

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

Seminar Announcement

*Signaling Quality via Queues*

by

*Professor Laurens G. Debo  
Booth School of Business  
University of Chicago*

**Date: Friday, 8 April 2011  
Time: 11:00 am – 12:00 noon  
Venue: ISOM Conference Room 4379 (Lift 17/18)**

~~~~~ All interested are welcome ~~~~~

**Abstract:** We show that the length of a queue communicates information about the quality of a product when some consumers are uninformed. In turn, a firm may strategically choose its service rate to signal its quality through the queue. In our setting, a firm may have high or low quality and sells a good to consumers who are heterogeneously informed. The firm may choose a slow or (at a cost) a fast service rate. Consumers arrive and are serviced according to Poisson processes. A consumer who arrives when another consumer is being serviced must join a queue to consume the product. Consumers observe the length of the queue before choosing whether to buy the product. We show that, in equilibrium, informed consumers join the queue if it is below a threshold. The threshold varies with the quality of the good, so an uninformed consumer updates her belief about quality on observing the length of the queue. The strategy of an uninformed consumer has a “hole”: she joins the queue at lengths both below and above the hole, but not at the hole itself. When all consumers are informed, the high quality firm has a greater incentive to speed up than the low-quality firm. However, the high-quality firm selects a slower service rate than the low-quality firm if there are a lot of queue lengths between the hole in an uninformed consumer's strategy and the threshold at which informed consumers balk from its queue. Strikingly, if the proportion of informed consumers is low, the high-quality firm may choose the slow service rate even if the technological cost of speeding up is zero. The queue can therefore be a valuable signaling device for a high-quality firm.

**Bio:** Laurens Debo's research focuses the consumer's as well as the provider's behavior in different service settings. On the consumer side, he investigated how strategic consumer behavior shapes the demand for services. On the supply side, Debo studied the management of “discretionary services,” services whose value to the consumer increases with the actual service time. Debo's research has been appeared in *Manufacturing & Service Operations Management*, *Management Science* and *Production and Operations Management*, among other journals.

Debo is an Associate Professor of Operations Management at the University of Chicago Booth School of Business. He earned a PhD in Operations Management from INSEAD, France. Before joining the Chicago Booth faculty, he was with the faculty of the Tepper School of Business of Carnegie Mellon University. Debo is currently serving on the editorial board of *Management Science*. In the past, he frequently served as a judge of the MSOM student paper competition and received the 2008 and 2010 MSOM meritorious service award. More information about Debo's research can be found on <http://faculty.chicagobooth.edu/laurens.debo/>.