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Invited Session on

Digitalization, Sustainability, Coordination, and Configuration: Reshaping Global Supply Chains in the Wake of the Great Decoupling

Organized by:

Code: b162g

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Abstract

In recent years, the global supply chain landscape has been transformed by technological advancements and shifting geopolitical dynamics. The Great Decoupling, referring to the gradual separation of the U.S. and Chinese economies, has highlighted the need for resilient, sustainable, and digitally enabled supply chains. Companies must now navigate a complex array of factors, including environmental sustainability, digital transformation, and geopolitical risks, rather than focusing solely on cost and speed.

The integration of sustainability and digitalization presents both challenges and opportunities. To adapt, businesses are reshaping their supply chains with innovative coordination mechanisms, advanced forecasting, and technologies like artificial intelligence and blockchain. Additionally, “x-shoring” strategies such as reshoring and nearshoring are reducing risks and enhancing agility. This shift has established a new equilibrium, where profitability, sustainability, and customer value are strategic priorities.

The circular economy, emphasizing material reuse and waste reduction, is also reshaping supply chains by aligning with the triple bottom line of people, planet, and profit. Effective coordination and real-time communication between suppliers and manufacturers are crucial for supporting these circular processes. Digital tools, including artificial intelligence and blockchain, further enhance management by providing insights that improve sustainability, compliance, and risk management.

The adoption of Collaborative Planning, Forecasting, and Replenishment (CPFR) allows supply chain partners to share real-time data, leading to more accurate demand forecasting and waste reduction. Meanwhile, the rise of localized production through “x-shoring” strategies not only shortens lead times and mitigates political risks but also lowers carbon footprints, promoting resilience and sustainability.

Finally, as consumer demand for sustainable products grows, companies are finding a balance between profit maximization and environmental responsibility. Trade-off models help businesses assess the economic and sustainability impacts of supply chain decisions. Together, these interconnected strategies—circular economy practices, digital transformation, localized sourcing, and sustainable planning—are shaping resilient, eco-conscious supply chains that meet the needs of both markets and the planet.

Topics of interest include, but are not limited to:

- Circular Economy and Triple Bottom Line
- Coordination and Intermediation in the Supply Chain
- Collaborative Planning, Forecasting, and Replenishment (CPFR)
- x-Shoring Strategies (Nearshoring, Backshoring, Reshoring, etc.)
- Artificial Intelligence, Blockchain, and Digital Technologies applied to Supply Chain Control and Management
- Balancing Demand and Supply
- Customer Value: Profit Maximization and Trade-off Between Profit and Sustainability
- New Performance Models and Technologies for Sustainable Supply Chains