

NYU Stern School of Business
Department of Information, Operations & Management Sciences
OPERATIONS MANAGEMENT RESEARCH SEMINAR

TOPIC: Global Dual Sourcing
SPEAKER: Jan Van Mieghem (Northwestern)
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ABSTRACT

After decades of offshoring production across the world, companies are rethinking their global networks. Local sourcing is receiving more attention, but it remains challenging to balance the offshore sourcing cost advantage against the increased inventories due to its longer leadtime, and against the cost and (volume-) flexibility of each source's capacity. To guide strategic allocation in this global network decision, this paper establishes reasonably simple prescriptions that capture the key drivers. We adopt a conventional discrete-time inventory model with a linear control rule that smoothes orders and allows an exact and analytically-tractable analysis of single and dual sourcing policies under normal demand. Distinguishing features of our model are that it captures each source's leadtime, capacity cost and flexibility to work overtime. We use Lagrange's inversion theorem to provide exact and simple square-root bound formulae for the strategic sourcing allocations and the value of dual sourcing. The formulae provide structural insight on the impact of financial, operational and demand parameters, and a starting point for quantitative decision making. We investigate the robustness of our results by comparing the smoothing policy with existing single and dual sourcing models in a simulation study that relaxes model assumptions.

BIO

Jan A. Van Mieghem is the Harold L. Stuart Distinguished Professor of Managerial Economics and Professor of Operations Management at the Kellogg School of Management at Northwestern University. He also serves as the Academic Director of the Executive MBA program. During 2009-2010, he served as Senior Associate Dean: Curriculum and Teaching of the Kellogg School. From 2006 – 2009, he served as the chairman of the Department of Managerial Economics and Decision Sciences. He received a PhD in Business and an MSEE from Stanford University, and holds an electrical engineering degree from the Katholieke Universiteit Leuven, Belgium.

His research and teaching focuses on product, service and supply chain operations and studies both strategic questions as well as tactical execution. He is past editor of the operations and supply chain area of Operations Research and has served on the editorial board of several professional journals. He is the author of over 30 academic articles published in the leading journals, and of two textbooks: one on operations management and the other on operations strategy. His paper co-authored with Marty Lariviere received the first MSOM best paper award in 2007.