

The Hong Kong University of Science and Technology

Dept of Information System, Business Statistics
and Operations Management
Dept of Industrial Engineering and Logistics Management
Joint Seminar Announcement

Higher Prices for Larger Quantities? Non-Monotonic Price-Quantity Relations in B2B Markets

by

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Date : 23 October 2015 (Friday)
Time : 11:00 am - 12:15 pm
Venue : Room 2003, Lee Shau Kee Business Building



Abstract: We study a microprocessor company selling short-life-cycle products to a set of buyers that includes large consumer electronic goods manufacturers. The seller has a limited capacity for each product and negotiates with each buyer for the price. Although purchase quantity is a major factor that influences negotiations, our analysis of their data reveals a non-monotonic price-quantity relationship, namely, that larger purchases do not always result in bigger discounts. While existing theories cannot explain this pattern, we provide a model that is based on practices of this company, which shows that the non-monotonicity is rooted in how sellers value capacity. Sellers have to consider the possibility of selling to other buyers while negotiating. In this setting, expected profit from selling to subsequent buyers need not be concave in the remaining capacity. The value of residual capacity may be initially convex and then concave. Such a value function is sufficient to ensure a non-monotonic price-quantity relationship. We briefly discuss how to determine capacity rationing and the posted price, which also influences negotiations, and how to avoid errors that can stem from assuming an incorrect price-quantity relationship.

Bio: Dr. Wei Zhang joined the Faculty of Business and Economics at the University of Hong Kong as an assistant professor in July 2015. He received his Ph.D. degree in Decisions, Operations, and Technology Management from the University of California, Los Angeles. He obtained his Master degree in Management Science and Bachelor degree in Management Information Systems from Tsinghua University.