | Amsterdam | Frankfurt | Prague | Cluj-Napoca, Romania | Pretoria | Abu Dhabi | Mumbai | Hyderabad | Kuala Lumpur | Singapore | Shanghai | Dalian | Tokyo | Sydney

Copyright © 2022 GEP. All rights reserved.

Executive summary

- **Supply chain management is growing more complicated.** Companies built their supply chain architecture in a world that no longer exists. Even as the acute phase of the pandemic ends in much of the world, the triple threat of geopolitical tensions, inflation and protectionism is resurgent. There is a clear realisation of the need for improved procurement strategies, models and systems to cope with disruptions.
- **Companies are responding to challenges of the future by revisiting historical dogmas about supply chains.** The importance of resilience is driving a re-evaluation of inventory, production cost, and supply chain visibility. That assessment ultimately remains focused on cost, but is increasingly complex and interdisciplinary. The “just-in-time” world of supply chains is being cast aside in favour of “just-in-case.”
- **Rising costs trip up organisations.** One in two organisations in the survey report greater operational cost as a result of supply chain disruptions in 2021—by far the largest reported consequence of disruption. Survey respondents cite other consequences, such as damage to brand and client relationships, loss of sales, or product launch delays, relatively less frequently. The broad impact of rising costs, cutting across sectors and firms of all sizes, has made it difficult to gain competitive advantage.
- **Organisations are looking for competitive advantage in a cost-plus world.** Three in four executives assert that significant changes are required to effectively manage supply chain disruptions in the next 12 months. Resilience is a notable, increasingly important source of competitive advantage. Those investments will take time to pay off, but there is a growing view that organisations with new capacity and shorter supply chains will gain market share in the next few years.
- **Sustainability metrics are going mainstream.** While no single step is in practice at a majority of firms, many sustainability-focused metrics are going mainstream. Large minorities of firms (20-40%) are already tracking these metrics to benchmark the sustainability of their supply chains.

Supply chain management is growing more complicated

With the onset of covid-19 in December 2019, supply chains worldwide were dealt a serious blow with strict lockdowns that brought economic activity to a trickle. To this day, organisations across industries are reeling from the aftereffects.

As supply chains were thrown into disarray, organisations scrambled to procure enough supplies to meet immediate demands of their next manufacturing batches on time, and sought ways to deal with steep rises in the costs of raw materials and labour. In many cases, this has meant companies looking beyond just cost as the main focus area in supply chain strategy.

Supply chain challenges have been compounded by geopolitical tensions in the form of rising economic nationalism and the on-going US-China trade war that have led to increasing tariffs and embargoes on goods and services, while imports have shifted to prioritise regional trade partners and domestic consumption.¹

The past two years have also seen a shift away from just-in-time-supply models that have dominated supply chains for a while. The failings of the model were laid bare when the Ever Given, a 20,000 TEU container ship, stoppered the Suez Canal for almost a week in 2021—further squeezing supply chains, and jamming up nearly US\$10bn in global trade.² The event offered a

stark wake-up call for companies to the fragility of global supply chains, and their current models.

There is, however, a clear realisation of the need for improved procurement strategies, models and systems to cope with disruptions.

“Many people thought this [covid-induced disruption] was just going to last a couple of months—maybe three—and then we would go back to normal,” says Josué C Velázquez Martínez, research scientist and lecturer at the MIT Center for Transportation and Logistics. “But the reality is that supply chains disruptions are still there.” In this context of economic uncertainty, how is organisational focus shifting towards building greater resilience in supply chains and procurement? And what are companies doing to meet prepare for more uncertainty?

Between January and February 2022, Economist Impact conducted a survey to explore how their businesses, organisational functions and industries have been affected by the dual-shocks of disrupted supply chains and a changing global trade environment. Respondents were asked to share how they have sought to cope with these supply chain and procurement challenges, and reorient themselves to face a future that is likely to remain unsettled for years to come.

¹ <https://economistchina.com/wp-content/uploads/Huawei-Sponsored-The-Cost-of-De-globalising-World-Trade.pdf>

² <https://www.nytimes.com/2021/07/17/world/middleeast/suez-canal-stuck-ship-ever-given.html>

BOX: Survey demographics

Economist Impact conducted a survey of 400 senior level employees (C-Suite or director level and above). Half of the surveyed respondents belonged to the procurement and supply-chain management functions; while the other half belonged to the strategy, finance and IT functions. There were 80 respondents each from five industry aggregates – agriculture and food; MMT (manufacturing, media and telecoms)³; consumer goods and retail (excluding food); healthcare and pharmaceuticals; and energy and utilities.

Half the respondents worked at organisations with annual revenues between \$500 million and \$1 billion, while the remaining worked at organisations with annual revenues of more than \$1 billion. More than half (55.8%) of the organisations are in the business of purchasing raw materials and selling products. Fifty percent of organisations are based in the US, with the remainder in Europe. The survey results reveal that supply chains are evolving to look markedly different from the past. After decades of chasing the lowest possible cost of production, supply chain managers are finding that their remit is becoming increasingly interdisciplinary—geopolitics, public health, and climate are just some of the new considerations of this new remit. The low-cost, low inventory mantras are consigned to the past. The cost-plus world of supply chains has arrived.

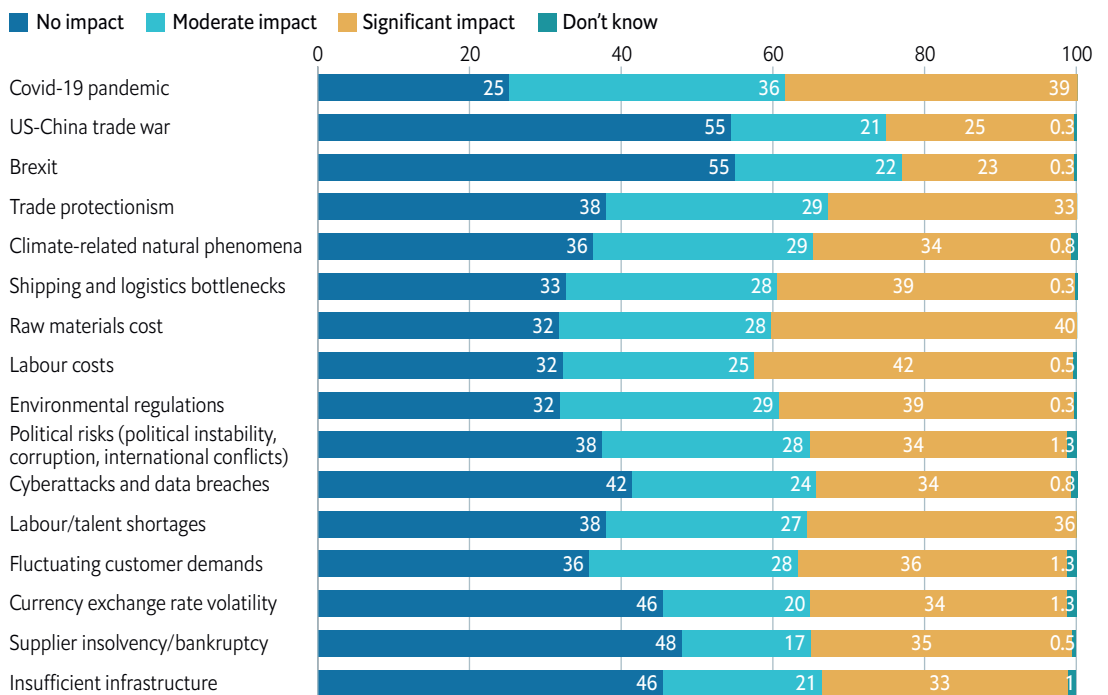
³ Manufacturing includes automotive, machinery, chemicals and aerospace.

How are organisations responding to challenges of the future?

When asked about factors that will have a disruptive impact on their supply chains in 2022, most companies are of the view that the factors that have been responsible for the ongoing

disruption are not going to disappear this year. The most commonly cited disruptive factors continue to be inflation, shipping and logistics bottlenecks, environmental regulations and the

Exhibit 1: The effects of covid-19 will continue to affect supply chains in 2022
(%)



Source: Economist Impact.

covid-19 pandemic. There are some outliers, however. Respondents from the agriculture and food industry widely cite environmental regulations (72.5%) as the biggest source of disruption for them in 2022, as they look to juggle existing stressors with future ones. Meanwhile, a large proportion of consumer goods (86.3%) and MMT (85.0%) companies expect to continue being plagued by the lingering effects of the pandemic.

An Atlantic divide is clear on an issue that has faded from the news cycles but remains a supply chain headache: Brexit. While only 27% of US companies are of the view that Brexit will disrupt supply chains in 2022, nearly two-thirds (62.5%) of firms from European companies flag it as a concern. One explanation for that sector's concern could be the significant work that lies ahead in extricating the United Kingdom from the EU's Common Agricultural Policy.

Rewriting the story of inventory

Apple's CEO Tim Cook once famously claimed that "inventory is fundamentally evil",⁴ but the past couple of years have suggested that inventory has become an antihero capable of saving companies from disruption. Supply chain disruptions have forced a reckoning with lean manufacturing philosophies such as "just-in-time" that reject the need for inventory. Procurement teams at companies today are confronted by questions of how to balance the need for stockpiles against their costs.

"The 'inventory is evil argument' may have

been taken a bit too far," suggests Stephen Ezell, director of global innovation policy at the Information Technology and Innovation Foundation. "I think what will be fair to say is that a maniacal or sole focus on operating efficiency has got to be complemented with an increasing emphasis on resiliency, adaptability and flexibility. It is important for companies to realise that these don't have to come at the expense of efficiency." Stephen Olson, senior research fellow at the Hinrich Foundation concurs: "I think in the past, our pendulum swung a bit too far in the direction of just reaping economic efficiency and just-in-time manufacturing."

Fortunately, the just-in-time philosophy isn't written in stone, and organisations have been known to adjust to suit their needs. When an earthquake struck Japan in March 2011, Japanese manufacturers were severely affected by long lead times for critical components such as semi-conductors. Toyota Motors, among the pioneers of the just-in-time philosophy, quickly devised a business continuity plan that required their chip suppliers to stockpile two to six months' worth of inventory.⁵ This decision, made a decade prior, has since paid off, as Toyota has staved off product launch delays that continue to plague other global auto manufacturers, and the rising costs of inputs. Now, the rest of the world may be catching up. Given widespread shortages in inputs, most auto companies have moved from being price makers to price takers across a number of key input components, Mr Ezell says. Information and communication technology supply chains, therefore, have to devise

⁴ <https://www.supplychainbrain.com/articles/30199-inventory-is-evil-not-so-fast>

⁵ <https://www.reuters.com/article/us-japan-fukushima-anniversary-toyota-in-idUSKBN2B1005>

strategies that look beyond lean manufacturing philosophies alone.

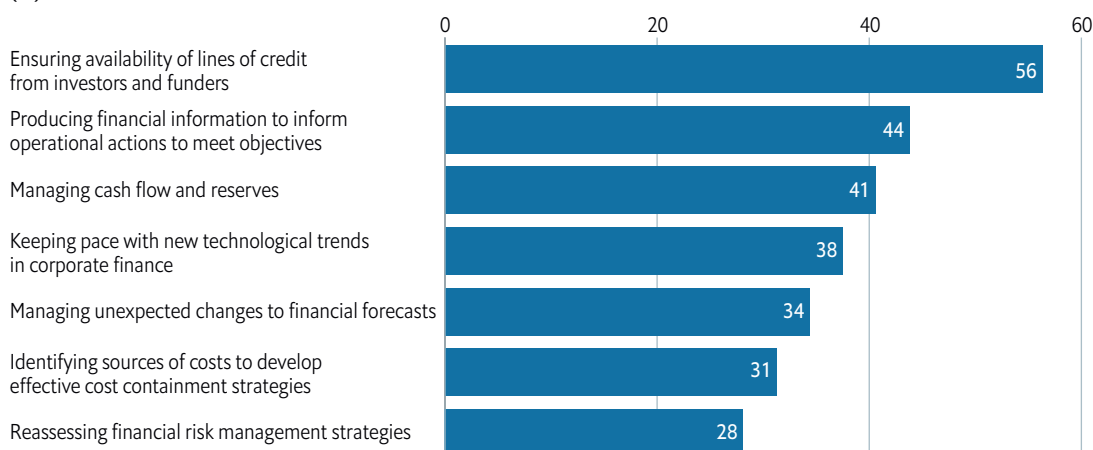
The end of just-in-time?

For several decades now, the modern global supply chain has been characterised by a “just-in-time” model that takes advantage of a highly-coordinated and efficient network of companies and suppliers in various countries to minimize the need to stockpile inventory, thus cutting costs for businesses. Volkswagen, for example, uses the just-in-time system to ensure a seamless flow of materials and information along the supply chain. “The right part is at the right place at the right time, with the right quality, in the right quantity,” the company says on its website.⁶ But with this model in question, the auto giant is

investing around €2bn to setup gigafactories in Europe to produce its own battery cells starting 2025.⁷

In the face recent disruptions, shortages in every geography have undermined just-in-time manufacturing. Delivery delays, price increases, and a decline in variety are causing considerable consternation. In particular, disruptions in semi-conductor manufacturing have derailed industries from smartphone manufacturers to automobiles, pharmaceuticals to space vehicles. Around 54% of the world’s semi-conductor manufacturing are made in Hsinchu, Taiwan by the Taiwan Semiconductor Manufacturing Company (TSMC), before traveling through long supply chains to reach markets in Europe or North America. When covid-19 hit Taiwanese

Exhibit 2: Top challenges faced by the finance function (%)

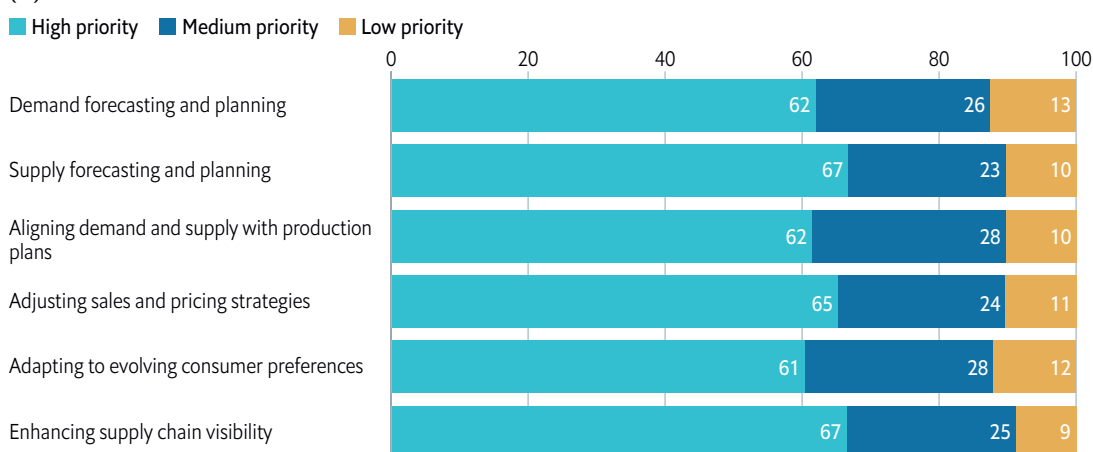


Source: Economist Impact.

⁶ <https://sk.volkswagen.sk/en/for-suppliers/logistics.html>

⁷ <https://www.volkswagenag.com/en/news/2021/12/volkswagen-group-creates-european-company-for-its-battery-busine.html#>

Exhibit 3: Sales and operations planning strategies companies are looking to prioritise in 2022 (%)



Source: Economist Impact.

exports, mass chip shortages rippled out far and wide. Several automakers, such as Toyota, Nissan Motor and Suzuki Motor are seeking to move away from just-in-time supply chain approach as a result. Toyota, for example, asked suppliers to boost their semiconductor inventory levels from three months to five months.⁸

The telecom and tech industries struggle with chip shortages, transportation and labour force participation,” says Susan Johnson, executive VP, global connections & supply chain at AT&T. “It’s such an issue across the entire industry, and we’re not seeing much improvement on that.”

The sustained global chip supply chain imbalance is but one example of the impact of disruptions on highly-integrated supply chains, and further derailments are likely around the corner.⁹ Russia’s war on Ukraine, for example, was immediately disruptive as Ukraine supplies 50% of the world’s neon gas, a key component in

the semi-conductor manufacturing. In another case, Volkswagen and BMW closed two German assembly lines citing shortages of Ukraine-manufactured wiring harnesses.¹⁰

Mr Olson says that while supply chains have been largely resilient in the face of politico-economic disruptions such as the US-China trade war and Brexit, this time could be different as “geopolitical factors and complications assert themselves more strongly in 2022.” For starters, a hot war involving a great power—the first in Europe in nearly eight decades—has both deeper and broader implications for supply chains. As Mr Velázquez Martínez points out, the key issue will be the sanctions being imposed on Russia by the West on a wide-range of industries, and the ripple effects the conflict could have on shortages of raw materials such as minerals, wheat, petroleum and natural gas.¹¹ Inflationary pressures are percolating through global markets, with political implications, too. Sri Lanka’s

⁸ <https://asia.nikkei.com/Business/Automobiles/Toyota-ditches-signature-just-in-time-to-fight-chip-crunch>

⁹ As our survey was completed before the conflict began, its findings do not account for the potential implications of the conflict on supply chains and procurement.

¹⁰ <https://hbr.org/2022/03/how-the-war-in-ukraine-is-further-disrupting-global-supply-chains>

¹¹ <https://www.techtarget.com/searcherp/news/252514836/Ukraine-war-sanctions-will-extend-supply-chain-disruption>

political unrest in the spring of 2022 was largely the consequence of rising fuel and food prices, demonstrating the conflict's disruptive impact even in seemingly disconnected markets.¹²

Bringing visibility into the supply chain

Through the pandemic, as organisations' sales have been hit hard owing to supply chain disruptions and a slowdown in the global economy that subdued demand, many have been taking a series of steps to mitigate possible supply chain disruptions. Different business functions are faced with challenges of a different nature.

For those in the finance function, securing lines of credit from investors and funders will be the most significant challenge resulting from supply chain disruptions (56.3%), followed by the requirement to produce financial information to inform operational actions to meet objectives (43.8%). Managing cash flows and reserves is also expected to be a significant challenge in 2022, as picked by 40.6% of respondents.

Two in three executives rate supply forecasting and planning (66.8%) and enhancing supply chain visibility (66.5%) as high priority areas of focus to mitigate possible disruptions to supply chains in 2022. All other strategies were also picked by a similar—albeit smaller—share of companies, underscoring the multi-pronged approach companies are taking with respect to sales and operations planning. This is also related to the multi-dimensional impact of supply chain disruptions on different organisational functions.

Insofar as organisations' sales and operations planning are concerned, European executives place lower priority on all strategies as compared to their counterparts in the US. Among US respondents, however, the two most popular

strategies include adjusting sales and pricing strategies (73%) and enhancing supply chain visibility (72%).

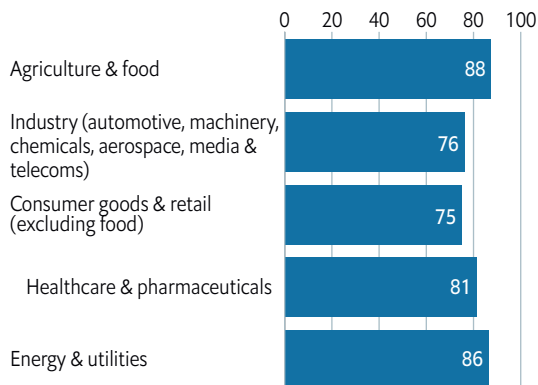
For Ms Johnson of AT&T, improving supply chain visibility—from the ports used to bring in components, to the source of the materials—is key to the company's overall post-pandemic response. By ensuring better visibility of supply chain, Ms Johnson says AT&T is able to have a "better understanding of from whom our vendors procure their critical components and where their equipment is manufactured—and often, we can actually help them secure needed supplies because of our weight and scale." Additionally, Ms Johnson speaks to the importance of having suppliers who are willing to share data so that they have visibility on the amount of inventory at hand and information on key component shortages. "This gives full visibility on all the underlying components and where there may be shortages." Better business intelligence is not just about improving lead times for service delivery, but it is also key to building more flexible delivery models to serve customers. "How do we make it seamless so that inventory is in the optimal place to get to the customer? How can we get it to them fast, with the right interfaces to track their orders?"

Mr Velázquez Martínez states that, moving forward, companies will be "identifying more than vulnerabilities in the supply chain, establishing more connections with their suppliers and understanding a little bit more about their capabilities so that they can better be better prepared and react faster to what is happening." But how much to invest in what is a challenge, he says, particularly because it is hard to predict disruptions. "I believe, however, that companies should assume that disruption is going to happen, and understand vulnerabilities." Executives may find they need to implement

¹² <https://www.reuters.com/world/asia-pacific/sri-lanka-begin-official-talks-with-imf-next-month-protests-grow-2022-03-15/>

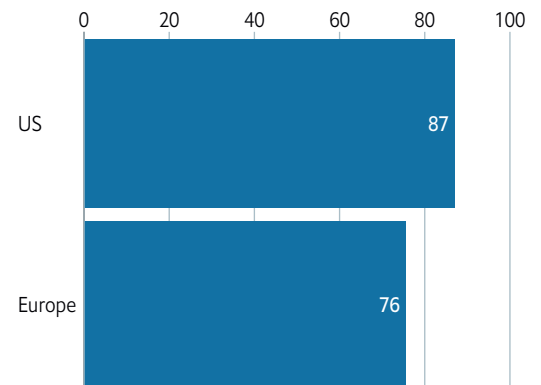
Exhibit 4: Greater visibility sought over supply chains (%)

We need greater visibility and control over our supply chain.



Source: Economist Impact.

We need greater visibility and control over our supply chain.



training and procure intelligence that help their teams understand the probability and impact of various macro factors on their supply chains to reflect a more complicated world.

Breaking down the priority paradigm

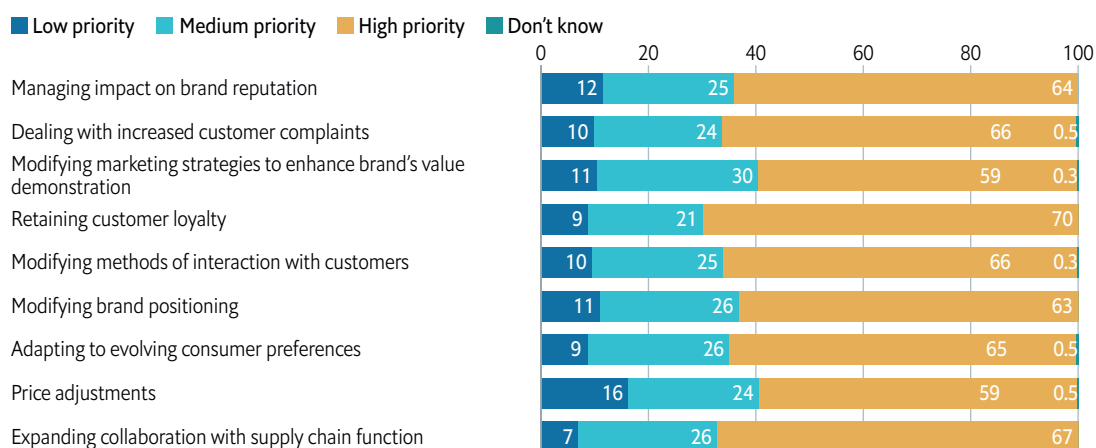
Bearing in mind the varying challenges faced by each industry, respondents indicate different priorities in the solutions needed to build more resilient supply chains, varied by business function and industry. For more than three-quarters (77.5%) of respondents from the agriculture & food sector and for 71.3% of those in the energy sector, adjusting sales and pricing strategies is a high priority. On the other hand, manufacturing respondents are prioritising supply forecasting and planning (63.8%),

compared to the 67.5% of consumer goods respondents who are focused on the demand-side. Among healthcare and pharmaceuticals respondents, enhancing supply chain visibility is listed as a high priority area for 2022 by 76.3% of respondents, while 75% of MMT organisation leaned towards modifying methods of interaction with customers.

Another organisational function deeply impacted by the pandemic is marketing and sales. In this area, retaining customer loyalty is of high priority in mitigating challenges from possible supply chain disruptions, for 70% of respondents. This is particularly true of executives in the agriculture and food sector (with 78.8% saying this is of high priority).

Exhibit 5: Retaining customer loyalty will be a key marketing and sales priority in 2022

(%)



Source: Economist Impact.

Covid-19's persistent impact combines with geopolitics and inflation to wreak havoc as geopolitical conflict adds to the disruption

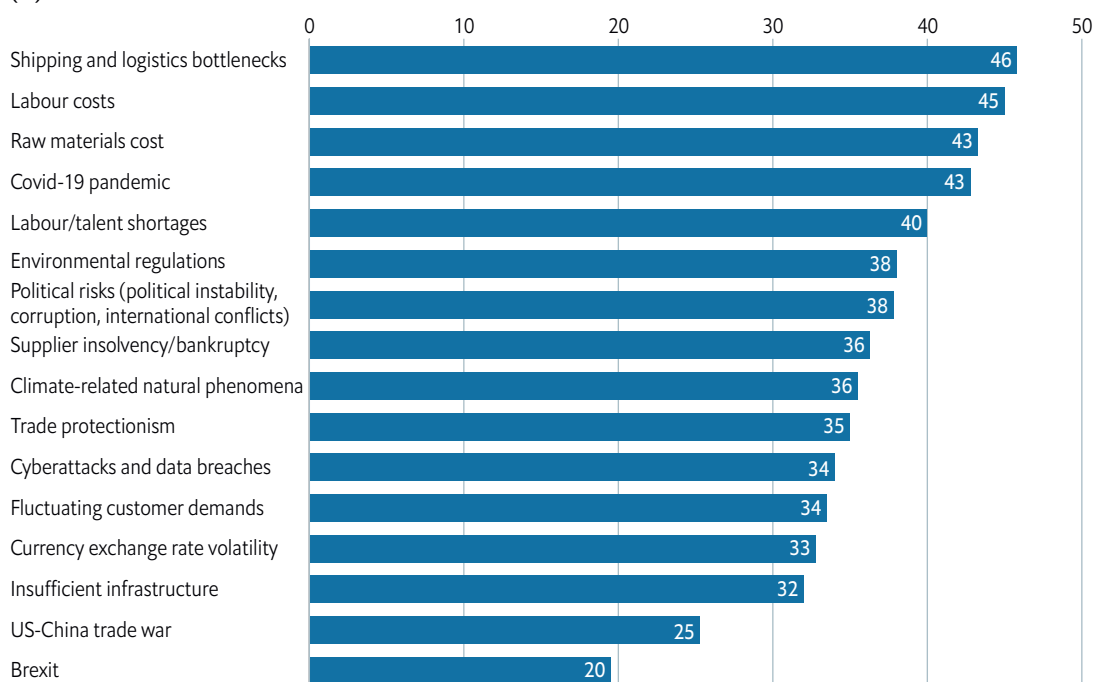
Covid-19's unequal impact on industry

Supply chain disruptions translate to tangible business problems. Over 46% of executives say that in 2021, shipping and logistics bottlenecks had a significant impact on their supply chain operations, closely followed by labour costs

(45%), and covid-19 (43%) and raw material costs (43%).

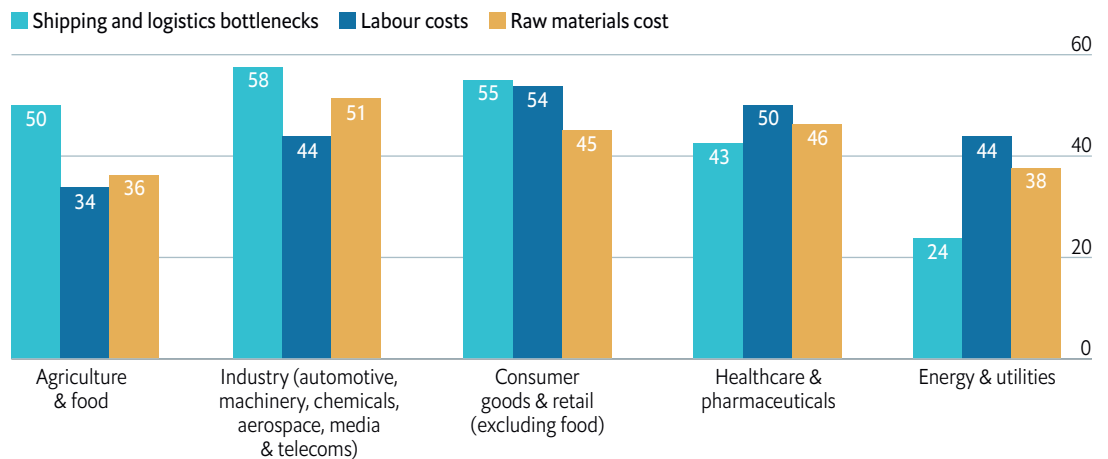
Though most industries highly rank the disruptive impact of covid-19, closer analysis indicates that perceptions vary by industry. More than half (55%) of consumer goods and retail

Exhibit 6: Key factors resulting in supply chain disruptions
(%)



Source: Economist Impact.

Exhibit 7: Supply chain disruptions were severe for the consumer goods sector (%)



Source: Economist Impact.

sector respondent say covid-19 had a significant impact on their supply chain operations in 2021, compared to 42.5% in the healthcare and pharmaceuticals sector, and 41.3% in MMT segments. The pandemic scored even lower among agriculture and food, and energy and utilities (37.5% each). The differences in opinion between industries appear to align with how inelastic demand is products like medicines, food and energy. In fact, in the face of a health crisis, it is likely demand for these goods will increase, leading to further emphasis on the disruptive impact of shipping and logistics bottlenecks.

No return to the pre-pandemic world

Despite the supply chain turmoil caused by disrupted shipping and logistics troubles, a big picture consideration of moderate to significant impacts reveals that covid-related disruptions remained the most significant issue for organisational supply chains until recently. A good illustration of this can be seen among consumer goods and retail companies:

almost nine in ten (87.5%) were moderately to significantly impacted by covid-19, compared to the 85% who cited shipping and logistics bottlenecks. As the direct source for the prolonged lockdowns, covid-19 is inextricably linked with the lingering impacts of a backed-up manufacturing sector and transport network.

However, the war in Ukraine—which began after the completion of the survey—is clearly another major issue for supply chain chiefs to contend with in 2022. Aoife Hanley, professor of innovation and international competition at the Kiel Institute for the World Economy, cites the case of wire harness shortages imported by German car manufacturers from western Ukraine.¹³ “It’s a small part of the car, but it can cause serious disruptions in production,” she says. Europe, in particular, is vulnerable to first degree disruptions to supply chains that run through Ukraine and its neighbours. The continuation of the war—or an unstable settlement—could lead supply chain chiefs to consider more permanent measures to mitigate risk.

¹³ <https://europe.autonews.com/suppliers/europes-auto-production-crashes-flow-wire-harnesses-dries>

Political risks shake up energy supplies

The energy and utilities sector, with their connection to global commodities markets and significant degree of regulation, are manifesting the post-cost world of supply chains in different ways. The top challenges for the sector are labour (72.5%) and raw material costs (65%). It is possible that shipping and logistics are not major concerns as energy production remains a fairly domestic and regional issue, especially in oil-producing countries like the US and parts of Europe.¹⁴ Moreover, oil and gas production is a labour-intensive industry that relies on skilled workers—but over the years, the industry has bled talent as workers move increasingly to renewable energy sources, or into other segments such as manufacturing and technology.¹⁵

Concerns about raw material costs are directly related to respondents' third-most important factor: political risks (63.8%).¹⁶ Political instability tends to inflate oil prices, as evidenced by the initial increase after Russia, the world's second largest oil producer, invaded Ukraine.¹⁷ The prominence of political risk's impact on supply chains is unsurprising given how global oil and gas markets are. However, the impact of political risks on energy supply chains looks very different on either sides of the Atlantic. American power company Ameren, for one, chiefly procures from domestic partners in the US, according to Pardeep Gill, the company's chief procurement officer and vice president of supply chain. "There is some downstream risk because we don't always have full visibility into where our suppliers get their materials or sub components, but the final manufacturing for most materials and equipment we procure is in the US," he says. In comparison, energy companies engaged in more cross-border trade would face more risks due to political instability, as in the case of the EU's dependence on Russian oil and gas.¹⁸

Organisational dysfunction and rising costs

The survey findings bear out this reality: two-third (65.6%) of respondents working in a finance function agree that the most significant impact of disrupted supply chains is the increased costs of operation incurred by organisations. For some companies, the increased operational costs are necessary to build more resilient companies that can withstand future shocks. "We're investing in technology right now at many levels to make sure we've got more visibility into our supply chain to know where critical components are coming from and what transportation path they are taking. Knowing where inventory sits at every stage allows us to manage it better and best serve our customers," says Ms Johnson.

Yet this isn't necessarily the case for all parties, as noted by Mr Olson of the Hinrich Foundation: "Every time you find one modification that can strengthen the resiliency of your supply chain in one place, you've maybe created three other headaches that you have to work your way through." There are also cultural shifts underway. Many organisations are waiting to see their peers deploy emergent technology and establish successful use cases before taking the risks themselves. For an industry that has been repeatedly burned by a volatile world, risk mitigation takes precedence over experimentation and innovation. The relative dearth of established use cases for emergent technology resonates with Mr Gill, who notes that while digital solutions could help his utility company streamline its work, the benefits might

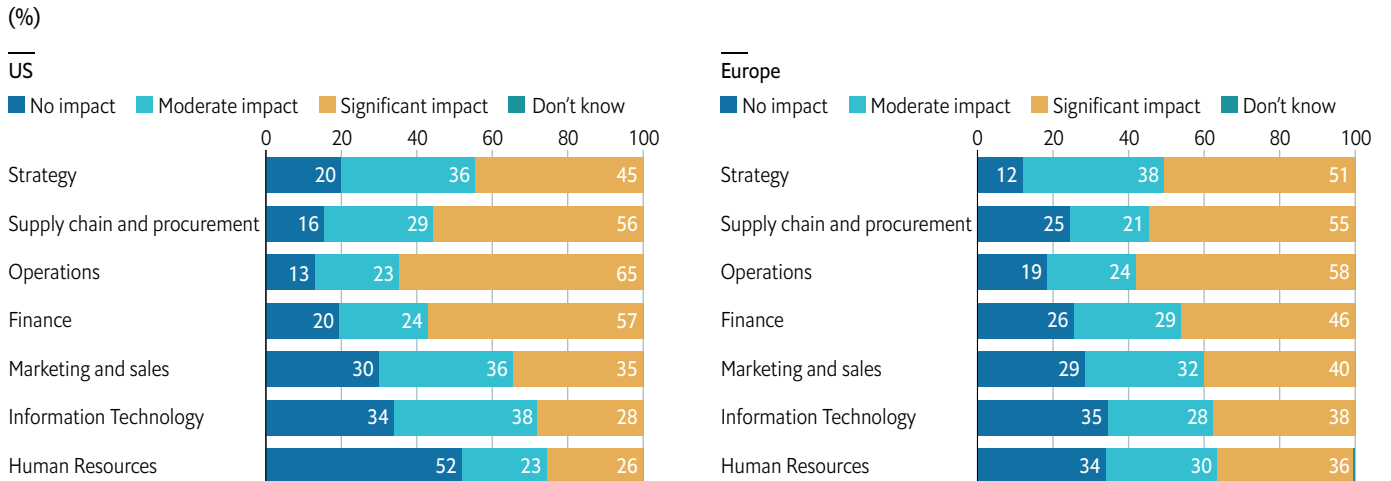
¹⁴ <https://economistchina.com/wp-content/uploads/Huawei-Sponsored-The-Cost-of-De-globalising-World-Trade.pdf>

¹⁵ <https://realeconomy.rsmus.com/labor-shortage-remains-a-major-challenge-for-oil-and-gas-spring-2022-outlook/>

¹⁶ This factor comprises political instability, corruption, international conflicts.

¹⁷ <https://www.reuters.com/business/energy/oil-rises-us-says-russian-attack-ukraine-may-occur-soon-2022-02-24/>

¹⁸ <https://www.weforum.org/agenda/2022/03/eu-energy-russia-oil-gas-import/>

Exhibit 8: Little difference between Europe and the US

Source: Economist Impact.

not outweigh the licensing, implementation and ongoing costs. “Technology in the way of automation from a procurement perspective is challenging as much of the work is personal and requires dialogue with vendors, instead the areas of opportunity for automation is in our warehouses like Amazon,” he admits though. “The cost-benefit trade-off is not necessarily there for us as our volume may not justify complete automation.” That perspective reflects the challenging digital transformation journey that many firms have embarked on, even if the trend towards tech-driven optimisation is clearly established.

That there is little difference between how various organisational functions have been impacted across geographies as result of supply chain disruptions in 2021, indicates that their impacts vary more greatly by industry.

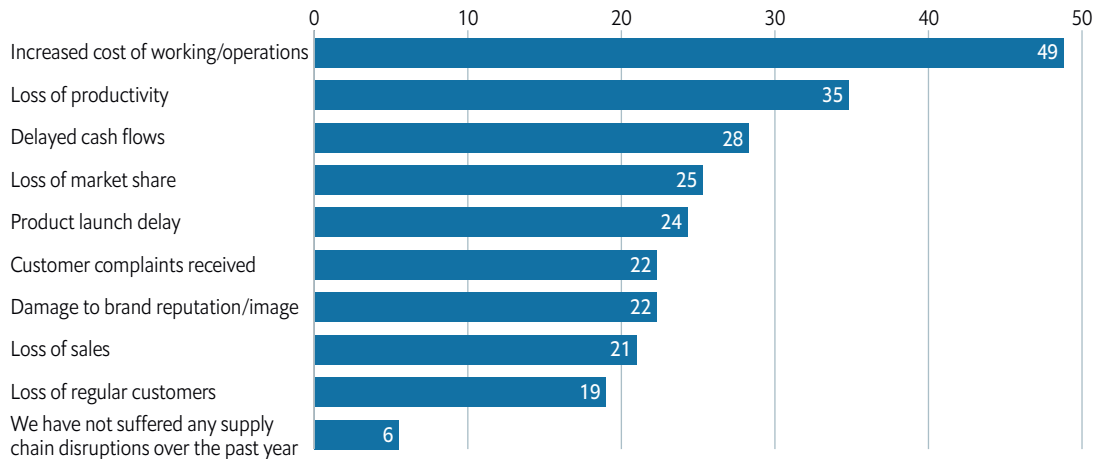
Rising costs trip up organisations

Organisations are impacted by supply chain disruptions in different ways, depending on the industry they are in and their size. What also matters is how much companies have already prepared for disruptions by thinking about—and investing in—more resilient supply chains, as well as which aspects of supply chain and procurement companies have invested in. On the whole, increased working or operations costs emerged as the most common cause of suffering for organisations as a result of supply chain disruptions (48%), followed by a loss of productivity (34.8%), delayed cash flows (28.3%) and loss of market share (25.3%).

There is a stark difference in opinions cut along geographical lines: around 43.5% of US companies have suffered productivity losses, compared to a far smaller share (26%) in Europe.

Exhibit 9: Consequences of supply chain disruption

(%)



Source: Economist Impact.

This could be due to the EU's decision to "freeze" its economies in response to the pandemic, and prop up markets through social welfare systems.¹⁹ Additionally, the EU was proactive and pushed for a reshoring of strategic sectors to increase supply chain resilience, and it updated its 2020 New Industrial Strategy, which included a thorough review to secure supply chains of raw materials, semiconductors and APIs.²⁰ The US, in contrast, adopted a more flexible, stimulus-driven approach. The divergent approaches may have resulted in a much faster recovery of EU economies, leading gradually to relaxations of restrictions and rising consumption levels.²¹

However, those EU economies experienced other headaches in terms of how their brand is perceived. Around 28% of European companies

cite damages to brand reputation or image as a significant impact of disrupted supply chains, compared to 16.5% of US respondents. A contributing factor could be the prolonged lockdowns in the EU that strained supply chains, leading to increasingly-stretched lead times and poor customer satisfaction.

Ms Johnson says, for example, that AT&T fought against a tide of disrupted logistics systems in an effort to meet customer expectations for speedy deliveries. "Previously, you could click a button and have it show up at your doorstep the next day, but in the throes of covid, there were longer lead times," she says. "While lead times were longer, we believe we performed better than many of our competitors."

¹⁹ <https://www.nytimes.com/2020/07/01/world/europe/coronavirus-europe-usa.html>

²⁰ <https://www.chathamhouse.org/sites/default/files/2021-09/2021-09-10-us-european-supply-chains-schneider-petsinger.pdf>

²¹ <https://www.ceps.eu/how-robust-is-the-eu-recovery/>

Organisations are looking for competitive advantage in a cost-plus world

Survey results clearly illustrate companies across different sectors in both Europe and the US are examining ways to better manage their supply chains and to increase resilience. What stands out is the desire for greater control and visibility over supply chains—81.3% of all executives surveyed say this is something they need. Three in four (75%) executives agree their companies must make significant changes in order to effectively manage supply chain disruptions in the next 12 months, with especially strong sentiments among 80.5% of US respondents.

However, this evolution will take time. Mr Olson thinks “things haven’t appreciably improved.” He says this suggests “these issues cannot get sorted out overnight. A lot of the supply modifications and adjustments that companies need to make—it’s not like switching a light switch on at all. It takes time to actually implement these things.” Plant investment, long-term partnerships, and technology transformation are subject to bureaucratic realities that reinforce the stickiness of supply chains—and some sectors are stickier than others. For example, while the US tariffs on China helped accelerate the relocation of apparel supply chains elsewhere in Asia, the consumer electronics sector has found it more difficult to

adjust. Even today, those supply chains largely run through China. Ms Johnson points to the long lead times limiting the emergence of new of semi-conductor manufacturing capabilities as an example of the inability of supply chains to immediately fulfil existing demand. “There is new capacity coming on board, but it could take two to three years to come on board,” she says.

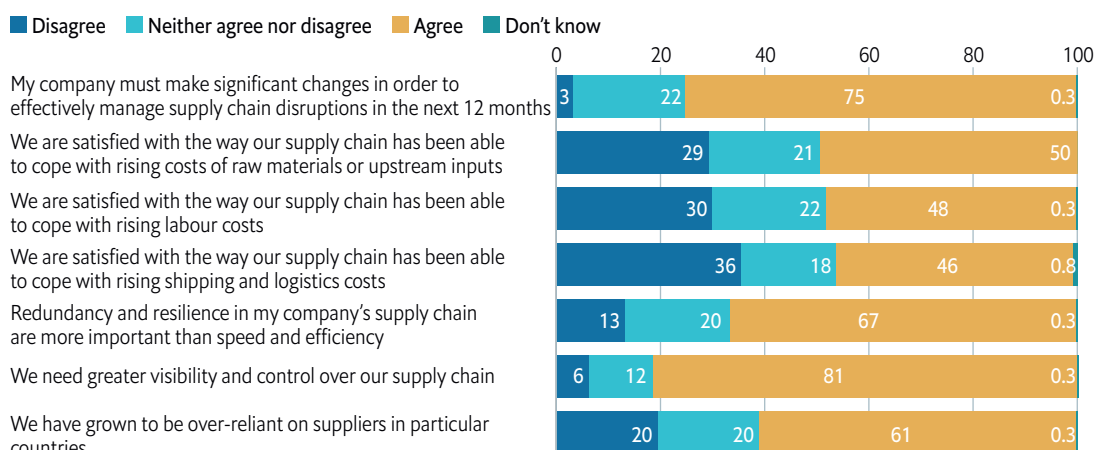
Long lead times are also a persistent problem for the energy industry, if for different reasons. As a highly-regulated industry, energy providers are constantly adjusting and planning ahead to make room to manage arduous approval processes by governing bodies on issues like investments.

“I think almost everybody is going to undertake a thorough review to see how they can build greater resilience. But at least some of those companies I think, are going to examine their operations from top to bottom,” says Mr Olson.

However, many executives say they are satisfied with how their organisations’ supply chains have coped with recent disruptions. Nearly half (49.5%) of executives agree they are satisfied with the way their supply chains have been able to deal with rising costs of raw materials or upstream inputs. Similar shares were

Exhibit 10: Changes to ensure better supply chain management

(%)



Source: Economist Impact.

indicated by respondents' satisfaction with their organisations' responses to rising labour (48.0%), and shipping and logistics costs (45.5%). The cost impact of these disruptions is simply passed on to consumers. Unilever, a global consumer goods company, is addressing the issue of inflated input costs by implementing productivity programmes that ensure prices are kept in check, but amidst historically high inflation, it has raised its prices.²²

Supply chain resilience and sustainability are priorities in the cost-plus world

Regardless, it is increasingly clear that an evolution has taken place in supply chain strategy. For most companies (66.5%), redundancy and resilience are seen as paramount concerns in their supply chains, more so than speed and efficiency. These sentiments are especially strong within the agriculture and food sector (72.5%), a connection that makes sense considering the sizeable impact supply chain disruptions exerted on these particular industries that are especially vulnerable to

sudden macroeconomic shocks. Facing down staggering revenue losses in the coming year, these companies will be looking for more opportunities to build redundancy and resilience into their systems to further inure them to future shocks.

For Mr Gill, there is a clear shift in companies towards bringing more redundancy and resilience in their supply chains to protect not just their profitability but the reliability, especially in the context of an energy supplier. For example, equipment shortages have placed additional stressors on his company's ability to ramp up stock levels, leading to new challenges. "We've always been an industry that is expected to carry a sufficient amount of inventory to protect from stock outs of critical materials needed to safely and reliably provide power for our customers, so we've always been pretty conscious about having sufficient safety stock," he says. In response to similar issues, Ms Johnson says AT&T is "spending a lot more time thinking about geographic and component diversification" across alternative

²² <https://www.cnn.com/2021/11/10/big-business-bosses-are-warning-that-supply-chain-issues-and-inflation-are-here-to-stay.html>

territories and sources to circumvent the risk of being “single-threaded” in the event of a factory or border shutdown. AT&T has gone from cost and efficiency being “the overall mantra for everything that we do to a de-risking of the supply chain being the key learning over the last two and a half years,” says Ms Johnson. She adds that cost still matters, but a lot more time is being spent thinking about ways to de-risk the supply chain.

“Supply chain management is all about balancing supply and demand effectively, and smoothly,” Mr Velázquez Martínez says. “You’re not going to predict a disruption and you’re not going to start ordering or stockpiling mindful of a disruption.” This underscores the importance of building redundancies, Mr Velázquez Martínez says. Mr Olson agrees. He says companies “found out that they had got their fingers burned a little bit by erring on the side of economic efficiencies and reducing costs.” He adds: “They now believe that from a business model point of view, they need to have a little bit of redundancy built into the supply chain have a greater diversification of sourcing within their supply chains.”

Most importantly, says Mr Velázquez Martínez, supply chain resilience has moved up as a priority item. Whenever there is a crisis, companies try to tighten supply chains and make them more efficient, but in a year or two, nobody cares about resilience any longer if nothing has happened, and they start relaxing. “Risk management, supply chain management and resilience have become more fashionable terms, which I believe is great for companies in general,” he adds.

As companies have begun to acknowledge the shift to a cost-plus world, supply chain sustainability has emerged as one of their biggest

priorities.²³ Companies reorganising their supply chains are also looking to improve sustainability. While a greater emphasis on sustainability has additional costs associated with it, it can also make supply chains more resilient. As described in Exhibit 6, large pluralities report significant disruptions from both the increased frequency (and intensity) of extreme weather events and regulatory developments associated with the broad global push towards emissions reductions and decarbonisation.

Is isolationism possible in a globalised world?

As more companies look towards building redundancies and resilience into the supply chains, there are a range of approaches that can be taken, such as managing near-shoring, on-shoring or localisation of supply chains. According to survey responses, 37.2% of companies have included increasing near-shoring, on-shoring or localisation strategies as par their risk management strategy. “I think covid-19 and geopolitics are accelerants of dynamics that are at play, and we’ll see increasing regionalisation of production,” says Mr Ezell.

However, such steps will impose costs on businesses. For certain organisations, reshoring as a recourse to the risks posed by globalised trade could be an effective strategy, but for Ms Hanley, the solution is not as easy as it sounds. It’s no longer feasible for organisations or entire sectors to take to a fully-isolationist stance in today’s integrated world, despite slowing trade growth: “It’s not possible to put the trade genie back into the bottle, though it will be interesting to look at how they make divestment decisions, and their repercussions of this balancing act between economic and political arguments,” she adds.

²³ Sustainability in supply chains is discussed in detail in a follow-up paper that will analyse what steps companies are taking to build resilience in supply chains and procurement, and to respond to future challenges.

No turning back

Supply chain disruptions and their spill-over effects will continue to be a major consideration for companies for quite some time. What is taking place now is not a one-off occurrence, but the heralding of a permanent shift in the way organisations think about their supply chains.

To be sure, many of these changes were already underway as companies responded to the need to transform their businesses in anticipation of the challenges of an increasingly digital, globalised world. Covid-19 merely acted as an accelerant, pushing companies to move faster in an effort to build their resilience so they are able to withstand supply chain pressures.

While there are risks and vulnerabilities that companies can look to mitigate at an operational level, there are other challenges that emanate from larger themes at play, such as geopolitical factors, cost concerns and the limitations of each industry. These are harder to navigate.

However, the good news is that companies across the board are implementing a range of strategies to build resilience in supply chains and procurement. In more ways than one, their success in doing so will determine how they can future-proof their businesses.

While every effort has been taken to verify the accuracy of this information, Economist Impact cannot accept any responsibility or liability for reliance by any person on this report or any of the information, opinions or conclusions set out in this report. The findings and views expressed in the report do not necessarily reflect the views of the sponsor.

LONDON

20 Cabot Square
London, E14 4QW
United Kingdom
Tel: (44.20) 7576 8000
Fax: (44.20) 7576 8500
Email: london@eiu.com

GENEVA

Rue de l'Athénée 32
1206 Geneva
Switzerland
Tel: (41) 22 566 2470
Fax: (41) 22 346 93 47
Email: geneva@eiu.com

NEW YORK

750 Third Avenue
5th Floor
New York, NY 10017
United States
Tel: (1.212) 554 0600
Fax: (1.212) 586 1181/2
Email: americas@eiu.com

DUBAI

Office 1301a
Aurora Tower
Dubai Media City
Dubai
Tel: (971) 4 433 4202
Fax: (971) 4 438 0224
Email: dubai@eiu.com

HONG KONG

1301
12 Taikoo Wan Road
Taikoo Shing
Hong Kong
Tel: (852) 2585 3888
Fax: (852) 2802 7638
Email: asia@eiu.com

SINGAPORE

8 Cross Street
#23-01 Manulife Tower
Singapore
048424
Tel: (65) 6534 5177
Fax: (65) 6534 5077
Email: asia@eiu.com