Disruptions to supply chain operations are set to stay in 2023, whether they be existing or new geopolitical conflicts, inflationary pressures and the recessionary environment, climate change weather events, or other issues yet to emerge. They can all impact access to goods and how they flow to their final destination, create port holdups, reduce container and ocean freight availability, and surge prices, among other concerns.

In 2023, amid these disruptions, there will likely be some key supply chain trends to manage. Managing your organization's response to these can be a critical opportunity in the year ahead. At KPMG, from within our Global Operations Centre of Excellence, we firmly believe that: nations will be skeptical about cross-border trade cooperation; cyber criminals will ramp up activity; there will be key material access turmoil; manufacturing footprints will change shape; retail and distribution supply chains are morphing rapidly; supply chain technology investments will accelerate; and on the ESG front, scope 3 emissions will be scrutinized – notably, by investors and regulators in addition to the environmentally conscious consumer.

To help set yourself up for success in dealing with these supply chain trends in 2023, there are three overarching things you should have in place. These are:

Capability: A mature supply chain planning capability to always be a step ahead and ready to tackle supply chain risks and opportunities

Agility: Making sure your supply chain is responsive and agile to manage the unexpected, and to deal with these threats and disruptions appropriately, efficiently and profitably

End-to-end forward-looking visibility: Having 'control tower' visibility on key real-time indicators; being able to maneuver your supply chain beyond your own business borders; and building real-time collaboration with your ecosystem of supply chain partners will likely be critical – all done using digital capabilities. The ultimate goal is to enhance collaboration across the supply chain eco-system.

With these three factors in place, you should be set up to turn the challenges of 2023 into a competitive advantage.

Here are the supply chain trends to watch for and what to do about them:

Nations skeptical about cooperation

Geopolitical tensions have seen nations turn inward and become skeptical about cooperation and interdependence. When it comes to the supply chain, this caution is fair, as if tensions escalate, essential materials may be inaccessible, or major trade routes could be shut down. Therefore, governments and industry leaders are exploring domestic self-sufficiency in material supply and manufacturing. Short of this, they are looking to build 'friend shoring' relationships – trade links with like-minded and most likely geographically close countries ('nearshoring') where the supply of goods will likely be more secure.

More than 6 out of 10 global organizations expect that geopolitical instability may have a detrimental impact on their supply chains in the next 3 years.[1]

To protect against geopolitical tensions, some critical steps to initiate during 2023 include:

- Model scenarios to understand the impact geopolitical tensions will have on your supply chain.
- Consider how you can leverage friendshoring or nearshoring to create a more secure supply network.
- Be clear on what will happen if you can't access a key material or component. Will you need to reformulate a product? What will this mean in terms of regulatory and/or customer approval and are there cost impacts to sourcing from new suppliers or markets?
- Recognize the impact that friendshoring or nearshoring will have on your lead times and speed to market. Can you become more responsive, agile, and reduce your working capital?

Almost half of global organizations consider cyber security as an important operational challenge for their supply chains through the next 3 years[1]

Cyber criminals ramping up

In 2023, cyber criminals will likely be even more sophisticated when it comes to infiltrating supply chains to damage or steal from businesses. The supply chain can offer vulnerabilities that provide external parties with a pathway to get into your systems, particularly via your supplier network. Criminals could also hack in through basic warehouse equipment such as a barcode reader or via Internet of Things (IoT) devices applied within your manufacturing and other operational sites. Cyber risk will likely be compounded if you rethink your supplier networks and make changes to friendshore/nearshore, or invest in new technologies.

Some critical actions to initiate during 2023 to mitigate cyber risk include:

- Recognize that your cybersecurity strategies often stop at the borders of your own enterprise. Therefore, identify the strategies that you and your partners must enact to mitigate cyber risk in your supply chain. How can you help ensure that those strategies are robust and provide sufficient risk governance across your third-party contracts?
- Ensure new third parties brought into your supply chain ecosystem undergo thorough cyber risk assessments.
- Consider funding and implementing artificial intelligence (AI) or machine learning (ML) as part of the standard onboarding process of new suppliers to identify threats such as spam and phishing emails.
- Human error is a key cyber security risk. A recent report from the World Economic Forum highlighted that close to 95% of cyber-attacks that have been successful are linked to a human element/error. Define strategies to leverage technology and automation that help mitigate this exposure.
- Conduct a cyber assessment for all of the functions/activities within the supply chain using IoT devices (storing data, managing inventory, tracking goods), especially those with direct access to sensitive information and/or provide a gateway to wider system access.

Material access in turmoil

In the year ahead, a second wave of unplanned supply chain risks will likely be realized. Organizations may experience limited access to critical inputs for manufacturing, or even spare parts and critical maintenance items. In an aligned challenge, key commodity prices and availability may fluctuate – whether that be fuel/diesel, construction items like timber, steel and resin, or plastic for packaging. Building resilient supply chains to combat future disruptions and adapt to new changes quickly will be key to help navigate these risks.

71% of global companies highlight raw material costs as their number one supply chain threat for 2023.

During 2023, other key steps to protect against material access issues include:

- Protect your core offer and mitigate risk by removing critical time spent managing low-demand items.
- Resolve redundancy in your supply chain by shifting from Just-In-Time to Just-In-Case, holding extra inventory for critical items, maintaining low-capacity utilization, and engaging with multiple suppliers.
- Don't just say you'll find alternative suppliers in a disruption, but have clear plans for who those suppliers are, and what impact any changes will have on your costs and operations.
- Adopt real-time data analytics to enhance accuracy of predictions/forecasts of demand volatility and stream these insights into your Sales & Operations execution framework.
- Leverage technologies such as Blockchain for greater product transparency, to prevent counterfeit products, to minimize discrepancies, and automate workflow through smart contracts.

- Two thirds of global business leaders emphasized the need to increase visibility into their supply chains in order to maintain operational stability going forward[1], so prioritize your supply chain resilience with true end-to-end visibility and transparency across the supply modes of transport, nodes and links.

Manufacturing footprint changing shape

More than 7 out of 10 companies that announced a shift of their manufacturing locations between 2018-2023 moved operations into Asia.[2]

While accessing critical materials in 2023 may be challenging, so too will be manufacturing for many of the same reasons including the rapid rise in energy costs and price surge of key inputs. Therefore, global corporations with manufacturing operations will be re-evaluating their manufacturing footprint. Friendshoring and nearshoring will again be considered, however, there may be deeper thinking around whether manufacturing needs to be – and can be – done entirely onshore. This shift can't happen overnight, but wheels will be put in motion.

Another factor in 2023 will likely be the increased impact of online retail on product manufacturing. Often, online platforms want to differentiate their offer, whether that be the size of products, minor ingredient changes, or even the style of packaging. This means organizations will seek out manufacturers that can provide more customization. Similarly, in life sciences, precision medicine will become more accepted by regulators, healthcare practitioners and patients. Therefore, rather than manufacturing millions of units for each vaccine/drug and moving these products across the globe, corporations may seek to manufacturer specific products per patient. This manufacturing change will significantly transform the future manufacturing footprint and how supply chains operate. As a result, a key question is whether organizations should establish new supply chains or simply divert production to other markets with existing capacity.

Other key considerations during 2023 include:

- Consider the future of your manufacturing site location and how any shifts may help the competitiveness of your products.
- How can you source from multiple suppliers/manufacturers in different countries to help you protect your operations from uncertainties in key manufacturing markets?
- Explore opportunities to contract global organizations to manufacture on your behalf, or if manufacturing should be part of your core DNA and done onshore within the next few years.
- Understand if mass manufacturing may be right for your business in future, or do you need to look at customized manufacturing approaches?

Retail and distribution supply chains are morphing

While getting goods into the hands of consumers in 2023 might appear easier than in earlier COVID-19 times, it will likely not be simple nor inexpensive. There may be more consumption mechanisms and channels than ever, and costs are not showing any signs of letting up, partially due to the close link to the complex manufacturing challenge, but also to the difficulty in getting goods into the hands of a more-demanding-than-ever consumer. The prevalence of last mile delivery challenges, coupled with reliance on suppliers that are often experiencing difficulties also, means global and local retailers may need to review their inventory distribution network and create a seamless experience around a unified commerce approach.

67% of organizations consider meeting customer expectations for speed of delivery as a critical force impacting the structure and flow of their supply chains over the next 12-18 months.

Key steps to better manage retail and distribution complexities in 2023 include:

- Consider the future of your distribution and micro-fulfillment center locations.
- Enhance and advance your e-commerce and omni-channels into true unified commerce process and technology.
- Review sourcing and supplier strategies to reduce risks.
- Implement control tower visibility in a predictive environment, leveraging AI and ML.

Technology investment accelerating

6 in 10 plan to invest in digital technology to bolster their supply chain processes, data synthesis and analysis capabilities.

Over the past year, investing in a cloud-based digital transformation strategy was a key trend, and in 2023 this trend is likely to accelerate as organizations seize technology as a strategy to mitigate their growing concerns around inflationary pressures and economic stagnation. While technology transformation often focused on the back office and better customer engagement, supply chain and operational capabilities will be front and center in 2023. Importantly, there will likely be greater investment to uplift supply chain planning maturity, automation of warehouse and operational tasks, as well as in gathering better end-to-end supply chain analytics to create enhanced visibility.

Supporting this trend is a move from some major technology suppliers towards holistic supply chain platforms. Rather than offering supply chain capabilities as discrete add-on systems, they are bringing them all together in one platform, aiming to provide a seamless user experience.

Key actions to take in 2023 include:

- Prioritize technology investment in supply chain planning capabilities, and end-to-end visibility enabled by real-time analytics, as these can help you to maintain operational stability.
- Fast-track your data management policies and capabilities, and upskill your teams to make the most of the technology capability for insights led decision making.
- Consider how you can invest in automation to replace redundant manual supply chain activities, drive productivity gains, and protect against margin squeeze and cost increases. There are opportunities to streamline very manual activities such as Global Trade documentation, Free Trade Agreement (FTA) compliance, trade tax calculations, reconciliations and settlements, and reporting.

Scope 3 emissions scrutinized

53% of organizations plan to increase their focus on sustainable sourcing.

Supply chain sustainability strategies have long been integral to achieving corporate ESG initiatives. In 2023, regulators and other important stakeholders (such as customers and the finance community) will likely demand a focus on scope 3 emissions control. You may be expected to make informed decisions to reduce these emissions, and 'greenwashing' will not pass scrutiny. Adding to the pressure will likely be a shift in investor activity towards organizations that can prove their scope 3 emissions are low. Global banking institutions, private equity and venture capitalists want to see that their portfolio is aligned to sustainable organizations.

Priority actions for ESG improvement in 2023 include:

- Operationalize your ESG strategy by aligning the objectives of each function within your business including Finance, HR, IT, Operations and Commercial. Ensure that there is internal collaboration and alignment with each function accessing and tracking the same ESG data.
- Capture real-time operational data along your supply chain for measurement and reporting of ESG matters.
- Build end-to-end visibility of the supply chain to see where your goods move, the organizations that are moving them, and their sustainability credentials. With this insight, make active decisions about your partners to reduce your scope 3 total.

In summary

Disruption to supply chains is a permanent fixture, and at KPMG we believe these supply chain trends will be integral to getting control of what's ahead in 2023. As we have seen, having sophisticated planning capabilities and agility, enabled by improved end-to-end visibility of your supply chain, will be both key to mitigating risks and areas of vulnerability, and harnessing opportunities otherwise difficult to convert to benefits. By proactively getting ahead of the these trends, you can have the capability to set yourself up for success.

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