Application for NBER Economics of Digitization Tutorial

October 27th, 2020

- Contact information (this page), PhD summary, and research summary (in order)

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October 27th, 2020
The National Bureau of Economic Research

Dear NBER Digitization Group,

It is with great interest and enthusiasm that I submit my application for the 2021 NBER Economics of Digitization Tutorial. I am sincerely excited about the prospect of learning and participating in this tutorial taught by experienced and active research professors. I look forward to the opportunities for making contributions to the discussion of by participating PhD students and faculty. Next, I provide a short description of the course of graduate study that I am pursuing.

I am a 4thd year PhD student at London Business School (LBS)'s Strategy and Entrepreneurship area have completed the required coursework. My projected graduation year is 2023. In addition to PhD-level Strategy and Entrepreneurship courses, I have also taken a part in economic and method-intensive courses (e.g., Labor Economics for Research Students, Causal Inference for Observational and Experimental Studies, Seminar in Political Economy) both at LBS and London School of Economics. More importantly, I have been active in working on research projects under the guidance of Gary Dushnitsky, in addition to working on projects with Olenka Kacperczyk, Robert Seamans, Yong Paik, and Sungyong Chang. One of my work with Robert and Yong was recently published in the Strategic Management Journal.

Having a strong technical background combined with my current coursework and research projects, I am certain that I possess the intellectual capacity, knowledge, passion, and motivation to participate in this tutorial. I am certain that I will benefit from attending the tutorial as a PhD student in the field of entrepreneurship and innovation.

Sincerely,

Sukhun Kang

RESEARCH SUMMARY

My interest in digitization stems from my interest in studying the economics of entrepreneurship and innovation. I have sought to be at the forefront of investigating the types of institutions and factors that promote entrepreneurship and innovation. One particular setting that I have been examining is the biopharmaceutical industry. My dissertation titled "Essays on External Information and Innovation" looks at the effect of external information (both digitized and analog) on entrepreneurship and innovation. I am interested in examining the heterogeneous effect of such external information, which could inform innovative firms in making decisions about their innovation strategy. My committee members at the moment consist of Gary Dushnitsky, Olenka Kacperczyk, and Kamalini Ramdas.

One of my chapters in the dissertation examines the effect of public scientific information on innovation. From 2011 to 2018, The Cancer Genome Atlas (TCGA) characterized over 20,000 primary cancers and matched normal samples of 33 different cancer types. When the mapping was completed, the genomic analyses were posted as digitized data on a public repository. In my paper, I find that TCGA completion disproportionately increases early-stage drug development by private companies while increasing both early and late-stage drug development by public companies. I am currently in the process of studying the information effect of such publications. In the future, I would like to delve into how much of this effect was driven by accessibility to the digitized data. Some of the advances in data and data science can potentially increase productivity in drug development and help lowering drug prices (DiMasi, Grabowski, & Hansen, 2016; Pammolli, Magazzini, & Riccaboni, 2011). With my research, I hope to shed light on how an advance in access to data enabled by digitization affects the productivity of the biopharmaceutical industry.

In addition to the dissertation, I am also taking part in another project that is relevant to digitization. Working with Gary Dushnitsky, we are in the process of examining how some of the digital and innovative platforms are orchestrating its ecosystem by actively engaging with its participants. With this study, we hope to shed light on how orchestrator's intention can play a role in firms' actions and, ultimately their performance. An early version of this study was presented at the Academy of Management's annual meeting (Dushnitsky & Kang, 2018).

REFERENCES

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