

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

**Procurement Contract with a Supplier with Private Information
Regarding His Reliability and Effort for Its Improvement**

by

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**Date: 4 January 2018 (Thursday)
Time: 10:30am - 11:30am
Venue: M714, Li Ka Shing Tower
The Hong Kong Polytechnic University**

(Conducted in English)

Abstract:

We consider a supply chain in which a retailer (the principal) facing a stochastic demand orders from a supplier (the agent) subject to supply disruption. The supplier has private information on his initial supply reliability, which he is able to improve upon when needed by an effort not observed by the retailer. We find a contract menu, consisting of an order quantity along with a transfer payment and a penalty if there is no delivery, which induces the supplier to reveal his private information. We show that the supplier under the contract would exert less than the first-best effort. Moreover, it is not optimal for the contract to require the supplier to exert an effort to become fully reliable. Interestingly, we find that retailer would charge a higher penalty for no delivery from a more reliable supplier who, in turn, would exert a higher level of effort to further improve his reliability. We also consider the effects of backup options available to either or both parties in the supply chain.

Bio:

Suresh P. Sethi is Eugene McDermott Professor of Operations Management and Director of the Center for Intelligent Supply Networks at The University of Texas at Dallas. He has written 8 books and published over 400 research papers in the fields of manufacturing and operations management, finance and economics, marketing, and optimization theory. He teaches a course on optimal control theory/applications and organizes a seminar series on operations management topics. He initiated and developed the doctoral programs in operations management at both University of Texas at Dallas and University of Toronto. He serves on the editorial boards of several journals including Production and Operations Management and SIAM Journal on Control and Optimization.

He was named a Fellow of The Royal Society of Canada in 1994. Two conferences were organized and two books edited in his honor in 2005-6. Other honors include: IEEE Fellow (2001), INFORMS Fellow (2003), AAAS Fellow (2003), POMS Fellow (2005), IITB Distinguished Alum (2008), SIAM Fellow (2009), POMS President (2012), INFORMS Fellows Selection Committee (2014-16), Alumni Achievement Award, Tepper School of Business, Carnegie Mellon University (2015).

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All are welcome!