

# SUPPLY CHAINS, DIGITALIZATION AND RISK MANAGEMENT: TOWARDS AN INTEGRATED APPROACH?

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**Abstract.** This study explores the relationship between supply chain digitalization and proactive risk management through a rigorous three-stage methodology. A Scoping Review of 1,750 publications from Scopus and Web of Science (2015–2025), mapped research trends. A Systematic Review across five databases (Scopus, WoS, Research4Life, JSTOR, CAIRN) identified 40 relevant studies. Finally, a Meta-Analysis was conducted on 11 compatible quantitative studies. Instead of focusing on one effect per article, the analysis examined 71 tested associations between digital or organizational factors and supply chain outcomes. Results reveal a statistically significant and positive combined effect of digitalization on supply chain performance and resilience ( $\beta = 0.2511$ ;  $p < 0.0001$ ), despite substantial heterogeneity ( $I^2 = 97.94\%$ ). The findings also highlight the strategic role of proactive risk management in driving digital adoption. This research helps structure an emerging field and provides a foundation for future studies that integrate performance, resilience, and risk into digital supply chain strategies.

**Keywords:** Supply Chain Digitalization, Risk Management, Meta-Analysis.