

SEMINAR SERIES

**Department of Quantitative Analysis and Operations Management
University of Cincinnati**

When Customers Negotiate: Implications for Dynamic Pricing and Supply Chain Management*

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Haggling has become increasingly popular in recent years: 72% of American consumers haggled during the holiday season in 2008 compared to 56% a year earlier. Beyond the usual suspects such as auto dealerships and furniture stores, customers successfully bargained at stores such as Best Buy, Home Depot, Polo Ralph Lauren, and Nordstrom. This landscape presents a new challenge for retailers: whether or not to engage in bargaining. We study this question in two separate contexts: a retailer dynamically adjusting the price of a product with a short lifecycle; and a distribution channel, where both the retailer and the manufacturer have a stake in the decision to bargain.

Many retailers that were reported to discreetly allow negotiation sell short lifecycle products such as high-tech consumer electronics (e.g., Best Buy) or style goods (e.g., Nordstrom). For such products, retailers frequently change the posted price over time. In such a retail environment, the outcome of the negotiation depends on the inventory level, the remaining selling season, the retailer's bargaining power, and the posted price. We characterize the optimal posted price and the negotiation outcome as a function of inventory and time. We show that negotiation is particularly effective when the inventory level is high and/or the remaining selling season is short.

In the channel context, we find that the retailer and the manufacturer are at odds (about whether or not to allow negotiation) only when the channel capacity or the cost of negotiation is moderate. Surprisingly, in this region of friction, a decrease in channel capacity and an increase in negotiation costs (both of which are typically considered as worsening the retailer's business environment) translate into a higher profit for the retailer.

*Based on joint work with Hyun-soo Ahn, University of Michigan, & Chia-wei Kuo, National Taiwan University

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