

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

**A Base Model Studying Subcontracting Strategy between Service Provider and Subcontractor with Consumer Choice Behavior**

by

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**Time: 11:00am - 12:00nn**  
**Venue: M714, Li Ka Shing Tower**  
**The Hong Kong Polytechnic University**

**(Conducted in English)**

**Abstract:**

In this work, we investigate the subcontracting strategy between the service provider (he) and the subcontractor (she) in service industry with considering customers choice behavior. The subcontract signed by gamers consists of two parameters: the amount of capacity purchased by the service provider from the subcontractor and the price for every unit capacity. The gamers make an agreement that the service provider accepts any capacity price proposed by the subcontractor and the subcontractor has to prepare enough capacity that the service provider orders, otherwise, she has to pay a penalty. Once subcontracting is put into practice by gamers, customers' heterogeneity appears and they can be divided into two groups: H type and L type. Besides, we also analyze service provider's long-term capacity investment strategy and retail price strategy of one period in the first two level game. By constructing a game-theoretical model, we have solved non-cooperative game among customers and obtained customers equilibrium behavior. It is found that when the service rate of subcontractor increases, more and more H type customers join subcontractor's queue, and how many L type would like to join when her service rate is large enough depends on customers' valuation sensitivity. Additionally, the optimal subcontracting strategy of service provider is non-increasing in capacity price, and might keep the same in some ranges of price.

**Bio:**

Yu Hang received her Bachelor's Degree (2016) in Management Studies from North China Electric Power University, and Master's Degree in Management Science and Engineering from Xi'an Jiaotong University. She is currently an MPhil student under the supervision of Prof. Li JIANG.

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**All are welcome!**