

Supply Chain Resilience from the Maritime Transportation Perspective

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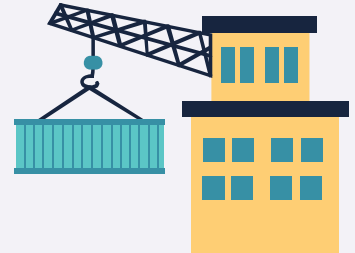
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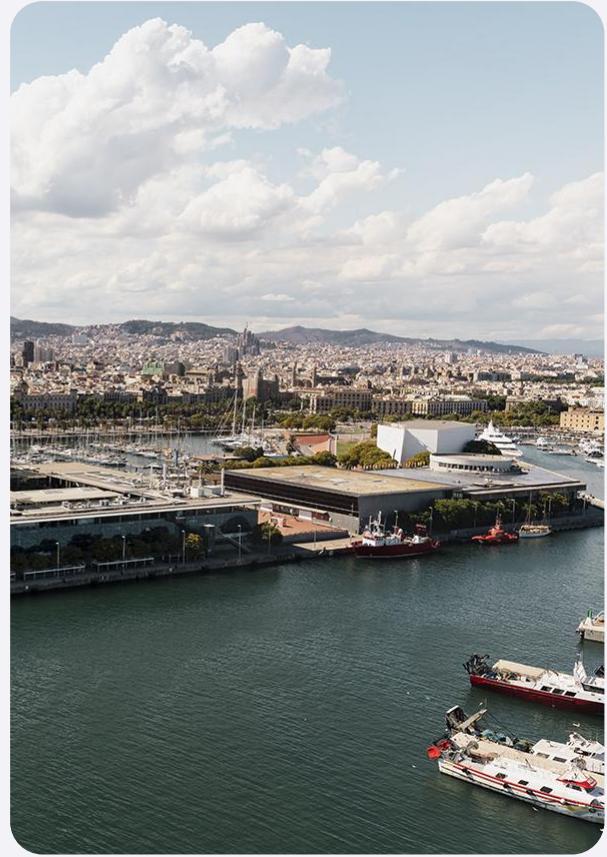


01



Problem Description

What is Maritime Transportation?
Objectives & Constraints



Maritime Transportation

Definition

The movement of people and goods by sea, using ships

- *(Inclusive of pre- and post-shipping activities)*

Responsible for the vast majority of global overseas commerce



Objectives and Constraints

Objective:

This study conducts multiple analyses relevant research papers to consolidate findings, identify trends, evaluate resiliency and provide recommendations to support a more reliable maritime supply chain.

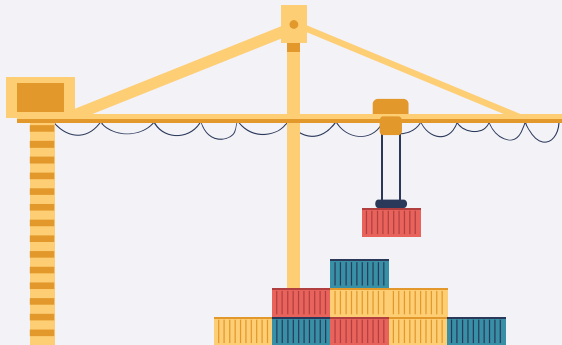
Constraints:

- Systematic reviews of maritime-related supply chain resilience are limited.
- Limitations to existing studies between 2004 - 2022

Supply chain resilience:

The ability to return to a usual situation after unforeseen disruptions.

- Ex: COVID-19, geopolitical disruptions, labor strikes, adverse weather conditions, supply shortages.

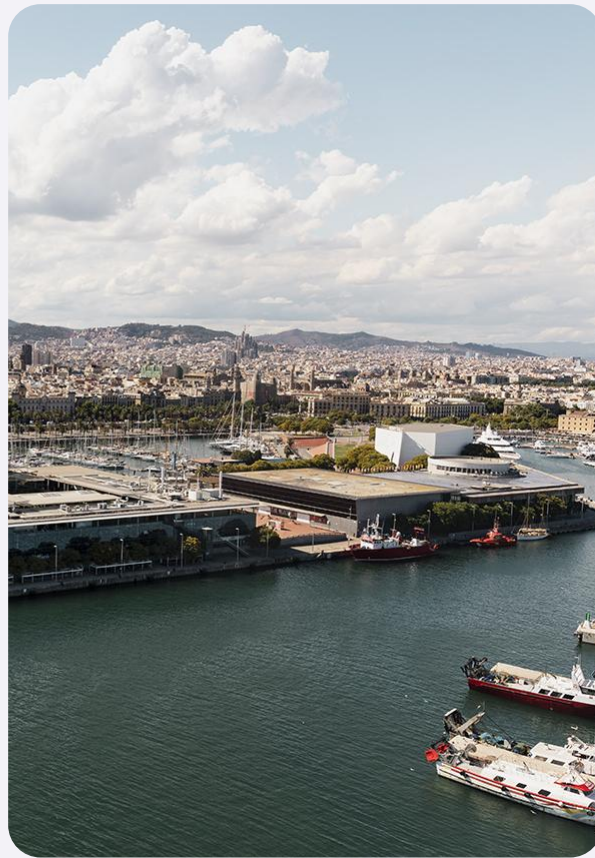


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Motivation

Why is Supply Chain Resilience Important for Maritime Transportation?



Motivation



Research/Analysis Importance

Maritime Transportation accounts for 80% of international trade.

Identify overall growth and evolutionary trends of supply chain resilience as it relates to maritime transportation.

Preparation and prediction of disruptive supply chain events based on previous findings.



2024 East Coast Port Strike

Dockworkers to go on strike for higher pay and job security.

Labor strikes threaten to disrupt supply chain, increasing the potential shortages of raw materials, consumer goods, and other supplies.

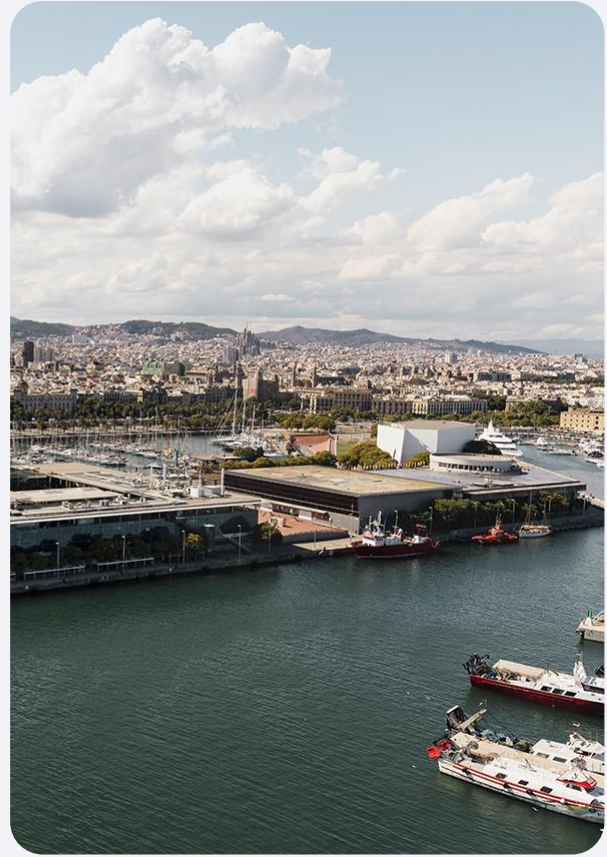


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Solution Mechanisms

Solutions Used to Address the Challenges



Solutions/Methodologies Used

Descriptive Analysis

- Growth Trend Analysis
- Research Areas
- Research Regions
- Influential Journals

Bibliometric Analysis

- Collaboration Networks
- Emerging trends
- Cluster Analysis

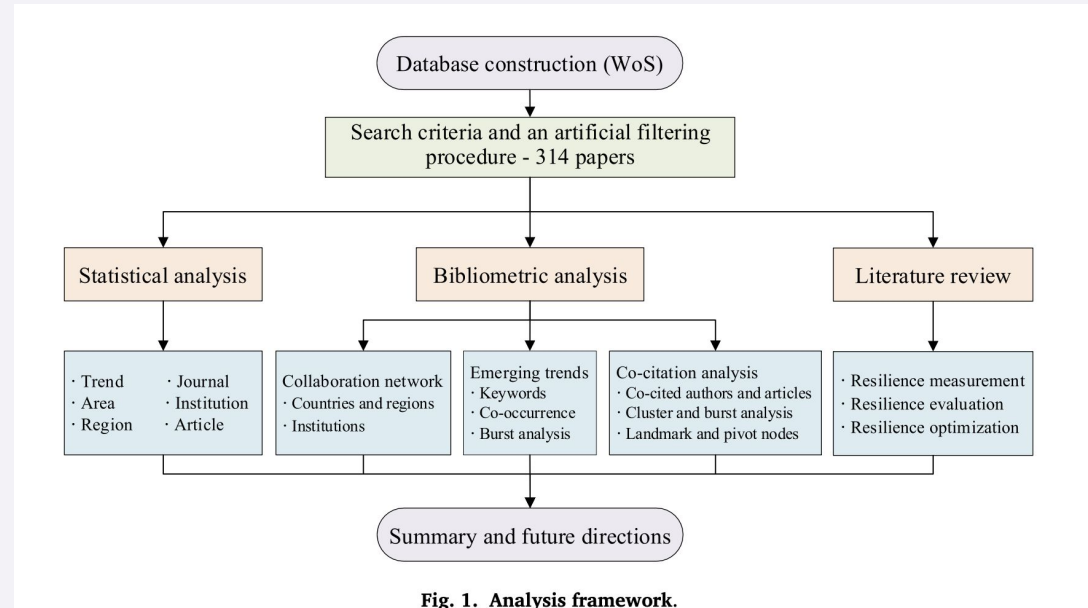


Fig. 1. Analysis framework.



Highlighted Findings

Statistical Growth Trend Analysis with Exponential Regression

- Maritime Supply Chain Resilience Research continues to grow as the field evolves

Keyword Co-Occurrence

- Identify gaps in research where keywords are less frequent
- Identify which challenges related to maritime transportation are becoming more relevant

Cluster Analysis

- Cross-disciplinary solutions can be revealed as they relate to research bucketed within the 3 high level topics

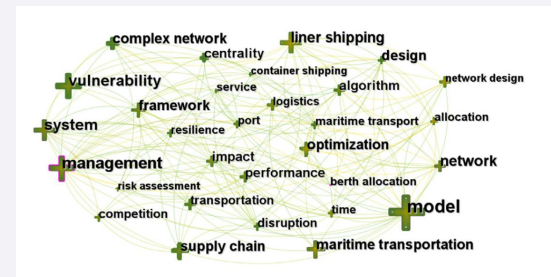
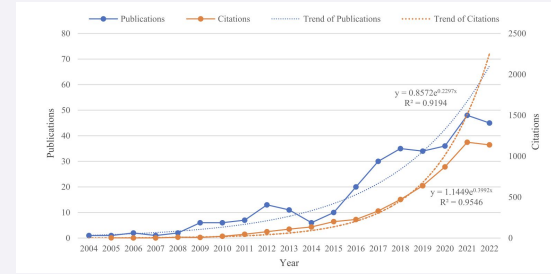
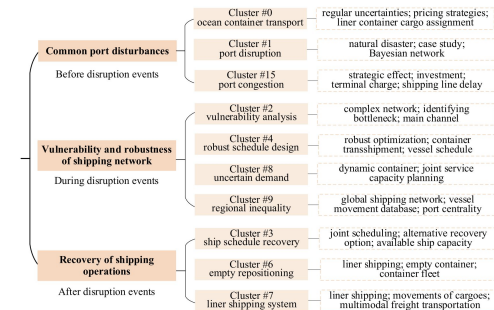


Fig. 9. Clusters and representative studies of article co-citation network.

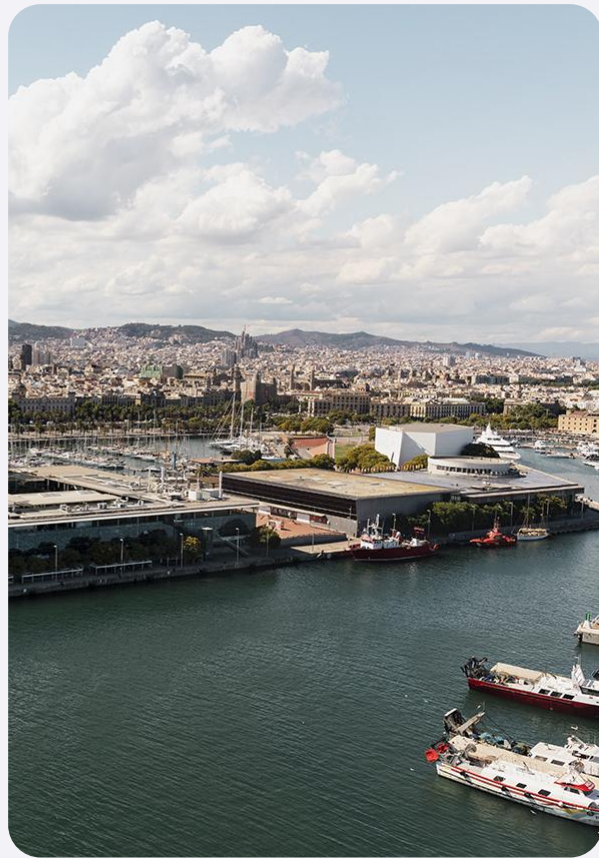


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Looking Ahead

Future Areas of Research
Our Critiques



Recommended Future Direction

- 1). Develop Uniform Definition For Resilience
- 2) Index System And Evaluation Mechanisms of Supply Chain Resilience From The Maritime Transportation Perspective
- 3) Advance Method And Technology Development For Supply Chain Resilience From The Maritime Transportation Perspective



Personal Critiques

- 1). Adopt More Qualitative Approaches
- 2) Real World Applicability



Thanks!

