

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

Seminar Announcement

***Interplay Between Organic Listing and  
Sponsored Bidding in Search Advertising***

by

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**Date: Wednesday, 16 February 2011**

**Time: 2:15 – 3:45 pm**

**Venue: Room 4379, ISOM Conference Room (L17/18)**

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

**Abstract:** This paper aims to explore the effects of organic listing as a competing information source on the advertising competition (i.e., sponsored bidding) and the outcome performances in search advertising. We set up a game-theoretic model in which firms bid for sponsored advertising slots and compete for consumers in the product market. Firms are asymmetrically differentiated in terms of market preference and are placed at organic slots with different prominence based on their relative popularity. We suggest that when facing two competing lists, leading firms' sponsored bidding incentive is mainly preventive, whereas small firms' sponsored bidding incentive is mainly promotive. We show that these two incentives change in the opposite directions when the difference in advertisers' competitive strength decreases. As a result, even small firms may outbid stronger competitors and win good sponsored positions under such a co-listing setting. We further analyze the effects of the organic listing on equilibrium outcomes by comparing it with a benchmark case in which there is only a sponsored list. We find that organic listing compensates the leading firms to help smaller firms win better sponsored positions, which balances the equilibrium information structure through sponsored list without impairing the objectivity of the organic list. While organic listing may lower the search engine's short-term revenue, it increases equilibrium consumer surplus, social welfare and sales diversity, which are in the long-term interest of the search engine. Finally, we suggest some possible direction to improve the performance of organic listing for highly asymmetric markets.

**Biography:** Lizhen Xu is currently a Ph.D. candidate in the Department of Information, Risk and Operations Management, Red McCombs School of Business, The University of Texas at Austin. He holds Master of Science in Economics from the University of Texas at Austin and Bachelor of Engineering in Computer Science from Tsinghua University, Beijing, China. His current research focuses on economic issues and marketing perspectives in online advertising, and risk management in procurement auctions. His research methodologies involve both analytical modeling and empirical analysis. His papers are published or forthcoming in academic journals such as Journal of Marketing Research, Journal of Management Information Systems, and Decision Analysis. He received the Best Paper Award for the Fifteenth Conference on Information Systems and Technology in 2010.