Department of Information Systems,
Business Statistics and Operations Management
School of Business and Management
The Hong Kong University of Science and Technology

Seminar Announcement

On the Value of Psychological Elation and Disappointment Effects on Capacity and Pricing Decisions

by

Dr Stephen Shum

Department of Information Systems,
Business Statistics and Operations Management
The Hong Kong University of Science and Technology

Date: 26 September 2008 (Friday)
Time: 11:00 – 12:30 pm
Venue: Room 4379, ISOM Conference Room (L17/18)

All interested are welcome

Abstract

When customers make choices among alternatives that involve risk, their evaluations and decisions are affected not only by economic payoff but also emotional consequences of ex-post outcomes such as psychological disappointment. After outcome is observed, customers compare actual outcomes with prior expectations. When the actual outcome falls short of expectations, a sense of disappointment is caused. This potential psychological disappointment is taken into account while customers make purchasing decisions under uncertainty. Customers' aversion to disappointment creates a behavior motivation for us to revisit a firm's pricing and capacity decisions. We apply Bell's model of disappointment (1985) to customer's purchase decision problem and explore the impacts of such psychological satisfaction and disappointment on firms' pricing and capacity decisions.

We study a two-period model with limited capacity in the first period and no capacity constraints in the second period. Customers are heterogeneous in both valuations of the product and degrees of aversion to disappointment. Each customer decides when to purchase based on his perceived total utility which includes both economic payoff and psychological satisfaction. We analyze the optimal pricing policy and the initial rationing level to maximize revenue. We show that when aversion to disappointment increases in valuations, that is, the higher the valuation, the larger degree of aversion to disappointment, a mark-up pricing policy with appropriate level of rationing can be used to segment the market. Moreover, when customer valuations decline do not fast over time, mark-up policy can generate higher revenue than any mark down or uniform pricing policy. This result is a significant contrast to that under expected utility framework. We also find that when customers' levels of aversion to disappointment are independent of valuations, psychological satisfaction and disappointment doesn't affect the firm's optimal pricing and capacity decisions. Thus, in this case, there is no value in gaining additional information on psychological disappointment. (Joint work with Qian Liu)

Biography

Stephen Shum is an assistant professor of Information, Systems Business Statistics and Operations Management at the Hong Kong University of Science and Technology. He is interested in different topics in operations management, including supply chain contracting, operations incentives, revenue management, and the marketing-operations interface. He was awarded an honorable mention in the 2006 Nicholson Student Paper competition for his paper on coordinating multiple retailers with effort-dependent demand. He received PhD degree in Operations Research from MIT in 2007. Before that, he received Bachelor of Science degrees in Mathematics and Electrical Engineering from University of California at Los Angeles in 2003.