Singapore Initiative on Digital Economics (SIDE) Workshop

22nd March 2025

Venue: SHHK-B1-09 (Seminar Room 4), at School of Social Sciences, Nanyang Technological University, 48 Nanyang Ave, Singapore 639818

8.55am-9.00am	Opening remarks	**Chair**
9.00am-9.50am	*Estimating the Value of Retargeting in the Online Advertisement* Presenter: Kohei Kawaguchi (HKUST) Discussant: Chuan Yu (Harvard)	Zhaoneng Yuan
9.50am-10.30am	*Multidimensional consumer profiling and personalized pricing* Presenter: Zenan Wu (PKU) Discussant: Zhaoneng Yuan (NTU)	
Onsite Tea Break (30 minutes)		
11.00am-11:50am	*Fulfilled By Amazon: Platform Tying of Ancillary Services* Presenter: Greg Taylor (Oxford) Discussant: Allen Vong (NUS)	Allen Vong
11:50am-12:30pm	Rise of Digital Platforms and Aggregate Market Power Presenter: Xijie Gao (NTU) Discussant: Nan Chen (NUS)	
Onsite Buffet Lunch (80 minutes)		
1.50pm-2.40pm	*The Welfare Effects of Sponsored Product Advertising* Presenter: Chuan Yu (Harvard) Discussant: Kwok-Hao Lee (NUS)	Kwok-Hao Lee
2.40pm-3.20pm	*Network interoperability and platform competition* Presenter: Tat-How Teh (NTU) Discussant: Greg Taylor (Oxford)	
Onsite Tea Break (30 minutes)		
3.50pm-4.30pm	*Entry Design in Cross-Border E-Commerce* Presenter: Tiffany Tsai (NUS) Discussant: Kohei Kawaguchi (HKUST)	Xijie Gao
4:30pm-5:10pm	*Estimating the Real Effect of Endogenous Digital Technology Adoption* Presenter: Laura Wu (NTU) Discussant: Xijie Gao (NTU)	
5.10pm-5:50pm	*The Emergence of a Platform Trap* Presenter: Julian Wright (NUS) Discussant: Alexandre de Cornière (TSE)	
6.45pm	**Dinner reception (for presenters and discussants)** The Masses Singapore: 15 Stamford Road #01-84 (Capitol Singapore /The Arcade) Singapore 178905 by Shuttle Van	

Notes:

- Chair: to keep track of time and remind the speakers (45-minute presentation time for Kohei, Greg, and Chuan; 35-minute presentation time for others).

- Discussant: to prepare 2-3 questions to kick start the 5-minute Q&A session after each presentation

- There will be a shuttle van from NTU to the dinner venue, and then from the dinner venue to Park Avenue Rochester and NTU
- Please let me (Tat-How) know if you wish to propose a change in the program / talk information.

Talk Information

Estimating the Value of Retargeting in the Online Advertisement

Presenter: Kohei Kawaguchi

Abstract: To protect users' online privacy, many Internet browsers prohibit advertisers from tracking user information or targeting potential consumers. Advertisers are concerned that such retargeting prohibition policies could lead to a reduction in ads' click probability, thereby affecting their bidding valuations. Bid data from a demand-side platform (DSP) reveals that the bid valuations for non-retargeted impressions are more than 60% lower than those for retargeted ones. However, since the retargeting status is only observed for bids winning the internal auction at the DSP, we need to correct the selection bias. To address this, we develop an internal auction model and structurally estimate the advertisers' CPC and CTR. Counterfactual simulations using the estimate indicate the expected bid reduces by 38.10% on average if retargeting is prohibited compared to the scenario with the industry-average retargeting prevalence.

Multidimensional consumer profiling and personalized pricing

Presenter: Zenan Wu

Abstract: We analyze an oligopolistic market in which consumers differ in both their brand-dependent preferences (loyalty) and the intensity of their brand-independent preferences (choosiness). Firms produce horizontally differentiated products. Firms may offer personalized prices to consumers based on available consumer data that allows them to profile consumers along different dimensions, i.e., their loyalty and/or choosiness. We show that if the market is fully covered, either fully personalized pricing—i.e., price discrimination based on both loyalty and choosiness—or loyalty based pricing—i.e., price discrimination based on loyalty alone—generates the most consumer welfare. Moreover, the latter pricing regime—which is enabled by partial access to consumer information—is more likely to be optimal when the market involves more firms. In contrast, (partially) personalized pricing based on consumers' choosiness always generates the most profits to firms irrespective of the market structure.

Fulfilled By Amazon: Platform Tying of Ancillary Services

Presenter: Greg Taylor

Abstract: This paper analyzes the practice of tying ancillary services (e.g., order fulfillment, payment processing, or pre-installed applications) to the core intermediation function offered by dominant digital platforms such as online marketplaces or smartphone operating systems. We study when tying is profitable for platforms, and its effects on competition. Tying induces an inefficiency by forcing the ancillary service on consumers who don't value it very much. But it also reduces sellers' market power by preventing them from using their service adoption decisions to differentiate. The second effect is so strong that the platform prefers to tie the service to increase consumers' value for the platform. Consumers benefit overall from tying. Thus, when we consider policies that ban tying or break-up the platform, the net effect is to harm consumers.

Rise of Digital Platforms and Aggregate Market Power
Presenter: Xijie Gao
Abstract: TBA

The Welfare Effects of Sponsored Product Advertising
Presenter: Chuan Yu
Abstract: Many retail platforms have recently expanded their advertising businesses, featuring sponsored products in search results. While sponsored product advertising can enable sellers to reveal information, it can also worsen search results and raise prices. Using data on Amazon searches, purchases, and advertising auction bids, I estimate a model incorporating consumers, sellers, and the platform to evaluate the welfare effects. Counterfactual analysis suggests that eliminating advertising could benefit consumers and sellers under a fixed commission rate, but would harm them if Amazon adjusts the rate optimally. Advertising tends to be more beneficial in markets with newer products and greater product differentiation.

Network interoperability and platform competition
Presenter: Tat-How Teh
Abstract: We propose a framework to analyze network interoperability between competing oligopoly platforms along two key dimensions: *interoperability strength*—the extent to which network benefits are shared across platforms; and *interoperability configuration*— to whom each platform is sharing its network benefit with (e.g., industry-wide or coalition-based arrangements). While conventional wisdom suggests that interoperability relaxes competition between symmetric platforms, we show that this intuition may not hold when: (i) multiple interoperability coalitions coexist; or (ii) the network externality function exhibits strong increasing returns to scale. Applying our framework to a dominant-fringe competition setting, we compare the performance and implications of different interoperability configurations, including core-peripheral (star) and fringe-coalition configurations.

Entry Design in Cross-Border E-Commerce
Presenter: Tiffany Tsai

Abstract: TBA

Estimating the Real Effect of Endogenous Digital Technology Adoption

Presenter: Laura Wu

Abstract: This paper examines firms' optimal decisions on digital technology adoption. Using the endogenous treatment effect framework, we simultaneously address which firm characteristics are more likely to lead to adoption and what is the outcome of the adoption. We then apply the model to a panel of Chinese publicly listed firms. While observable firm characteristics suggest a positive selection consistent with existing literature, we find unobservable factors suggest a negative selection and lead to a "refugee sorting". Adopters would have underperformed in the non-adopting scenario but outperform after adoption. They gain market share, reduce production costs, enhance productivity, substitute capital for labour, and achieve a significantly higher profit. It is the positive correlation between non-adopting profit and adoption cost that hinders the digital adoption of those initially advantageous firms.

The Emergence of a Platform Trap

Presenter: Julian Wright

Abstract: On platforms such as marketplaces and social networks, the existence of network effects can mean that not only do participating agents benefit when more agents join the platform, but agents' outside option gets worse. We show that in such a setting, by pricing dynamically, a monopoly platform can induce rational forward-looking agents to join even though participating agents ultimately end up worse off as a result. Agents face a dynamic collective action problem. We explore the limits of such a platform trap, considering factors such as whether agents can observe other agents' participation decisions, whether the platform can price discriminate, whether agents are homogeneous or not, and whether there is platform competition.