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Title: Supply Chain Procurement with Inventory and Backordering Options

Joint work with Kasarin Charnsirisakskul and Paul Griffin

Date: February 20, 2006 (Monday)

Time: 1:30 pm

Place: Goldwater Center GWC 510

Abstract:

We study the strategic role of inventory in a sequential two-period procurement setting, where the supplier's capacity in the first period is limited and the retailer has the option to hold inventory. We compare the equilibrium under a dynamic contract, where the decisions are made at the beginning of each period, and a commitment contract, where the decisions for both periods are made at the beginning of the first period. We show that there is a critical capacity level below which the outcomes under both types of contracts are identical. When the first period capacity is above the critical level, the retailer holds inventory in equilibrium and the inventory is carried due to purely strategic reasons. We also analyze the optimal choice of capacity from the supplier's, the retailer's and the supply chain's perspective. Next, we extend this model to the case where the retailer can backorder demand, and analyze the impact of backordering on the strategic decision of the supplier and the retailer.

Bio:

Pinar Keskinocak is an Associate Professor in the School of Industrial Engineering at Georgia Institute of Technology. She received her Ph.D. in Operations Research from Carnegie Mellon University, and her M.S. and B.S. in Industrial Engineering from Bilkent University, Turkey. Before joining Georgia Tech, she worked at IBM T.J. Watson Research Center in Yorktown Heights, NY.

Dr. Keskinocak's research focuses on supply chain management, with an emphasis on resource allocation, and price and lead-time decisions. She won the Daniel H. Wagner Prize for Excellence in Operations Research Practice in 1998, and was a finalist in 2002. She received an NSF Career Award in 2001. She serves as an associate editor or editorial board member of IIE Transactions, Production and Operations Management, Manufacturing & Service Operations Management, and Journal of Revenue & Pricing Management. She has served as an officer and/or president for INFORMS Forum on Women in OR/MS, INFORMS Junior Faculty Interaction Group, MSOM Society, and Forum on Education.