Reconfiguring Global Production Networks: Indo-French Supply Chain Leadership in Mitigating Disruptions

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Abstract:

In an era of unprecedented supply chain volatility, global production networks (GPNs) are continuously exposed to disruptions driven by geopolitical realignments, trade imbalances, climate-induced uncertainties, and rapid technological shifts. The interconnected nature of modern supply chains necessitates strategic reconfiguration, positioning supply chain leadership as a critical enabler of resilience-building and crisis mitigation. To address these complexities, this study rigorously employs the Best-Worst Method (BWM), a robust Multi-Criteria Decision-Making (MCDM) framework, to systematically prioritize and evaluate leadership driven strategies essential for fortifying GPNs against systemic shocks and ensuring long-term operational stability. The research identifies six foundational strategies that underpin global supply chain resilience: Supplier Diversification & China+1 Strategy, Digital Transformation & AI Integration, Nearshoring & Regionalization, Sustainability & ESG Compliance and Risk Mitigation Frameworks & Adaptive Leadership.

India-France Collaboration in Trade & Innovation Strengthening bilateral supply chain resilience through joint digitalization initiatives, sustainable sourcing, and cooperative trade frameworks. To ensure a rigorous and empirically grounded evaluation, this study collects expert-driven assessments from executives of multinational corporations, government trade policymakers, and supply chain strategists. Using the BWM optimization model, a structured ranking system is developed to quantify the relative importance of each strategy, providing actionable insights for supply chain leaders and policymakers. Through applying BWM-based optimization modelling, this study establishes a scientifically validated decision support framework that enhances leadership driven risk mitigation, enabling companies and policymakers to develop adaptive supply chain strategies. The findings offer strategic imperatives for corporate leaders, international trade organizations, and policy architects, outlining a roadmap for achieving sustainable and resilient GPNs in alignment with global trade policies, decarbonization goals, and digital transformation imperatives. Furthermore, this research underscores the strategic role of India-France industrial collaboration in fostering supply chain resilience, with a particular focus on technology-driven innovation, sustainable trade practices, and bilateral cooperation in mitigating supply chain risks. As India emerges as a key player in the global production ecosystem, leveraging France's expertise in advanced manufacturing and supply chain digitalization presents a significant opportunity for strengthening cross-border production networks. By bridging the gap between academic discourse and industry application, this study delivers tangible recommendations for multinational corporations, trade policy architects, and global supply chain practitioners, facilitating the development of digitally integrated, regionally diversified, and environmentally sustainable production networks. The fusion of BWM-based decision analytics with geopolitical foresight equips global supply chain leaders with a resilient, adaptive, and future-ready operational paradigm, ensuring that GPNs can withstand, evolve, and thrive amidst relentless global disruptions.