

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

Seminar Announcement

***Balancing IT with the Human Touch: Optimal Investment in  
IT-based Customer Service***

by

***Professor Sulin Ba and Professor Jan Stallaert  
The University of Connecticut***

**Date: 7 May 2009 (Thursday)**

**Time: 11:00 am – 12:30 pm**

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

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

### **Abstract**

In order to cut costs, companies have moved more and more service offerings online. However, the digital systems providing such services (e-service) have always been complemented with or supported by human-based service (h-service). Whereas h-service has total costs that increase with the demand for services, e-service mainly requires a fixed investment up-front which can be amortized over the totality of customers served. However, some customers prefer e-service over h-service and vice versa. Considering the different nature of the costs of h-service and e-service and the heterogeneity of customer preferences, we derive the optimal mix of h-service and e-service for a service providing company vis-à-vis its competitor. Our theoretical analysis finds the subgame perfect Nash equilibria that determine the optimal positions in a duopoly setting. Using simulation and differential game theory we then study the competitive dynamics of the system to answer the questions: Among the non-unique equilibria what conditions determine the final equilibrium? Which equilibrium is more desirable? Based on the values of the cost parameters, our results show which final mix of service offerings is likely to occur and if there is a possibility for a firm to avoid getting trapped in a low-profit equilibrium path.

### **Biography**

Sulin Ba is an associate professor of Information Systems at the School of Business at the University of Connecticut. She holds a Ph.D. from the University of Texas at Austin. Her current research interests include the design of trust building intermediaries, the effective provision of e-service, and the design of internal electronic markets for knowledge sharing. Her work on the institutional setup to help small businesses survive and grow in the digital economy has been used as the basis for testimony before the Congressional House Committee on Small Business. She has published in *Management Science*, *Information Systems Research*, *MIS Quarterly*, *Journal of Management Information Systems*, *Production and Operations Management*, *Decision Support Systems*, and other academic journals. She is also a recipient of the Year 2000 MIS Quarterly Best Paper Award. She is a senior editor for *Production and Operations Management* and associate editor for *MIS Quarterly*. She currently also serves on the editorial board of *Decision Support Systems* and *International Journal of Electronic Commerce*.

Dr. Stallaert's research focuses on the interplay between Economics, Information Systems and Optimization Theory. His past research has focused on developing new types of Decision Support Systems and their organizational impact. He has published in journals such as *Discrete Applied Mathematics*, *Management Science*, *Interfaces*, *Information Systems Research*, *IEEE Computer*, *International Journal of Electronic Commerce*, *Decision Support Systems*, *Communications of the ACM*, *the European Journal of Information Systems*, *the European Journal of Operational Research*, and *the Journal of Organizational Computing and Electronic Commerce*. He is an Associate Editor of the *Journal of Database Management* and *Decision Support Systems* and *Decision Support Systems*. Dr. Stallaert received an Engineering degree and a B.A. in Philosophy from the Catholic University of Leuven (Belgium), and a PhD from UCLA. He received a Fulbright award in 1988 and has since been awarded Fellowships from the University of California, the University of Texas and the University of Southern California.