Lingnan University 嶺南大學 香港 Hong Kong | Faculty of Business 嶺南大學商學院 | HKIBS HONG KONG INSTITUTE OF BUSINESS STUDIES 香港商業研究所

Liberal Arts Education • Transformation For Life 博雅教育 成就一生

POSTGRADUATE SEMINAR SERIES
Topic Defence Seminar

Topic Title : **Financing Retailers in Online Platforms: Optimal Retail-Pricing, Interest Rate, and Commission-Fee Rate Decisions**

Presenter : **Mr KANG Dianyao**
PhD Student of Hong Kong Institute of Business Studies

Abstract : Online financial services by the banks in collaboration with online platforms can help convert the actual transaction data of small- and medium-sized firms into E-commerce credit, which provides novel solutions for the loan problems of those firms. In this research project, we consider a three-party system involving an online B2B platform such as Alibaba.com, a bank, and an online retailer or a cohort of online retailers, where the bank provides loan service to each retailer who then orders products and serves retail price-sensitive consumers in a market. The online platform charges a commission fee to the retailer and obtains a portion of loan interest from the bank. We will investigate the system to find optimal pricing, loan rate, and commission-fee rate decisions for the three parties in different scenarios classified into two categories.

In the first category, we consider a single online retailer, and the three parties are active decision-makers. We will explore the coordination mechanism in the three-party system, given the allocation of the loan interest between the bank and platform. We will consider three game scenarios, for each of which we will determine the optimal retail price, loan rate, and commission-fee rate. The three scenarios correspond to three different decision sequences for the bank and the online platform. That is, the retailer determines a retail price in the final stage, in which the retailer has observed the loan and commission-fee rates set by banks and platforms. In the first scenario, the platform first makes a commission-fee rate decision as the "leader," and the bank then decides on the loan rate as the "follower." In the second scenario, the bank and the platform take up the leader and follower roles, respectively. In the third scenario, the bank and the platform make their decisions simultaneously. We will first explore whether the system has a "first-mover advantage" (i.e., the party benefits from making a decision prior to the other) or a "second-mover advantage" (i.e., the party benefits from making a decision after the other). We will then find in which scenario the system-wide profit is the highest and also examine each party's scenario preference.

In the second category, we will assume that the retail price is exogenous and will focus on the bank-platform decision problems, in which the bank and the platform decide on their loan and commission-fee rates, and also negotiate the allocation of the loan interest between them. In this category, there are a number of online retailers, each being treated as a "customer" for the bank and the platform. That is, those retailers' total demand is regarded as the aggregate "demand" faced by the bank and the platform. We will still investigate the three scenarios as in the first category, but differently; in each category, we use the concept of "general bargaining scheme solution" to characterize the allocation of the loan rate.

Date : **29 June 2021, Tuesday**
Time : **10:00 – 11:30 am**
Venue : **Zoom Meeting** 📹 **ID: 784 232 2459 Passcode: 12345678**
link: https://lingnan.zoom.us/j/7842322459?pwd=dXh4VmRFT1NkRjNxUy9YU01jOUM5QT09
Language : **English**

*** *All are Welcome* ***

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