

Title : Recent Advances in Inventory Theory and Sustainable Supply Chain Management

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Abstract

The rapid development of global supply chains driven by digital transformation with increasing market uncertainty and sustainability necessities has significantly expanded the scope of inventory analytics and supply chain management. Recent advances in mathematical modeling, optimization techniques, computational intelligence, artificial intelligence, machine learning, and data-driven decision-making have enabled organizations to develop smarter, more resilient, and environmentally sustainable supply chain systems. Simultaneously, emerging challenges such as demand volatility, supply disruptions, carbon emission regulations, circular economy initiatives, and resource optimization require innovative analytical frameworks capable of balancing economic efficiency with environmental and social responsibility. This symposium aims to provide an interdisciplinary platform for researchers, academicians, industry professionals, and practitioners to present and discuss recent theoretical developments, computational methodologies, and real-world applications in advanced inventory analytics and sustainable supply chain systems. The symposium welcomes high-quality contributions addressing modeling and optimization, intelligent decision-support systems, predictive analytics, digital twins, Industry 4.0 technologies, blockchain, Internet of Things (IoT), smart warehousing, resilient logistics, and sustainable inventory management. Special emphasis is placed on integrating computational intelligence and advanced analytics to address complex challenges in production, healthcare, logistics, e-commerce, and renewable energy supply chains.

Key Themes and Topics

We invite contributions that address, but are not limited to, the following themes:

- Deterministic, Stochastic and Fuzzy Inventory Models
- Multi-Echelon and Multi-Product Inventory Systems.
- Inventory Control for Deteriorating and Perishable Products
- Mathematical Modeling and Optimization Techniques
- Supply Chain Network Design and Planning
- Machine Learning and Deep Learning in Sustainable Supply Chain Management
- Carbon Emission Policies and Circular Economy
- Data-Driven Decision Making and Predictive Analytics
- Smart Warehousing, IoT, RFID and Blockchain Applications
- Renewable Energy Supply Chains
- Industry 4.0 and Digital Supply Chain Transformation
- Reverse Logistics and Closed-Loop Supply Chains
- Pricing, Trade Credit, and Revenue Management
- Resilient and Risk-Aware Supply Chain Systems
- Digital Twins for Sustainability Supply Chain Systems

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