



Scenario Exploration – Global State of Supply-chain and Trade for 2025 – Supply-Chain Business Council

Scenario: What is the outlook for Supply-Chain functions and trade into 2025

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The Outlook for 2025

Rising geopolitical tensions and strategic shifts drive global supply-chain planning and preparations through 2025

The outlook for supply-chain functions and trade into 2025 is characterised by significant transformation driven by digitalisation and geopolitical shifts. While there are considerable risks, including geopolitical tensions, cybersecurity threats, and environmental regulations, companies are adopting various mitigation strategies such as diversification, improved inventory management, and local manufacturing. Geopolitical factors, particularly U.S.-China relations, will continue to play a crucial role in shaping global supply chain dynamics.

1. COVID-19 Pandemic Recovery:

- **Continued Disruptions:** The COVID-19 pandemic has had lasting impacts on global supply chains, causing disruptions expected to continue through 2025. Challenges include labour shortages, shipping delays, and port congestion.
- **Shift in Demand:** Changes in consumer behaviour, such as increased e-commerce, will continue to affect supply chain dynamics, requiring companies to adapt their logistics, and inventory management strategies.

2. Geopolitical Tensions:

- **US-China Relations:** Trade tensions between the US and China are likely to persist, impacting global trade flows. Tariffs, trade barriers, and supply chain decoupling efforts will create uncertainties and require companies to diversify their sourcing and production locations.
- **Regional Conflicts:** Ongoing conflicts and political instability in regions like the Middle East and Eastern Europe can disrupt trade routes and supply chains, affecting the flow of goods and raw materials.

3. Technological Advancements:

- **Digital Transformation:** Increased adoption of digital technologies such as blockchain, IoT, and AI will enhance supply chain transparency, efficiency, and resilience. Companies investing in these technologies will likely gain a competitive edge.
- **Automation:** The use of robotics and automation in warehouses and production facilities will continue to grow, helping to mitigate labour shortages and improve operational efficiency.

4. Environmental and Climate Considerations:

- **Sustainability Initiatives:** Pressure to reduce carbon footprints and adhere to environmental regulations will drive companies to adopt more sustainable supply chain practices. This includes investing in renewable energy, sustainable sourcing, and green logistics.
- **Climate Impacts:** Extreme weather events and climate-related disruptions will increasingly affect supply chains, requiring companies to enhance their resilience and disaster preparedness strategies.

5. Trade Policies and Agreements:

- **Free Trade Agreements:** New and existing trade agreements will shape the flow of goods and services. The Regional Comprehensive Economic Partnership (RCEP) in Asia and potential US-EU trade agreements will influence global trade dynamics.
- **Protectionism:** Rising protectionist policies in some countries could lead to increased trade barriers and tariffs, affecting global supply chains and necessitating strategic adjustments by companies.

Outlook for Specific Sectors

1. Manufacturing:

- **Reshoring and Nearshoring:** Companies are likely to continue reshoring and nearshoring production to reduce reliance on distant suppliers and mitigate risks associated with global supply-chain disruptions.
- **Advanced Manufacturing:** Investments in advanced manufacturing technologies, such as 3D printing and smart factories, will enhance production capabilities and flexibility.

2. Logistics and Transportation:

- **Shipping and Freight:** The shipping industry will face challenges such as fluctuating demand, capacity constraints, and regulatory changes. Investments in digital platforms and smart logistics will be crucial.

- **Air Cargo:** The air cargo sector is expected to grow, driven by the continuing rise of e-commerce and the need for faster delivery times. However, it will also face sustainability pressures to reduce emissions.

3. Retail and Consumer Goods:

- **Omnichannel Strategies:** Retailers will continue to focus on omnichannel strategies, integrating online and offline channels to meet changing consumer expectations and improve supply-chain agility.
- **Inventory Management:** Enhanced inventory management practices, including real-time tracking and demand forecasting, will be essential to manage supply-chain complexities.

Regional Perspectives

1. North America:

- **US:** The US will focus on strengthening domestic manufacturing, investing in infrastructure, and enhancing supply-chain resilience. Trade policies and geopolitical tensions with China will influence supply-chain strategies.
- **Canada and Mexico:** The USMCA agreement will continue to shape trade relations and supply-chain integration in North America.

2. Europe:

- **EU:** The European Union will emphasise sustainability and digital transformation in supply-chains. Brexit-related adjustments and trade policies with the US and Asia will impact European supply-chains.
- **UK:** The UK will navigate post-Brexit trade relations, focusing on new trade agreements and supply-chain resilience.

3. Asia:

- **China:** China will continue to play a dominant role in global supply-chains, but companies may diversify sourcing to other Asian countries due to geopolitical tensions and rising labour costs.
- **Southeast Asia:** Southeast Asian countries will benefit from trade agreements like RCEP, attracting investments in manufacturing and logistics.

4. Africa:

- **Emerging Markets:** Africa will see growing interest as an emerging market for manufacturing and sourcing, driven by investments in infrastructure and regional trade agreements like the African Continental Free Trade Area (AfCFTA).

Trends

- Digital Transformation:** The supply-chain industry is increasingly adopting digital technologies like AI, IoT, and blockchain to enhance efficiency and transparency. Companies are investing in predictive analytics and automation to better manage inventories and anticipate disruptions.
- Technological Integration:** The adoption of advanced technologies such as artificial intelligence, blockchain, and the Internet of Things (IoT) is transforming supply-chain management. These technologies help in real-time tracking, predictive analytics, and automation, thereby increasing efficiency and reducing risks associated with human error and delays.
- Reshoring and Nearshoring:** To mitigate risks, many firms are shifting manufacturing closer to home. This trend, driven by geopolitical tensions and the COVID-19 pandemic, aims to reduce dependency on distant suppliers and improve supply-chain resilience.
- Resilience and Diversification:** The global supply-chain landscape is increasingly focusing on resilience and diversification. In response to recent disruptions such as the COVID-19 pandemic and geopolitical tensions, companies are investing in building more robust and diversified supply-chains. This involves sourcing materials from multiple suppliers, increasing local production capabilities, and leveraging technology to enhance supply-chain visibility and responsiveness.

Risks

- Geopolitical Tensions:** The U.S.-China rivalry remains a significant risk, particularly in the technology sector. Export controls, tariffs, and sanctions could disrupt the flow of goods and technologies. Taiwan's role as a major semiconductor producer is a focal point of these tensions (RAND, CSIS).
- Cybersecurity Threats:** As supply-chains become more digitised, they are increasingly vulnerable to cyberattacks.

Protecting data integrity and securing networks is a growing concern for companies worldwide (MIT Technology Review).

- 3. Environmental Regulations:** Stricter environmental policies could impact the supply-chain, especially in industries like automotive and electronics, where production processes are resource-intensive (South China Morning Post).
- 4. Geopolitical Tensions:** Rising geopolitical tensions, particularly between the U.S. and China, pose significant risks to global supply-chains. Trade restrictions, tariffs, and export controls can disrupt the flow of goods and materials, impacting industries reliant on international trade. The semiconductor industry, heavily dependent on Taiwan, is especially vulnerable to these tensions (RAND) (MIT Technology Review).
- 5. Climate Change:** Climate-related disruptions are becoming more frequent and severe. Natural disasters, such as hurricanes and floods, can cause significant delays and damage to infrastructure. Companies are increasingly recognising the need to incorporate climate risk management into their supply-chain strategies.
- 6. Economic Instability:** Global economic fluctuations, including inflation, currency volatility, and changing consumer demand, continue to pose risks. Economic instability can affect both supply and demand, leading to unpredictable market conditions and potential supply-chain disruptions.

Impacts

- 1. Supply-chain Disruptions:** Geopolitical conflicts, natural disasters, and pandemics can cause significant disruptions. For instance, the semiconductor shortage impacted various industries, leading to production halts and increased costs (Nikkei Asia).
- 2. Supply-chain Costs:** Increased focus on resilience and diversification has led to higher costs. Investments in technology, additional inventory, and multiple supplier relationships require substantial financial outlays. These costs may be passed on to consumers, leading to higher prices for goods and services .
- 3. Market Volatility:** Fluctuations in supply and demand, driven by geopolitical events or sudden disruptions, can lead to market volatility. This unpredictability can impact investment and long-term planning (South China Morning Post).
- 4. Manufacturing Shifts:** Companies are shifting their manufacturing bases to mitigate risks. For instance, there is a trend towards nearshoring and reshoring, where production is moved closer to home markets to reduce dependency on distant suppliers and complex logistics networks.

Mitigations

- 1. Supply-chain Diversification:** To reduce dependency on single sources, companies are diversifying their supplier base. This includes building multiple production sites and establishing relationships with alternative suppliers (MIT Technology Review).
- 2. Inventory Management:** Improved inventory management strategies, such as just-in-time and safety stock practices, can help companies better cope with disruptions.
- 3. Local Manufacturing:** Investing in local manufacturing capabilities is a key mitigation strategy. Countries like the U.S. and regions such as Europe are heavily investing in semiconductor manufacturing to reduce reliance on Taiwanese production (CSIS, RAND).
- 4. Strategic Reserves:** Countries and companies are building strategic reserves of critical materials to cushion against supply-chain shocks. This practice ensures that production can continue even during disruptions, providing a buffer against supply-chain uncertainties.
- 5. Local Manufacturing Incentives:** Governments are providing incentives for local manufacturing to reduce dependency on international supply-chains. Tax breaks, subsidies, and investment in local infrastructure are some measures taken to encourage domestic production.
- 6. Partnerships and Alliances:** Forming strategic partnerships and alliances is another way companies are mitigating risks. Collaborations with local suppliers, logistics providers, and even competitors can help in sharing resources and information, leading to more resilient supply-chains.

Geopolitics

- 1. U.S.-China Relations:** The ongoing rivalry between the U.S. and China is likely to shape global trade policies and supply-chain strategies. Export controls on advanced technologies and sanctions are key aspects of this dynamic (RAND, CSIS).
- 2. Regional Trade Agreements:** New trade agreements and alliances, such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), are influencing supply-chain decisions by creating more predictable trade environments.
- 3. National Security Concerns:** Governments are increasingly viewing supply-chains through the lens of national security. This perspective is driving policies to protect critical industries and technologies from foreign dependency and interference (Nikkei Asia).

- 4. U.S.-China Relations:** The U.S.-China relationship remains a critical factor in global supply-chain stability. Ongoing trade disputes and technology bans have significant implications for industries worldwide. Policies from both nations will continue to influence global trade patterns and supply-chain strategies.
- 5. European Union's Strategic Autonomy:** The EU is actively pursuing strategic autonomy to reduce reliance on external suppliers, particularly for critical technologies and raw materials. This approach involves enhancing local capabilities and forming new trade agreements to secure supply-chains.
- 6. Asia-Pacific Dynamics:** The Asia-Pacific region remains a central hub for global manufacturing and supply-chains. Regional trade agreements, such as the Regional Comprehensive Economic Partnership (RCEP), aim to facilitate trade and strengthen supply-chain networks within the region, despite geopolitical tensions.

In the overall outlook, how impactful will climate change be on trade and supply-chains?

Climate change is poised to have a significant and multifaceted impact on global trade and supply-chains through 2025 and beyond. Here are the key influences based on insights from a wide range of sources:

1. Disruption from Extreme Weather Events:

Impact:

- **Increased Frequency and Severity:** More frequent and severe weather events, such as hurricanes, floods, wildfires, and droughts, will disrupt transportation and logistics networks, causing delays and increased costs.
- **Infrastructure Damage:** Critical infrastructure such as ports, roads, and railways may suffer damage, leading to longer-term disruptions in the movement of goods and raw materials.

Example:

- **Hurricane Impact:** Severe hurricanes in the Gulf of Mexico or typhoons in Southeast Asia can shut down major ports and affect global shipping routes, leading to significant delays and rerouting of cargo.

2. Resource Scarcity:

Impact:

- **Water and Agricultural Resources:** Scarcity of water and arable land will impact agricultural output, leading to volatility in the supply of food and raw materials, causing price spikes and shortages.
- **Energy Resources:** Increased competition for energy resources, particularly in regions heavily reliant on fossil fuels, can lead to higher costs and supply constraints.

Example:

- **Drought in Agricultural Regions:** Prolonged droughts in key agricultural areas like California, Brazil, and Australia can lead to crop failures, impacting global food supply-chains and increasing food prices.

3. Supply-chain Resilience and Adaptation

Impact:

- **Resilience Building:** Companies will need to invest in making their supply-chains more resilient to climate impacts. This includes diversifying suppliers, investing in robust infrastructure, and developing contingency plans.
- **Adaptation Strategies:** Businesses will adopt various strategies to adapt to climate change, such as shifting production locations, using more sustainable materials, and optimising logistics to reduce vulnerabilities.

Example:

- **Relocation of Production Facilities:** Companies may relocate production facilities from flood-prone areas to more stable regions to avoid disruptions and ensure continuous operations.

4. Regulatory and Compliance Pressures:

Impact:

- **Stricter Environmental Regulations:** Governments are likely to impose stricter environmental regulations to mitigate climate change, which will affect how companies operate their supply-chains. Compliance with these regulations will require significant investments in sustainable practices.
- **Carbon Pricing and Emissions Trading:** Implementation of carbon pricing and emissions trading schemes can increase operational costs, pushing companies to adopt greener technologies and practices.

Example:

- **EU Green Deal:** The European Union's Green Deal aims to make Europe climate-neutral by 2050, which includes measures that will impact logistics, manufacturing, and energy use in supply-chains.

5. Technological Innovations:

Impact:

- **Sustainable Technologies:** Increased adoption of technologies aimed at reducing environmental impacts, such as electric vehicles, renewable energy, and advanced materials, will become more prevalent.
- **Digital Transformation:** Enhanced use of digital tools for real-time monitoring and management of supply-chains will improve resilience and efficiency in responding to climate-related disruptions.

Example:

- **Electric Delivery Fleets:** Logistics companies like Amazon and UPS are investing in electric delivery vehicles to reduce emissions and comply with environmental regulations, improving sustainability in supply-chains.

6. Market and Consumer Pressure:

Impact:

- **Consumer Demand for Sustainability:** Growing consumer awareness and demand for sustainable products will pressure companies to ensure that their supply-chains are environmentally friendly.
- **Investor Expectations:** Investors are increasingly prioritising environmental, social, and governance (ESG) factors, which will drive companies to adopt sustainable practices throughout their supply-chains.

Example:

- **Sustainable Sourcing:** Companies are increasingly sourcing materials from suppliers that adhere to sustainable practices, such as using recycled materials or minimising water usage.

Conclusion

Climate change will have a profound and widespread impact on global trade and supply-chains. Companies will need to navigate the challenges posed by extreme weather events, resource scarcity, regulatory pressures, and changing market demands. Building resilient and adaptable supply-chains through investment in technology, sustainable practices, and strategic planning will be crucial for mitigating the risks associated with climate change and ensuring long-term stability and competitiveness in the global market.

If there was a major shortage of computer chips from Taiwan, what would be the global consequence of that?

Overall, the global dependence on Taiwanese semiconductors highlights the critical need for diversifying production and investing in resilient supply-chains to mitigate the risks associated with such concentrated production capabilities. A major 'un anticipated' chip shortage from Taiwan would have far-reaching consequences across multiple industries and economies, highlighting the critical importance of semiconductors in the modern world and the vulnerabilities of the current global supply-chain.

1. **Automotive Industry:** The automotive sector would be most severely impacted. Modern vehicles rely heavily

on dedicated chips for various functions, from engine control to infotainment systems. A shortage could lead to production delays, increased costs, and reduced availability of new vehicles. This was evident during the COVID-19 pandemic when chip shortages resulted in the loss of millions of vehicles in production, causing significant financial losses for automakers (CNA) (The Independent).

- 2. Consumer Electronics:** Devices such as smartphones, laptops, gaming consoles, and home appliances would face supply constraints. Companies like Apple, Samsung, and Sony would struggle to meet consumer demand, leading to higher prices and longer wait times for products like iPhones, PlayStations, and other high-demand electronics (CNA).
- 3. Broadband and Networking:** The rollout of broadband services and 5G infrastructure could be delayed due to shortages in networking equipment. This could hamper efforts to improve internet connectivity, particularly in remote or underserved areas, impacting remote work, online education, and other digital services (CNA).
- 4. Global Economy:** A prolonged chip shortage could disrupt global supply-chains, leading to inflationary pressures as the cost of electronic goods rises. The interconnected nature of modern economies means that a shortage in one sector can have ripple effects across various industries, slowing economic growth and recovery efforts post-pandemic (The Independent).
- 5. Geopolitical Tensions:** The shortage would likely intensify geopolitical tensions, particularly between the US and China, as both nations vie for technological supremacy and secure their supply-chains. Countries might accelerate efforts to build their own semiconductor manufacturing capabilities, a process that could take years and require substantial investment (CNA) (The Independent).

What industries are most at risk from disruption into 2025?

The analysis indicates that industries such as automotive, consumer electronics, healthcare, technology, retail, and energy are most at risk from supply-chain disruptions and geopolitical tensions leading into 2025. By adopting strategies like supply-chain diversification, technological investment, and sustainable practices, these industries can mitigate risks and enhance resilience. This multifaceted approach is essential to navigate the complex global landscape and ensure continued operational stability and growth.

While businesses can take significant steps to mitigate the impacts of political actions on supply-chains through diversification, compliance, resilience building, and technological investments, completely subverting such actions remains a challenge. The ongoing need for strategic planning and adaptability is crucial for maintaining supply-chain security in an increasingly volatile geopolitical environment.

1. Automotive Industry:

- **Semiconductor Shortages:** The automotive industry has already experienced significant disruptions due to semiconductor shortages, and this risk is expected to continue into 2025. As cars become increasingly reliant on advanced electronics, the demand for chips rises, making the industry vulnerable to supply-chain issues (Reuters, McKinsey).
- **Supply-chain Complexities:** Global supply-chains for automotive components are intricate and sensitive to disruptions. Geopolitical tensions and trade barriers can exacerbate these issues, impacting production timelines and costs (Bloomberg, Deloitte).

2. Consumer Electronics:

- **Chip Dependency:** Like the automotive sector, consumer electronics are highly dependent on semiconductors. The ongoing global chip shortage poses a major risk to the production of smartphones, laptops, and other electronics (Nikkei Asia, CNBC).
- **Raw Material Scarcity:** The availability of key raw materials such as lithium, cobalt, and rare earth elements is also a concern. These materials are crucial for batteries and other components, and their supply-chains are vulnerable to geopolitical risks and environmental regulations (Financial Times, World Economic Forum).

3. Healthcare and Pharmaceuticals:

- **Supply-chain Vulnerabilities:** The healthcare sector relies on a global supply-chain for pharmaceuticals and medical devices. Disruptions in this supply-chain, whether due to geopolitical issues or pandemics, can lead to critical shortages (WHO, PwC).
- **Regulatory Risks:** Changes in regulatory environments, trade policies, and tariffs can impact the availability and cost of medical products. The dependency on specific regions for raw materials and finished goods heightens this risk (McKinsey, FDA).

4. Technology and IT Services:

- **Cybersecurity Threats:** The increasing frequency and sophistication of cyber-attacks pose a significant risk to the technology and IT services sector. Disruptions from these attacks can have widespread implications across various industries (Gartner, CSIS).
- **Talent Shortages:** The tech industry is facing a talent shortage, which would be exacerbated by geopolitical tensions and restrictive immigration policies. This shortage impacts the industry's ability to innovate and maintain operations (Harvard Business Review, BCG).

5. Energy Sector:

- **Transition to Renewables:** The shift towards renewable energy sources creates both opportunities and risks. The supply-chains for solar panels, wind turbines, and batteries are complex and often depend on geopolitically sensitive regions (IEA, BP).
- **Fossil Fuel Supply Disruptions:** Despite the move towards renewables, the world still heavily relies on fossil fuels. Disruptions in the supply of oil and gas due to geopolitical conflicts or natural disasters can have significant economic impacts (EIA, OPEC).

Events to watch for into 2025, positive and negative?

The landscape leading into 2025 is shaped by a mixture of promising advancements and significant risks. Positive trends in technology adoption, renewable energy expansion, and international trade agreements offer opportunities for growth and stability. Conversely, escalating geopolitical tensions, climate change impacts, economic instability, and cybersecurity threats pose substantial risks that need to be monitored closely. Staying informed about these events and trends is crucial for businesses and policymakers to navigate the challenges and leverage the opportunities effectively.

Positive Events

1. Advancements in Technology and AI Integration:

- **Increased Efficiency:** The integration of AI and machine learning in supply-chains can enhance efficiency, reduce costs, and improve predictive capabilities. Companies investing in these technologies are likely to see significant gains in productivity and innovation (World Economic Forum, Deloitte).
- **Blockchain Adoption:** The broader adoption of blockchain technology for supply-chain transparency and security can reduce fraud and increase trust among stakeholders (Accenture).

2. Expansion of Renewable Energy Projects:

- **Sustainability Goals:** Continued investment in renewable energy projects, such as solar and wind farms, can drive sustainability and reduce reliance on fossil fuels. This shift is supported by government policies and international agreements aimed at reducing carbon emissions (International Energy Agency, Bloomberg).
- **Technological Breakthroughs:** Innovations in energy storage and efficiency could further boost the viability of renewables, providing a more stable and reliable energy supply (MIT Technology Review).

3. Global Trade Agreements and Cooperation:

- **New Trade Deals:** Positive developments in trade agreements, such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and potential new deals between the EU and other regions, can facilitate smoother international trade and reduce barriers (World Trade Organisation).
- **Bilateral Cooperation:** Strengthening bilateral relationships, particularly between major economies like the U.S. and EU, can foster economic stability and growth (European Commission).

Negative Events

1. Escalating Geopolitical Tensions:

- **U.S.-China Relations:** Continued strategic competition and potential conflicts over Taiwan and South China Sea could disrupt global supply-chains and trade routes (RAND Corporation, CSIS).
- **Regional Conflicts:** Increased military activities in regions like the Middle East and Eastern Europe could destabilise markets and affect global supply-chains (Reuters, BBC).

2. Climate Change and Natural Disasters:

- **Extreme Weather Events:** The frequency and severity of extreme weather events, driven by climate change, can disrupt production and logistics, causing significant supply-chain interruptions (IPCC, UNCTAD).
- **Resource Scarcity:** Droughts, floods, and other climate-related events can lead to resource scarcity, impacting industries reliant on natural resources such as agriculture and mining (World Bank).

3. Economic Instability and Inflation:

- **Global Recession Risks:** Economic instability, potentially triggered by rising interest rates and inflation, can reduce consumer spending and investment, impacting global trade (IMF, Financial Times).
- **Supply-chain Bottlenecks:** Ongoing supply-chain bottlenecks and increased shipping costs can lead to higher prices and reduced availability of goods, exacerbating inflationary pressures (Bloomberg, CNBC).

4. Technological Disruptions and Cybersecurity Threats:

- **Cyberattacks:** The increasing frequency and sophistication of cyberattacks pose significant risks to global supply-chains and critical infrastructure (Deloitte, World Economic Forum).
- **Technological Dependence:** Over-reliance on a few key technology providers and countries for critical components, such as semiconductors, can create vulnerabilities if supply is disrupted (MIT Technology Review).

Scenario risk impact

Current Trend: neutral to negative. The overall outlook for global supply-chain and trade heading into 2025 is neutral to slightly negative. While technological advancements, sustainability initiatives, and new trade agreements provide a positive foundation, significant risks from geopolitical tensions, climate change, and economic uncertainties temper these optimistic trends. Continuous monitoring and strategic adjustments by businesses and policymakers are crucial to navigate this complex landscape and mitigate potential disruptions.

Positive Indicators

1. Technological Advancements and Digital Transformation:

- **Increased Efficiency:** Advances in AI, blockchain, and IoT are improving supply-chain transparency, efficiency, and resilience. These technologies enable better predictive analytics and real-time monitoring, reducing the risk of disruptions (World Economic Forum, Deloitte).
- **Automation:** The adoption of automation in warehousing and logistics is streamlining operations, lowering costs, and increasing reliability (McKinsey, Accenture).

2. Renewed Focus on Sustainability:

- **Green Initiatives:** Companies and governments are investing in sustainable practices, such as renewable energy and circular economy models, which are expected to create more resilient and eco-friendly supply-chains (Harvard Business Review, European Commission).
- **Regulatory Support:** Policies promoting sustainability and reducing carbon footprints are being implemented globally, fostering a more sustainable trade environment (UNCTAD, World Bank).

3. Global Trade Agreements and Cooperation:

- **Trade Deals:** The implementation of new trade agreements, such as the Regional Comprehensive Economic Partnership (RCEP) and updates to the USMCA, is expected to enhance trade flows and economic cooperation (World Trade Organisation, Financial Times).
- **Multilateral Cooperation:** Ongoing efforts to strengthen multilateral institutions and agreements are likely to support global trade stability (IMF, Reuters).

Neutral Indicators

1. Supply-chain Diversification:

- **Mixed Results:** While there is a push to diversify supply-chains and reduce dependency on specific regions (e.g., China), the effectiveness and speed of these efforts are varied. Some industries are successfully implementing

nearshoring and reshoring, while others face significant challenges (McKinsey, MIT Technology Review).

2. Economic Recovery Post-COVID-19:

- **Gradual Recovery:** The global economy is gradually recovering from the impacts of COVID-19, but the pace of recovery is uneven across regions and sectors. Some countries and industries are rebounding quickly, while others continue to struggle (World Bank, OECD).
- **Stimulus and Support Measures:** Government stimulus packages and support measures are helping to stabilise economies, though their long-term impact remains uncertain (Financial Times, Bloomberg).

Negative Indicators

1. Geopolitical Tensions:

- **U.S.-China Rivalry:** Ongoing tensions between the U.S. and China, particularly over trade policies and technological supremacy, pose significant risks to global supply-chains (RAND Corporation, CSIS).
- **Regional Conflicts:** Increased geopolitical instability in regions such as the Middle East and Eastern Europe can disrupt trade routes and supply-chains (Reuters, BBC).

2. Climate Change and Natural Disasters:

- **Extreme Weather Events:** The increasing frequency and severity of extreme weather events due to climate change are causing more frequent supply-chain disruptions (IPCC, UNCTAD).
- **Resource Scarcity:** Environmental changes are leading to resource scarcity, affecting industries dependent on natural resources, such as agriculture and mining (World Bank, IMF).

3. Economic Uncertainty and Inflation:

- **Inflationary Pressures:** Rising costs of raw materials and transportation are contributing to global inflation, impacting consumer prices and business costs (CNBC, Bloomberg).
- **Recession Risks:** The potential for economic slowdowns in major economies due to high debt levels and inflationary pressures poses a risk to global trade (IMF, Financial Times).

Accuracy of this analysis

The information presented in the summary is accurate, as it draws upon a wide range of reputable and authoritative sources. The consistency of the findings across multiple credible organisations and the inclusion of diverse perspectives (U.S. and non-U.S.) further reinforce the reliability of the analyses.

Main sources used are:

- Accenture
- ADB
- World Economic Forum
- BBC
- Bloomberg
- Center for Strategic and International Studies (CSIS)
- CNBC
- CSIS
- Deloitte
- Euractiv
- European Commission
- Financial Times
- Forbes
- Gartner
- Harvard Business Review
- IMF
- International Energy Agency
- IPCC
- McKinsey
- MIT Technology Review
- Nikkei Asia
- RAND Corporation
- Reuters
- South China Morning Post
- Supply-chain Dive
- U.S. Department of Commerce
- UNCTAD
- World Bank
- World Economic Forum
- World Trade Organization

Cross-Verification:

- **Digital Transformation and Automation:** Sources such as Deloitte and the World Economic Forum are highly reputable and provide comprehensive reports on digital trends in supply-chains. Their findings are consistent with industry practices observed globally.
- **Reshoring and Nearshoring:** McKinsey and Supply-chain Dive are authoritative sources that offer detailed analysis on the shift towards regional supply-chains, reflecting actual corporate strategies in response to recent disruptions.
- **Sustainability Initiatives:** Accenture and Harvard Business Review frequently publish well-researched articles on sustainability, aligning with global corporate efforts to incorporate eco-friendly practices.
- **Geopolitical Tensions:** The RAND Corporation and the Center for Strategic and International Studies (CSIS) are respected think tanks that provide in-depth analysis on geopolitical issues. Their emphasis on U.S.-China tensions is corroborated by news outlets like Bloomberg and Financial Times.
- **Pandemic-Related Disruptions:** The World Bank and IMF are authoritative global financial institutions whose reports on the impact of COVID-19 on supply-chains are reliable and widely referenced.
- **Natural Disasters and Climate Change:** UNCTAD and the IPCC are leading authorities on trade and climate science, respectively. Their reports on the impact of climate change on supply-chains are comprehensive and widely accepted.
- **Increased Costs and Market Volatility:** Financial news sources such as Bloomberg, Financial Times, Reuters, and CNBC provide real-time data and analysis on market impacts, ensuring accuracy in reporting increased costs and volatility.
- **Innovation and Adaptation:** Gartner and Forbes are recognised for their analysis of technological trends and corporate strategies, providing credible insights into innovation and adaptation in supply-chains.
- **Diversification of Supply-chains:** McKinsey and Deloitte's reports on diversification strategies are based on extensive research and industry surveys, making their findings reliable.
- **Investment in Technology:** Reports from Accenture and the World Economic Forum on technology investments are based on comprehensive studies and expert analyses, ensuring their accuracy.
- **Government Policies and Support:** Information from the U.S. Department of Commerce and the European Commission is official and authoritative, providing accurate insights into government policies.
- **U.S.-China Relations:** The analysis by CSIS and RAND Corporation on U.S.-China relations is well-supported by other credible sources, including news reports from Financial Times and Reuters.
- **European Union Strategies:** The European Commission's official publications and reports from Euractiv provide accurate information on the EU's strategic initiatives.
- **Emerging Markets:** Reports from the World Bank and ADB on the role of emerging markets are based on extensive economic data and analysis, ensuring their accuracy.

Methodology used

The SCBC research tool SCEAS-Assist uses a rolling library of public reports, data, marketing materials, and informal research. Where possible for copyright or cost reasons materials is included. This library is added to on a rolling basis using materials forwarded by ITC members. Content is removed from the library based on its individual period of validity or relevance. This analysis looks for trends and predications, being a reflection of the global zeitgeist in terms of supply-chain thinking in its widest context. This identifies and summarises the headlines for further investigation,

- 1. Literature Review and Expert Analysis: Certainties:** Identify issues consistently highlighted across multiple credible sources (e.g., reports from organisations like the World Economic Forum, Moody's Analytics, and other industry reports). These issues are backed by historical data and trend analysis indicating their ongoing or inevitable impact. **Uncertainties:** Highlight issues that are mentioned frequently but with varying degrees of confidence and predictions about their occurrence. These include factors that are influenced by volatile variables, such as geopolitical events or climate-related disruptions.
- 2. Current Trends and Historical Context: Certainties:** Look at established trends and historical patterns that provide strong indicators of future occurrences. For example, the ongoing impacts of geopolitical tensions and energy price volatility due to well-documented past events. **Uncertainties:** Focus on areas with high variability and unpredictability, such as political unrest, labour strikes, or extreme weather events. These are less predictable but have shown potential to cause significant disruptions when they occur.
- 3. Impact Analysis: Certainties:** Assess the breadth and depth of impact on global trade and supply-chains. Issues that affect multiple regions and sectors and have substantial economic impacts are ranked higher as certainties. **Uncertainties:** Evaluate potential impact but with acknowledgment of variability. For example, geopolitical instability can have massive impacts, but the specific nature and timing of events are uncertain.
- 4. Consultation of Real-Time Data and Forecasts:** Utilise real-time data and forecasts from reputable institutions (e.g., economic forecasts from the International Monetary Fund, geopolitical analysis from security think tanks) to inform predictions. **Certainties:** Data showing consistent trends (e.g., inflation rates, energy prices). **Uncertainties:** Forecasts that show high variability or depend on unpredictable events (e.g., potential conflicts, political elections).

About the International Trade Council

The International Trade Council (ITC) is a peak-body trade organization that provides a range of services to help exporters navigate the complex world of international trade. ITC members include startups, mid-to-large sized corporations, government export promotion agencies, and government foreign direct investment promotion agencies.

The ITC provides valuable resources and support to help exporters comply with international trade regulations, find new markets, and connect with potential buyers and partners. Through its programs and services, the ITC helps exporters access trade information, training, and market intelligence, as well as providing networking opportunities and business matchmaking services. The International Trade Council is also home to the [Go Global Awards](#), the [Global Business Confidence Survey](#), the [Quality in Business Certification](#) and a [USA Business Incubation Service](#). By leveraging the ITC's resources and expertise, exporters can increase their chances of success in the global marketplace.

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