



**PALGRAVE STUDIES IN LOGISTICS AND
SUPPLY CHAIN MANAGEMENT**

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Network Design, Redesign and Supply Chain Resilience

Understanding the Managerial
Perspective

Francesca Faggioni ·
Marco Valerio Rossi

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Palgrave Studies in Logistics and Supply Chain Management

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Francesca Faggioni · Marco Valerio Rossi

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Palgrave Studies in Logistics and Supply Chain Management
ISBN 978-3-032-03202-7 ISBN 978-3-032-03203-4 (eBook)
<https://doi.org/10.1007/978-3-032-03203-4>

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The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

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FOREWORD BY ALESSANDRO PIETROGIACOMI

In recent years, the concept of resilience has evolved from a niche academic topic to a central concern in the boardrooms of global enterprises. The COVID-19 pandemic, geopolitical tensions, raw material shortages, and rapid digital and environmental transitions have forced companies across all sectors to rethink how their supply chains are designed, monitored, and adapted. In this context, Network Design, Redesign and Supply Chain Resilience: Understanding the Managerial Perspective emerges as both timely and essential.

This book explores the multifaceted nature of supply chain resilience (SCR) from both academic and managerial standpoints. Through a careful progression, from conceptual groundwork to industry-specific case studies, this book seeks to answer not just what resilience means, but how it can be operationalized in a volatile, uncertain world.

The journey begins with a rigorous review of the academic landscape. Chapter 1 presents a structured synthesis of over 200 scholarly articles, offering a refined and integrated definition of SCR based on four core pillars: key resilience attributes, technology-aided visibility, sustainable practices, and trust-based relationships. Framed within the theory of dynamic capabilities, the chapter lays the intellectual foundation for seeing resilience as a long-term strategic asset rather than a short-term reaction to disruption.

Chapter 2 transitions from literature to practice, revealing the voices of supply chain professionals through a series of focus groups in the pharmaceutical industry. Managers confirm many of the academic assumptions but enrich the conversation with real-world priorities, highlighting the importance of human capital, cross-functional collaboration, and cultural alignment. Their insights reveal resilience as a dynamic process rooted in organizational learning and the integration of digital technologies.

The third chapter zooms in on the semiconductor industry, arguably one of the most geopolitically and economically sensitive sectors today. Through scenario analysis and policy discussion, the chapter dissects how the overconcentration of chip production and pandemic-era bottlenecks exposed systemic fragilities. In response, the authors examine how supply chain redesign, through diversification, digital modeling, and strategic inventory, can enhance resilience in one of the world's most complex value networks.

Finally, Chapter 4 turns to the automotive sector, where electrification and regulatory pressure are reshaping not only product design but entire supplier ecosystems. Using Stellantis as a case study, the chapter explores how tools such as SWOT, PESTLE, and Make-or-Buy analysis can support long-term planning in an era defined by sustainability imperatives, technological disruption, and shifting consumer expectations.

Together, these chapters offer a comprehensive, methodologically robust, and highly applicable treatment of supply chain resilience. They move beyond the question of whether resilience is important, clearly, it is, and ask how resilience can be built deliberately, sustainably, and strategically.

The authors, Francesca Faggioni and Marco Valerio Rossi, offer more than academic insights. They bridge theory and practice, offering a framework that serves researchers, executives, policymakers, and students alike. Their work provides not only clarity in definition but also direction in action.

As global supply chains face an uncertain future, this book serves as a guide for those tasked with navigating it, whether redesigning networks, setting policy, investing in capabilities, or leading transformation.

As I used to say during my corporate meetings: *resilience isn't just a boardroom buzzword, it's now a daily operational challenge*. At Abbott Laboratories Industries, we used to think in terms of cost and service level; today, we think in terms of continuity, speed of recovery, and upstream visibility.

What this book captures so well is the shift from linear efficiency to dynamic adaptability. In our case, that meant investing in dual sourcing, implementing digital control towers, and building cross-functional crisis response teams. Theory matters, but what matters more is how it translates to people, processes, and platforms.

Enjoy your reading!

Rome, Italy

Alessandro Pietrogiaconi
Former Senior Supply Chain
Director
Abbott Established
Pharmaceutical Division

FOREWORD BY CARLO DE RUVO

Until 2019, the crises affecting the global economies were essentially of financial origin, although early signs of strain in the globalization model which had become predominant since the mid-1990s were already beginning to emerge. It is often underestimated that certain phenomena must somehow be governed; otherwise, we risk exceeding the threshold of economic and social sustainability, potentially putting the entire system at risk. Europe believed it was making the best use of this model, but it ultimately became its victim, unlike China, which reaped the greatest benefits by acquiring the know-how it lacked and implementing industrial policies that were certainly incompatible with the principles of free competition, but, from their perspective, highly effective.

What happened in 2020, with the pandemic crisis followed by political, geoeconomic, and trade crises, disrupted a system that was once believed to be “perfect” in balancing productive efficiency and effectiveness, exposing all its weaknesses.

Since then, the keyword has become resilience. Suddenly, we realized that due to the deep interconnections among global economies, every crisis reverberates across the entire system with unpredictable effects much like Edward Lorenz’s “butterfly effect.” The transport and logistics system responded well, demonstrating a good degree of resilience thanks to its operators, but a joint effort from all stakeholders is essential. Freight transport is like water: when faced with a bottleneck, it will find

an alternative route though not without problems, starting with increased costs.

Resilience must be addressed in all its facets. Infrastructure redundancy and flexible organizational models are necessary so that the logistics chain can adapt to events. Efforts in this direction are increasing; consider the debate on the IMEC corridor and the growing attention companies are paying to ensuring supply chain continuity.

In this context of uncertainty, this book by Professors Faggioni and Rossi is invaluable not only for its effort to connect theory with practice but also for providing a practical manual for those who must manage crises, so that resilience does not remain just a buzzword but is applied in real-world scenarios.

Enjoy the read!

Rome, Italy

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Competing Interests The authors have no competing interests to declare that are relevant to the content of this manuscript.

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