Proceedings of the 4th Annual World Conference
of the Society for Industrial and Systems Engineering,
Fort Lauderdale, Florida, USA
October 19-21, 2015

Robust Supply Chain Network Design Under Uncertainty

S. Alsobhi and K. Krishnan

Department of Industrial and Manufacturing Engineering
Wichita State University
Wichita, KS 67260, USA

Corresponding author's Email: Krishna.Krishnan@wichita.edu

Abstract: Products are often damaged during shipping. These damages are stochastic in nature. To minimize the impact of damage, the selection of routes should consider not only the expected damage but also the variability of damage. In this paper, the first model minimizes total cost, which consists of product cost and transportation cost while considering multiple routes and multiple products under stochastic yield conditions for a supply chain network. The concept of robust design has been applied to minimize damage while maximizing yield in a second model. A case study is used to demonstrate the procedures and the models.

Keywords: Yield Uncertainty, Transportation Disruption, Supply Chain Risk

ISBN: 97819384960-5-9