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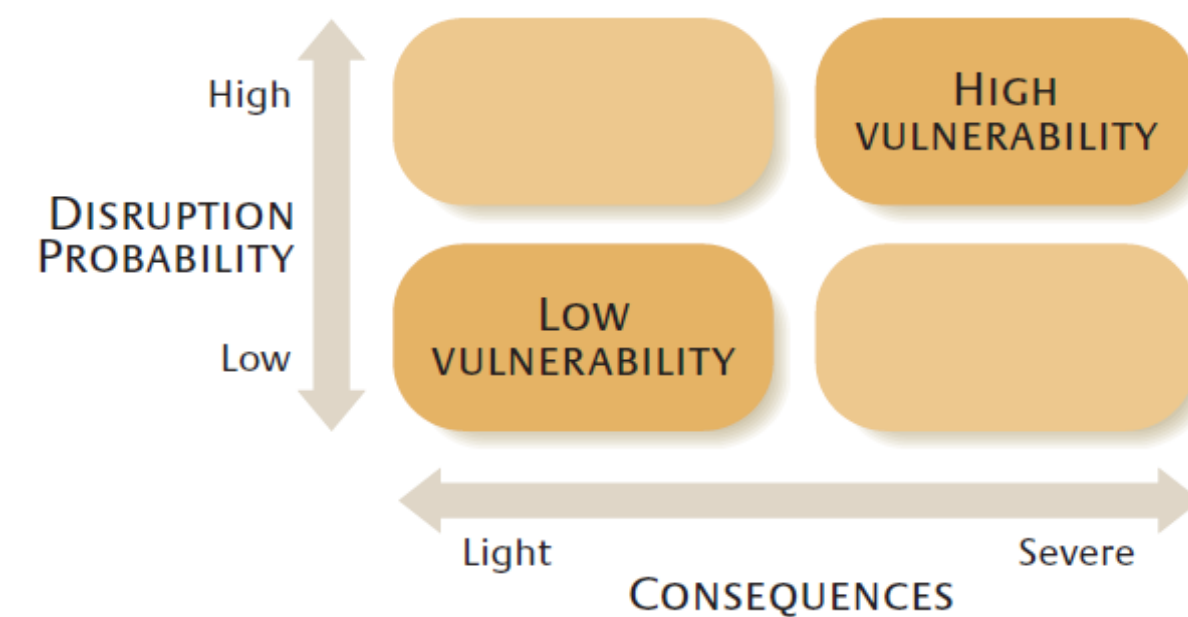
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May 2022 Poster Session

Motivation / Background

Companies can expect to lose almost **42%** of one year's **profit** every decade because of disruptions¹. Working to have better supply chain resilience and robustness, is now a necessity to stay competitive and profitable. **Preparation** is key to strive in our highly disruptive world.

Companies can do simulations to understand the **financial consequences** for disruptions, but the **quality** of insights is highly depended on the input data. A **vulnerability map** is a framework to create that input data by understanding how exposed a supply chain is towards disruptions. This will be the focus for this project.



¹ Risk, resilience, and rebalancing in global value chains, McKinsey Global Institute

Key Questions / Hypothesis

The key questions to understand disruptions:

1. What can go **wrong**?
2. What is the **likelihood** of it occurring?
3. What is the **impact** resulting from it?
4. What **mitigation strategies** would allow competitive advantages?

Relevant Literature

Sheffi, Y., & Rice Jr., J. B. (2005). A supply chain view of the resilient enterprise. *MIT Sloan Management Review*, 47(1), 41–48.

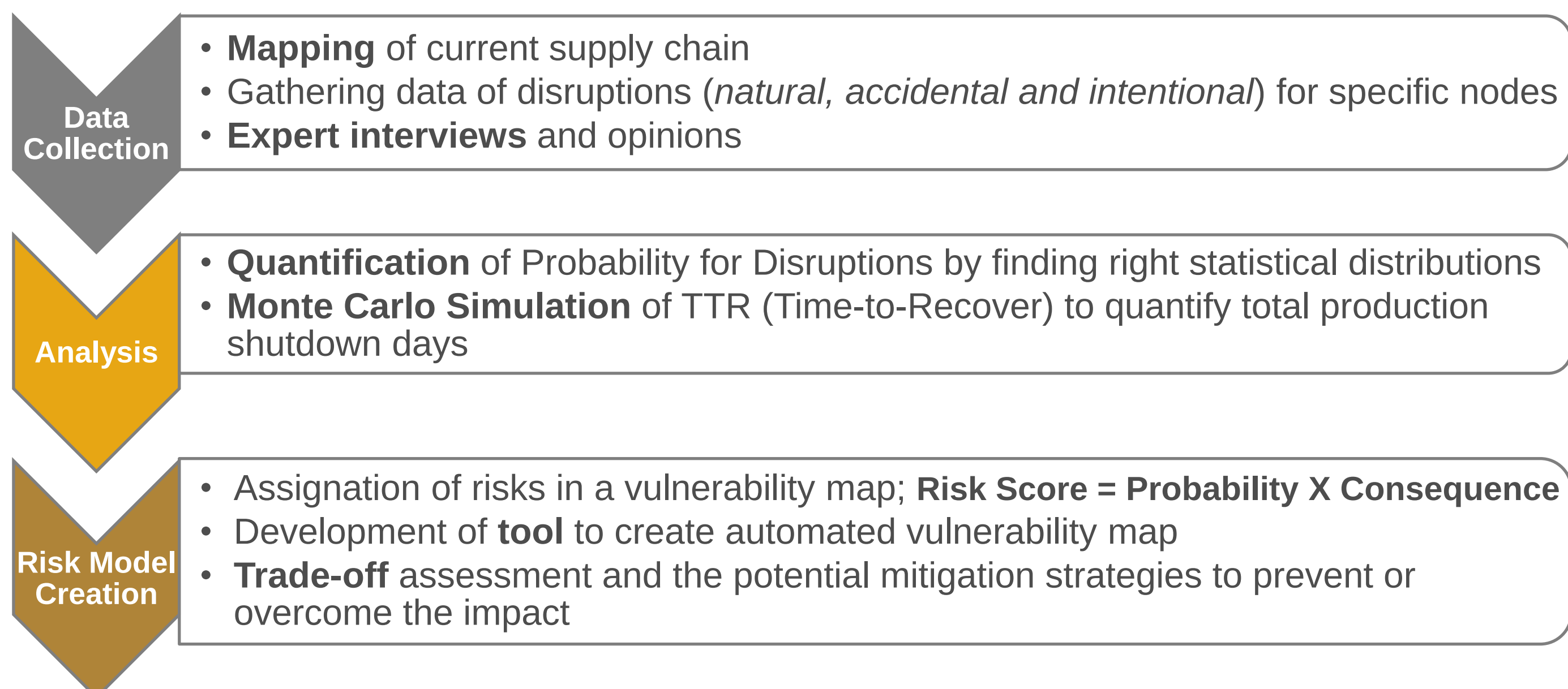
Olson, D. L., & Wu, D. (2020). *Enterprise risk management models* (3rd ed.). Springer.

Martel, A., & Klibi, W. (2016). *Designing Value-Creating supply chain networks*. Springer Publishing.

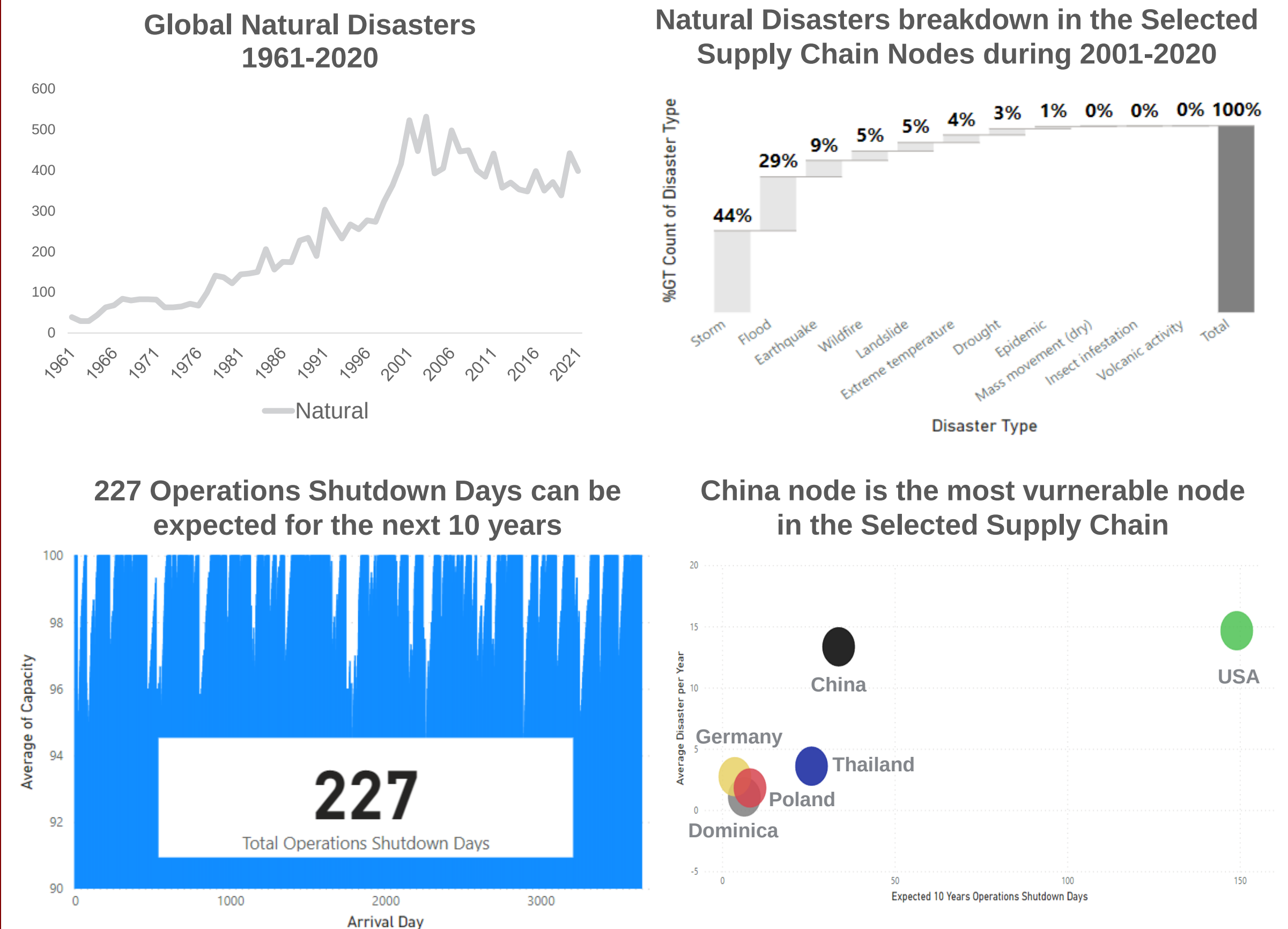


Source: Picture: www.italiascacchistica.com, Quote: Jerry Rice

Methodology



Results



Source: Centre for Research on the Epidemiology of Disasters (CRED)

Contributions

- A **step-by-step** methodology on how to create a vulnerability map for the supply chain in scope from sponsor company
- **Resilience** recommendations based on results for optimal Supply Chain Network Design and Business Continuity Planning decisions
- An **automatic and scalable risk model** of vulnerability map for other supply chain networks of the sponsor company or similar industries

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