


# Chapter 14

## Sustainable Process and Resilient Supply Chain Management: A Conceptual Perspective

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### **ABSTRACT**

*The susceptibility of worldwide supply networks has grown markedly due to rising geopolitical friction, global health emergencies, and energy supply disruptions. This is particularly true in less-developed regions with inadequate infrastructure and elevated costs of commerce. Based on secondary data this chapter explain sustainable and resilient supply chain management (RSCM) in MENA. The study draws on a range of sources, including the Web of Science, Scopus database and published articles, to extract insights on sustainable and resilient supply chain management. The chapter provides a rigorous secondary data to explore the sustainable and RSCM in the context of unstable countries across MENA and provides applicable insights for enhancing sustainable practices as a means of developing RSCM, which promotes sustainable growth and development.*

### **1. INTRODUCTION**

In the world we live in today supply chains are dealing with problems that stop them from working normally and slow down the movement of products. These problems happen at times and are hard to predict which makes it tough to figure

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out what is going on and how to handle it. Supply chains are really struggling with this. The problems that happen to supply chains can have results and cause even more issues, one, after another. This is what happens to supply chains when they face these kinds of problems. Contemporary global supply networks have encountered extraordinary interruptions caused by geopolitical tensions, extreme weather events, and other crises (Ivanov, 2020; El Baz & Ruel, 2021; Chowdhury, 2017).

It has been found out that most companies that were more than 75% were significantly impacted with supply chain collapse during the pandemic, which points to the urgent need to increase resilience and flexibility in operations (Simon, 2025). Meanwhile, the global focus on sustainability is becoming more acute, driven by the tightening of regulations, the rising pressure on the organization of various stakeholders, and the changing preferences of consumers, which in turn force organizations to introduce sustainable practices (Giannakis and Papadopoulos, 2016; Gouda and Saranga, 2018; Ivanov, 2018).

Since supply networks are involved in many levels and locations, the alignment of resilience, as the capability to predict, absorb and respond to disruptions (Azadegan et al., 2021; Gouda and Saranga, 2018) with sustainability the inclusion of environmental, social, and economic objectives (Giannakis and Papadopoulos, 2016) is a major strategic quandary. Sustainable practices often involve higher costs of operation, complex coordination with suppliers, and a high level of transparency throughout the whole value network (Simon, 2025).

Due to the growing geopolitical tension, growing technological fragmentation, and frequent massive shocks, the need to create resilience in international supply chains has been brought into the spotlight as a matter of critical importance. It is an essential ability to sustain industrial continuity and is also a starting point of realizing strong and sustainable economic development (Shishodia et al., 2023).

The increasing need to protect operational integrity and business continuity has brought the supply chain resilience to the center of the modern management approach. In theory, resilience means that a supply network is able to predict and survive systemic shocks, adjust to new reality, and recover quickly following disruptive events (Baycik & Gowda, 2024). This has since been identified as an essential requirement of stability in industries as well as sustainable economic development in a world of dynamic global conditions. The changing patterns of consumerism and the rapid rate of technological change have also heightened environmental instability, leading to increased risks of demand-supply instability and structural limitations. In manufacturing and, in particular, high-end manufacturing, the presence of specialized components and longer production times pose acute challenges, making resilience strategy practical implementation a top priority and a challenging endeavor (Xiong et al., 2024). As a result, the supply chain resilience (SCR) research has shifted the focus across the traditional view of buffering and

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