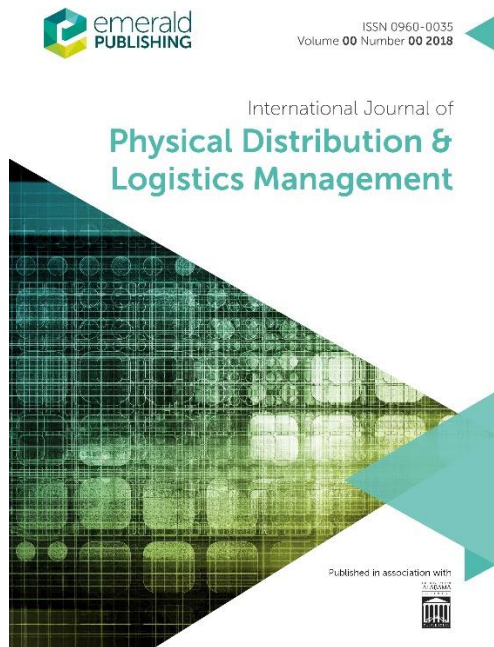


# Beyond the Horizons of Innovation: Rethinking Logistics, Operations, and Supply Chain Management Strategies



## Background

In the dynamic landscape of logistics, operations, and supply chain management, innovation serves as a cornerstone for progress and sustainability. As companies and industries navigate through unprecedented challenges and opportunities, the traditional boundaries of these disciplines are continually being challenged.

**Technological advancements** in automation, electrification, and computing are redefining business models and value creation in logistics. For example, additive manufacturing technology influences the design of supply chains by providing opportunities for decentralized production, customization, and reduced lead times (Ronchini et al., 2023; Verboeket & Krikke, 2019). Quantum-inspired computing technology has the potential to enhance operational flexibility and agility in manufacturing and logistics by enabling faster optimization of complex supply chains and real-time decision-making (Núñez-Merino et al., 2024). Supply chain transparency and visibility (Morgan et al., 2023; Sodhi et al., 2019) has become a strategic capability that goes beyond the requirements of product safety, recalls, and sustainability standards, but serves as an enabler of business gain and competitive advantage across different stakeholders (Hoang et al., 2023; Zhong et al., 2023). In future research, it is important to emphasize the significance of decision-making processes in the in-depth study of technological progress. How do decision-making processes at individual, organizational, and network levels shape the integration and utilization of technologies in logistics and supply chain management? How do these decisions redefine logistics business models and enhance value creation strategies?

Innovations are needed to foster the **resilience and adaptability** of logistics systems and supply chains against numerous challenges such as climate change, economic crises, political tensions, and wars. As disruptions become increasingly frequent and complex (Paul & Chowdhury, 2021), the ability of logistics systems to adapt and recover swiftly has emerged as a strategic imperative for organizations worldwide (Dev et al., 2021). Thereby, current research emphasizes the need to consider supply chain resilience as a system quality that goes beyond the capabilities of the individual actors within the network (Gruchmann et al., 2024). In addition, empirical evidence shows that the degree of digital maturity and the adoption of digital tools have a positive impact on supply chain resilience (Zouari et al., 2021). How can innovations in logistics systems and supply chains be strategically designed to enhance resilience and adaptability? How do such systems consider resilience as a holistic system quality rather than solely relying on individual actor capabilities?

In the pursuit of a more **sustainable future**, innovation plays a pivotal role in transforming logistics, operations, and supply chain management towards **decarbonization**. Therefore, green innovation may not only reduce environmental impact in multi-tier supply chains but also increase the consumers' willingness to engage in co-value creation (Yao et al., 2023). Next to the environmental perspective, social aspects are frequently integrated into a holistic view of supply chain sustainability (Hohn & Durach, 2023; Thies et al., 2021). Moreover, innovative (reverse) logistics concepts are investigated to foster the establishment of a circular economy (Dev et al., 2020; Gatenholm et al., 2021), also in the context of digitalization and inter-organizational collaboration (Rasool et al., 2023). How do innovative strategies in logistics, operations, and supply chain management contribute to the dual goals of decarbonization and sustainability, considering both environmental impact reduction in multi-tier supply chains and the promotion of co-value creation among consumers? How do these strategies also address social aspects and foster circular economy principles through (reverse) logistics concepts, digitalization, and inter-organizational collaboration?

Finally, our understanding of the intricate web of **policy, financing, and governance mechanisms that propel logistics innovations** forward remains limited. Although there is acknowledgement of the substantial influence that regulatory frameworks, financial incentives, and governance structures exert on shaping innovation in the logistics sector (e.g., Chan et al., 2019; Hua et al., 2020), deeper exploration and analysis are warranted. Specifically, there is a need for more targeted research into the nuanced interactions among these factors, uncovering both unexplored challenges and untapped opportunities. For decision-makers in logistics and supply chain management, it is imperative to ascertain the strategic benefits of adopting a proactive stance towards addressing regulatory developments versus the option of reactive compliance with emerging requirements. How do the intricate interactions among policy, financing, and governance mechanisms influence the trajectory of logistics innovation? What strategic advantages can decision-makers in logistics and supply chain management gain by proactively addressing regulatory developments compared to reactive compliance with emerging requirements?

## **Objective and scope**

This special issue in the International Journal of Physical Distribution & Logistics Management (IJPDLM) seeks to explore innovative approaches, emerging technologies, and novel frameworks that redefine traditional paradigms in logistics, operations, and supply chain management. Using a multidisciplinary perspective, this special issue aims to delve into the latest advancements and challenges in logistics, operations, and supply chain management, emphasizing the crucial roles of innovation and new theoretical development. It welcomes analyses and insights ranging from the level of individual companies to entire supply chain networks.

Consequently, the special issue encourages contributions that bridge theoretical and practical gaps in understanding and implementing logistics innovations. In aiming to redefine the contours of logistics, operations, and supply chain management, this special issue calls for papers that combine empirical rigor with innovative theoretical perspectives. We particularly welcome submissions that articulate open challenges in theory development and empirical validation related to the following four main themes on which the special issue aims to focus:

- **Technological advancements:** Articles under this theme should explore how technical advancements in, for example, automation and computing reshape logistics. For instance, submissions can explore decision-making processes to technical advancements and how they impact logistics business models and enhance value creation strategies.
- **Resilience and adaptability:** Articles under this theme should investigate, for example, how innovations in logistics are essential for enhancing the resilience and adaptability of logistics systems and supply chains amid increasing challenges. Submissions might explore how innovations can redesign logistics systems to strategically enhance resilience and to adapt to the challenges of stringent emission reduction targets.
- **Sustainability and Decarbonization:** Articles under this theme can address how innovation in logistics and supply chain management is pivotal for achieving decarbonization and sustainability goals. Submissions might develop strategies, for example, reverse logistics concepts, digitalization, and inter-organizational collaboration, to address economic, address environmental, and social concerns simultaneously.
- **Governance and Financing:** Articles under this theme should analyze how policy, financing, and governance mechanisms drive logistics innovations. For example, submission can explore decision-making to secure strategic benefits of proactive regulatory engagement against reactive compliance to gain competitive advantages.

By closely aligning with the suggested focus areas, authors will contribute to a robust academic discourse that not only addresses the practical challenges facing the logistics sector but also advances theoretical frameworks that can guide future innovations. This special issue explicitly invites high quality manuscripts in the field of logistics and supply chain management that use quantitative (e.g., survey, experiment, etc.) or qualitative (e.g., interview) methods. In addition, we encourage researchers to use advanced data analysis techniques (e.g., structural equation modeling, necessary condition analysis, machine learning, text mining, multi-level modeling, etc.) to explore the topic proposed in this special issue. Papers that rely on optimization problems or simulations without

using empirical data are out of scope of this special issue. Research focused on mathematical modeling, simulation, or multi-criteria decision-making frameworks falls outside the scope of this issue and IJPDLM. Instead, we seek contributions that offer rich, data-driven insights into the dynamics of logistics innovation.

## **Paper Development Workshop:**

Interested authors are invited to participate in a paper development workshop that will be organized by the guest editors at the Hamburg International Conference of Logistics, taking place **September 25-27, 2024**, at Hamburg University of Technology ([www.tuhh.de/hicl](http://www.tuhh.de/hicl)). The guest editors will be available to discuss this call's themes in depth and to provide guidance on aligning the working papers better with the special issue.

## **Key dates**

**Submission opens: 01/09/2024**

**Submission closes: 30/04 2025**

## **Guest Editors**

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## **Submission Information**

Submissions are made using ScholarOne Manuscripts.

Registration and access are available [here](#).

Author guidelines must be strictly followed. Please see the author's guidelines [here](#).

Authors should select (from the drop-down menu) the special issue title at the appropriate step in the submission process (i.e., in response to "Please select the issue you are submitting to").

Submitted articles must not have been previously published, nor should they be under consideration for publication anywhere else, while under review for this journal.

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