

The Hong Kong University of Science and Technology

Department of Information Systems,
Business Statistics and Operations Management

Department of Industrial Engineering & Logistics Management

Joint Seminar Announcement

*Determining Operation Strategies for Service Businesses:
Insights from Two Simple Models*

by

*Dr Ying Tat Leung
IBM Research Division
Almaden Research Center*

Date: 20 October 2008 (Monday)

Time: 11:00 am – 12:30 pm

Venue: Cheung On Tak Lecture Theatre (LTE)

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

**Abstract:** We explore the use of quantitative models to help determine strategies for designing and managing the operation of a service business. Even though simple models cannot realistically predict an optimal operating scenario or even calculate accurately the performance of the business under a given set of conditions, they are nonetheless very useful in obtaining valuable, qualitative insights. We discuss two examples of such applications:

1. Radio-frequency identification (RFID) as an emerging technology has generated enormous amount of interest in the supply chain arena. In the last few years, a number of retailers have been seriously contemplating the application of RFID in their retail stores and upstream supply chain. At the beginning, or perhaps even to date, rigorous evidence of business benefits resulting from RFID is scarce. We built a simple simulation model to study the impact of using RFID in a typical retail supply chain, to complement known results which were developed for purposes other than RFID but are applicable to RFID. Using the model we derive insights on where and how RFID can provide business benefits in terms of inventory reduction and service level improvement.

2. Consider project-based service businesses that provide offerings requiring multiple skills in a single project. For example, a typical project of a management consulting firm requires different skills, such as project management, customer survey, or business data analysis. Employees of such firms are often specialized in their skills and so a common problem is optimally allocating employees to branch offices so as to best staff projects. Projects with varying skill requirements may arise in multiple geographical locations and two major costs for these types of firms are travel expenses and the time loss of staff that are idle. We developed a Markov chain model of one of the simplest but non-trivial scenarios to provide insights on strategies for the staffing of project-based service providers.

**Biography:** Ying Tat Leung is a Research Staff Member in the Services Research Department at the IBM Almaden Research Center in California. His current research interests are on the modeling of different aspects of service enterprises, including their business strategy, business performance, and the value of their business transformation. Before moving to Almaden in 2004, he spent almost 10 years at the IBM Thomas J. Watson Research Center in New York, working on various subjects spanning the entire supply chain. Prior to IBM, he was a Senior Member of Research Staff at Philips Laboratories, the research arm of Philips Electronics, in New York. Ying Tat holds a B.Sc. from the University of Hong Kong, M.S. and Ph.D. degrees from the University of Wisconsin – Madison, all in Industrial Engineering.