MANAGING SUPPLY CHAINS UNDER IMMINENT DELAYS

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ABSTRACT

The European Commission estimates that freight transport will increase by 60% between 2010 and 2050. This clearly will bring excessive demands on design of resilient supply chains. Current research on risk management in supply chains primarily deal with managing operational risks, such as uncertainty in demand, uncertainties in supply lead times, and the like. Disruptive risks, such as the ones caused by natural disasters, labor disputes, terrorism, and international trade disputes are less studied. "*Uncertainty on the high seas", "Carrier's collapse makes waves in L.A.", "Port traffic surges in rush to beat trade war", "Uncertainty and fear grow over Brexit", "Companies in sprint to ship goods from Mexico before tariffs", "China's Covid Crisis Threatens Global Supply Chains"* are common newspaper headlines of recent years. This presentation will update the ongoing study that aims to develop quantitative tools to assist management decision-making when the delays are imminent or can be predicted with reasonable confidence. It will be demonstrated that it is possible to analyze various scenarios using a spreadsheet-based, stochastic optimization model based on linear programming.

Keywords: Modeling supply chain operations, spreadsheet-based optimization.