

The Hong Kong Polytechnic University
Department of Logistics and Maritime Studies
Research Seminar

Appointment Systems under Service Level Constraints?

by

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Date: 6 September 2016 (Tuesday)
Time: 10:30am - 11:30am
Venue: M103, Li Ka Shing Tower
The Hong Kong Polytechnic University

(Conducted in English)

Abstract:

We consider a new model of appointment scheduling where customers are given the earliest possible appointment times under the service level constraint that the expected waiting time of each individual customer cannot exceed a given threshold. We apply the theory of majorization to analytically characterize the structure of the optimal appointment schedule. We show that, the optimal inter-appointment times increase with the order of arrivals. That is, the optimal inter-arrival time between two customers later in the arrival process is longer than that between two customers earlier in the arrival process. We study the limiting behavior of our system, and prove that, when customer service times follow an exponential distribution, our system converges asymptotically to the D/M/1 queueing system as the number of arrivals approaches infinity. We also extend our analysis to systems with multiple servers.

Bio:

Rowan Wang is an Assistant Professor of Operations Management in the Lee Kong Chain School of Business at the Singapore Management University (SMU). Rowan's research interests include supply chain management, manufacturing and service operations, production and inventory systems, and queueing systems. His work has been published in journals such as *Manufacturing & Service Operations Management*.

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All are welcome!