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# *Supply Chains Must Adjust Now to New Global Factors to Gain Competitive Advantage*

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## *Executive Summary*

*Global supply chains are confronting a period of ongoing instability. Constant disruptions, driven by sudden geopolitical shifts, increasing protectionism, and rapid technological advances, have redefined the operating landscape. This turbulence forces supply chain leaders to rethink their strategies, adopt new operating models, mitigate risks, strengthen resilience, and keep pace with evolving customer expectations. While it may seem that this global uncertainty is thrusting debilitating challenges on supply chains, it is also presenting opportunities for growth and competitive advantage.*

## *Introduction*

The U.S. administration's tariff policies seen this year, ranging from 10% to 145%, have reshaped global trade patterns and heightened economic uncertainty. As a result, some companies are turning to regional suppliers to avoid import costs, while others are reevaluating long-term investment decisions and redirecting funds to support emergency purchasing and sourcing situations.

At the same time, artificial intelligence is developing at a mind-blowing pace, with new capabilities and use cases being discovered and implemented on a daily basis. Organizations struggle to determine the most impactful and cost-effective ways to adopt AI and continue to include climate change commitments into operational decisions.

To help leaders adapt, the Digital Supply Chain Institute developed the Constellation of Value Framework, designed to build supply chains that are resilient, more agile, and responsive, giving companies a strategic advantage.

## ***Four Factors Redefining Global Supply Chains***

1. Artificial Intelligence Development and Deployment
2. Tariffs and the Continued Rise in Protectionism
3. Rise in Deglobalization or “Global Segmentation”
4. Climate Change Commitment

## ***Factor 1: Artificial Intelligence Development and Deployment in Supply Chains***

Artificial intelligence (AI) has become one of the most transformative forces in global supply chains. Companies are using AI not only to automate manual and repetitive tasks but also to fundamentally reshape decision-making across the enterprise.

- **Example 1:** Starbucks is rolling out an AI-driven inventory counting system across North America. Instead of manually counting stock, employees use tablets equipped with AI software to scan shelves, instantly flagging low inventory items. This allows for more frequent checks and greater consistency for customers. With advanced automation integrated into daily operations, supply chain leaders are shifting from reactive to proactive management.

- **Example 2:** Walmart's AI tool, Wally, analyzes massive volumes of data and delivers actionable insights in real time. Employees can ask questions such as "Why were sales low in certain regions?" or "Which stores were shorted on specific items?" Wally analyzes data across fragmented systems, identifies root causes, and helps teams focus on issues that matter most.
- **Example 3:** Unilever uses AI as a decision-augmentation tool that enhances human judgment rather than replacing it. AI monitors more than 60,000 supply chain variables that influence global distribution, helping the company anticipate disruptions and improve planning accuracy. This creates stronger trust between partners as data becomes more transparent, and decisions are more reliable.

**Main Takeaway:** AI is transforming global supply chains by enabling proactive management and creating more opportunities for growth. Companies that deploy AI effectively will mitigate risk, reduce cycle times and cost, and align their supply chains more closely with evolving customer expectations.

## ***Factor 2: Tariffs and the Continued Rise in Protectionism***

Tariffs continue to reshape global trade as we approach the end of 2025, with widespread impacts expected to continue into 2026. The World Trade Organization's latest Trade Monitoring Update reports that global merchandise trade subject to tariffs and similar measures reached an estimated $2.7 trillion, more than triple the $887.6 billion in the twelve-month period covered in its last report, released in late 2024. This is the highest level recorded in one reporting period since the WTO began monitoring in 2009.

> "This Trade Monitoring Update reflects the disruptions we have been seeing in the global trading environment, with a sharp increase in tariffs. Only six months ago, about 12.5% of world merchandise imports were impacted by such measures that had accumulated since 2009. That share has now jumped to 19.4%. I urge WTO members to keep engaging to lower the temperature, to push for WTO-consistent approaches, and most fundamentally, to address the underlying problems by delivering on deep WTO reform." - WTO Director-General Ngozi Okonjo-Iweala

Following the tariff expansion announced in August, major economies have responded in a variety of ways.

- **Example 1:** G8 members within the European Union negotiated a 15% cap on EU goods under the Agreement on Reciprocal, Fair, and Balanced Trade. However, some countries, including France, argued for a more aggressive response to signal they are "ready to push the red button" if the U.S. refuses to negotiate new terms.
- **Example 2:** G20 member Japan negotiated a 15% cap by pledging $550 billion to bolster U.S. infrastructure. South Korea reduced tariffs from 25% to 15% and is prepared to support the industries most affected, specifically pharmaceuticals and automobiles.
- **Example 3:** BRICS, which includes Brazil, Russia, India, China, South Africa, Egypt, Ethiopia, Iran, Saudi Arabia, the UAE and 9 additional partner countries and accounts for approximately 24-26% of global trade, is working to deepen regional ties to reduce reliance on Western supply chains. India is purchasing Russian oil and expanding trade agreements across multiple industries with China, Brazil and South Africa. Brazil and China implemented reciprocal tariffs,

while investing in joint initiatives including a mineral exploration project in Brazil and talent development programs across BRICS nations.

**Main Takeaway:** Tariffs have reached record levels, driving major economies to strike new deals and strengthen regional alliances. As protectionism rises, leaders are adjusting strategies to avoid tariff exposure, signaling a long-term shift toward regional trade networks.

## *Factor 3: Rise in Deglobalization or "Global Segmentation"*

Deglobalization, or global segmentation, accelerated in 2025 and is expected to continue as companies invest billions to shift their production closer to home using nearshoring and friendshoring tactics.

- **Example 1:** In August, GE announced a $3 billion investment to relocate refrigerator, gas range, and water heater production out of China and Mexico to the southeastern United States. Samsung and LG are making similar moves, shifting production of select home appliances to South Carolina and Tennessee.
- **Example 2:** In September, GSK and Eli Lilly announced multibillion-dollar investments to build new U.S. manufacturing plants. Earlier this year, Novartis, Merck & Co. Roche, Sanofi and AstraZeneca announced similar investment plans to avoid tariffs.
- **Example 3:** Honda and GM recently announced the relocation of production of one model from Mexico to the U.S.

**Related Complications:** While these moves reduce certain risks, the OECD warns that reshoring could decrease global trade by more than 18% and reduce real global GDP by more than 5%. More than half of the economies modeled experienced increased GDP volatility, challenging claims that re-localizing operations is more stable.

> OECD Secretary-General Mathias Cormann stated, "Governments need to engage with each other to address any issues in the global trading system positively and constructively through dialogue – keeping markets open and preserving the economic benefits of rules-based global trade for competition, innovation, productivity, efficiency, and ultimately growth."

**Global Trade Advancements:** Amid these global trade challenges, progress is being made to improve and simplify trade processes. The Digital Supply Chain Institute is collaborating with the International Chamber of Commerce to co-lead the development of a digital trade readiness maturity assessment that helps companies build capabilities needed to participate in digital trade. Digital trade offers reduced costs, new opportunities, economic growth, smoother data flows, increased efficiency, and access to new markets. User adoption of the open electronic bill of lading rose from 33% to 49% in the past two years. Companies using these processes are improving their visibility and forecasting while making faster decisions when supply chain disruptions hit.

**Main Takeaway:** Deglobalization is accelerating as companies move production closer to home, but this shift may weaken global trade in the long-term. While global segmentation may be forcing new physical trade and investment decisions, digital trade is emerging as a powerful counterbalance by streamlining operations and lowering the costs of trade.

## ***Factor 4: Climate Change Commitment***

The world's largest economies are intensifying climate actions to reduce environmental impact.

- **Example 1:** Nearly 200 countries agreed to increase funding by 10% over the next two years for the United Nations Framework Convention on Climate Change, a UN treaty that aims to combat climate change and promote sustainable development. Bloomberg Philanthropies is covering the U.S. contribution following its withdrawal from the Paris Climate Agreement.
- **Example 2:** China remains committed to carbon neutrality by 2060 and has begun construction on what may become the world's largest solar farm. In September, China submitted their updated 2035 climate targets and issued a joint statement with the EU, reaffirming their commitment to the Paris Agreement, including cooperation on renewable energy, low-carbon technology, and methane reduction.
- **Example 3:** Leaders from Colombia, Brazil, Bolivia, and Indigenous representatives signed the Declaration of Bogota, which includes 20 commitments related to rainforest conservation, food security, and climate risk. Brazil continues advancing its Ecological Transformation Plan as an economic foundation, rather than a standalone environmental initiative.

Corporations are also setting and evaluating their climate commitments.

- **Example 1:** Walmart met its Project Gigaton goal of avoiding or reducing 1 billion metric tons of emissions in 2023. However, the company is currently not on track to meet its Scope 1 and 2 reduction targets by 2030, achieving only 19.3% progress toward its goals of 35% by 2025 and 65% by 2030.
- **Example 2:** Microsoft aims to achieve carbon negativity by 2030 but has seen a 23.4% increase in emissions since 2020 due to expansion in AI and cloud infrastructure. However, they are requiring suppliers to use 100% carbon-free electricity by 2030 and contracted 22 million metric tons of carbon removals in FY 2024.
- **Example 3:** PepsiCo is on track with its climate goals: 89% of electricity in company-owned operations came from renewable sources and credits in 2025. The company continues investing in innovative green technologies, including renewable energy-powered ovens and thermal batteries. They have goals of 100% renewable electricity by 2030, as well as a reduction of Scope 1 and 2 emissions by 75%.

**Main Takeaway:** As business leaders adapt to rising protectionism, deglobalization, and rapid AI deployment, sustainability remains central to operating decisions. Many AI technologies and infrastructure investments increase energy use, making it critical for companies to balance innovation with environmental responsibility.

## ***The Need***

**Today's Reality:** Supply chain leaders face an increasingly complex environment shaped by protectionism, deglobalization, rapid AI advancements and deployments, and ambitious climate goals. These challenges are expected to persist, and new challenges could emerge without warning. One fact is clear: supply chain leaders must adjust now to increase flexibility and mitigate risks.

**Counteracting Complex Factors:** The Constellation of Value (CoV) management framework can help supply chain leaders balance disruption.

A CoV is a three-dimensional network of all supply chain stakeholders, including suppliers, logistics providers and manufacturers that resembles a constellation when formed, with each partner representing a star or node.

A CoV is a modern supply chain where partners collaborate more effectively enabled by data sharing, increase their efficiency, reduce functional silos, and improve customer satisfaction. Each CoV member leverages their specific strengths to achieve shared goals, respond dynamically to disruptions, and capture new opportunities faster than competitors.

A strong CoV can do the following:

- Reduce boundaries between partners through data sharing and consistent communication.
- Respond quickly to market and operational changes.
- Enable proactive decision-making by sharing and capturing insights, learnings, and resources that help manage market and regulatory changes before they take effect.

The Digital Supply Chain Institute has created the Constellation of Value Playbook, which guides organizations through building a successful CoV. It helps business leaders to better meet consumer expectations, strengthen their supplier relationships, enhance supply chain resiliency, and gain competitive advantage. The Playbook is available upon request here. For additional information, please contact info@dscinstitute.org.