Operations Research Seminar

Financing the Newsvendor

Diwakar Gupta

Industrial and Systems Engineering
University of Minnesota

Supplier (or direct) financing is a predominant form of short-term credit for retailers. Direct financing allows the retailer to pay for goods purchased within a specified time window without incurring finance charges. It is sometimes offered in combination with an early-payment discount whereby retailers who pay cash up front receive a discounted wholesale price. Terms of supplier credit strongly influence retailer’s stocking decisions, but are typically not included in models with stochastic demand. This talk will present models that explain the supplier’s credit decisions, and the retailer’s purchase decisions, while accounting for the retailer’s default risk. A method to compute the nonlinear borrowing rates that a third-party lender (bank) would charge either the retailer or the supplier who finances her sales via a bank loan will be presented.

The talk will show that both these rates are decreasing in retailer’s assets and increasing in demand variability. Since inadequate information about markets and retailer operations causes the banks to assume a more variable demand distribution, the model shows that both parties benefit when banks have more accurate information. The early-payment discount serves as a simple screening device by giving an incentive for certain retailers to use third-party financing.

Date: Thursday, February 12, 2009
Time: 15:00-16:00
Location: GL-115