

Departmental Recruitment Seminar 2023



**Demand-driven Innovation
and Spillover Effects on
Adjacent Technological Domains:
Evidence from Electric
Vehicle Technologies**

Mr. Jino Lu
Marshall School of Business
University of Southern California

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Venue: WLB601

Abstract

This paper examines how an increase in demand for a technology might, inadvertently, hinder innovation in other seemingly unrelated technological domains. While past research has focused primarily on how increased demand (for products or technologies) within a technological domain drives innovation progress, this study theorizes that increased demand in one domain can negatively impact firms in other domains and industries because it intensifies competition for knowledge workers. Empirically, I leverage an environmental policy shock, which led to an exogenous increase in demand for electric vehicle (EV) technologies. I find that the growth in demand for EVs hindered innovation in other domains and industries, particularly other renewable energy domains. Understanding this indirect impact of demand on innovation is both theoretically important and has strategic implications for organizations interested in understanding the trajectory of technological evolution.

Short Biography of Mr. Jino Lu

Jino Lu is a PhD candidate at the University of Southern California. His research explores the interplay between firm innovation strategies and the external environment, with a focus on how external technological (e.g., changes in demand conditions for certain technologies) and societal factors (e.g., political ideology) impact firms' innovation processes. His methodology involves constructing large-scale datasets and using a combination of causal inference econometrics and machine learning techniques, complemented by qualitative interviews to gain a deeper understanding of the phenomenon.