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FIELDS OF CONCENTRATION

PRIMARY
Industrial Organization
Applied Microeconomics

SECONDARY
Economics of Digitalization
Economics of Innovation

EDUCATION

Ph.D., Agricultural and Resource Economics (Expect 05/2015), University of California, Berkeley

M.A., Statistics (05/2011), University of California, Berkeley

M.S., Economics (06/2009), Chinese Academy of Sciences, China

B.A., Economics & B.S., Statistics (06/2006), Peking University, China

WORKING PAPERS

Mobile App Platform Choice: An Application of Strategic Games on Big Data **(Job Market Paper)**

Timely versus Quality Innovation: The Case of Mobile Applications on iTunes and Google Play (with Denis Nekipelov and Minjung Park)

How Can Firms Benefit From Disclosing Innovations? Evidence from IBM Technical Disclosures

PUBLICATIONS

"Reassessing Collective Petitioning in Rural China: Civic Engagement, Extra-State Violence, and Regional Variation" (With William Hurst, Mingxing Liu, and Ran Tao), 46(2014), *Journal of Comparative Politics*, 4.

"Challenging, Complementing or Assuming 'the Mandate of Heaven'? Political Distrust and the Rise of Self-Governing Social Organizations in Rural China" (With Vanesa Pesque-Cela, Ran Tao and Laixiang Sun), 37(2009), *Journal of Comparative Economics*, 1, 151–168.

PRESENTATIONS

Department of Management Science and Innovation, University College London, 2014
Guanghua School of Management, Peking University, 2014
Economics of Digitilization Conference, NBER, 2014
Marketing Science Conference, Emory University, 2014
Tsinghua-Berkeley workshop on IPR and Innovation Policy, Tsinghua University, 2013
Center for Climate Change Economics and Policy, London School of Economics, 2012

TEACHING EXPERIENCE

Econ 100B Macroeconomic Analysis, Department of Economics, UC Berkeley, Summer 2011
Stat 201A Probability (Graduate level), Department of Statistics, UC Berkeley, Fall 2014
Stat 201B Statistics (Graduate level), Department of Statistics, UC Berkeley, Fall 2014

AWARDS AND GRANTS

Chinese Government Award for Outstanding Students Abroad(2013)
IBER Mini Grant, UC Berkeley(2012)
Graduate Division Summer Grant, UC Berkeley(2012)
Liu Graduate Research Fellowship, UC Berkeley(2011)
Chancellor's Scholarship, Chinese Academy of Sciences(2009)
Shin Research Excellence Award, International Insurance Society (2008)
Outstanding Research Award, Samsung Economic Research Institute(2006)
Sinosure Scholarship, Peking University(2006)
National Scholarship, Peking University(2004, 2005)
Citibank Scholarship, Peking University(2004)

SKILLS

Programming: STATA, R, SQL, Python, Linux, Matlab, SAS
Languages: English(Fluent), Mandarin Chinese (Native)

REFERENCES

Prof. Brian Wright
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Prof. Denis Nekipelov
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ABSTRACTS

"Mobile App Platform Choice: An Application of Strategic Games on Big Data" (Job Market Paper)

Since Apple and Google launched their mobile application (app) stores in 2008, the market for mobile apps has experienced rapid growth and represents an enormous business opportunity. The success of an app platform relies on the presence of a great variety of innovative and high-quality apps. Given the existence of multiple app platforms, a fundamental question in the app industry is how app developers choose which app platform to enter.

This paper studies the platform choice decisions of app developers and the implications for app market evolution. It is made feasible by employing a unique and big daily-level panel dataset that contains information on every app in the two leading app stores, Apple's App Store and Google Play, over a 2-year period. Combining machine learning techniques for big data problems and computationally efficient econometric approaches, I construct and estimate a structural model on heterogeneous apps' platform choice decisions under an incomplete information game framework.

I find that in general low-quality apps make the platform less favorable for high-quality entrants. In Google app store, the presence of low-quality apps induces more low-quality apps to enter, while Apple app store exhibits strong competitive effects among high-quality apps. Increasing smartphone user base and improving user engagement are very useful measures to accelerate the platform expansion, but these policies also encourage many low-quality apps to enter. Regulations on low-quality apps and attenuating competition are more effective attracting high-quality apps. Platforms can bundle these policies to achieve the optimal market design.

"Timely versus Quality Innovation: The Case of Mobile Applications on iTunes and Google Play"

Apple App Store and Google Play are two dominant mobile app platforms. Apps on these platforms are developed by a large number of independently operating developers. It is a highly competitive dynamic marketplace, and to generate revenues, it is essential for the developers to keep innovating by both upgrading their existing apps and introducing new apps. Employing a unique and comprehensive dataset containing all apps that were introduced to both Apple and Google Play app stores, this paper studies how apps' entry decisions (timing and quality) are affected by the threat of competitors' entries.

We find that the threat of competitor's entry can have a sizable negative impact on the quality of an app under development by forcing the developer to introduce the app prematurely without sufficient testing

and debugging. The reduced form analysis demonstrates varying effects of this phenomenon depending on both the size of the developer and its competitors and the scarcity of the product space in the app market on a given platform.

We then develop and estimate a structural model for strategic timing and quality decisions relating to cross-platform app introduction, and apply novel machine learning techniques to model developers beliefs in a semi-parametric two-step estimator. We find that the threat of competitors entry can have a sizable negative effect on the quality of an app under development, by forcing the developer to introduce the app prematurely before it has been properly tested and debugged.

"How Can Firms Benefit From Disclosing Innovations? Evidence from IBM Technical Disclosures"

Abstract: Owners of knowledge sometimes choose to disclose their private innovations to the public domain. Such behaviors are called knowledge disclosure. Once disclosed, the private innovation becomes public knowledge and is no longer patentable. Since it is long believed that private companies take various measures to securely protect their proprietary innovations, the question of how firms benefit from disclosing innovations is worth exploring.

Employing a very unique dataset of IBM innovation disclosures, I empirically investigate firms strategic disclosures of private innovation. I further study how such disclosures affect other firms patented innovation and the focal firms selective exploitation of follow-up innovation. I find that IBM discloses innovations on the periphery of its expertise without patenting these. Meanwhile, IBM often cites other firms patents that are built on its disclosures in order to extend its innovation domain.