Atiye Cansu Erol

acerol@wharton.upenn.edu

The Wharton School, University of Pennsylvania
3730 Walnut Street, Philadelphia PA 19104 USA

I kindly ask my application to be considered for NBER tutorial on the Economics of Digitization. Information on my educational background and research interests/projects can be found below.

EDUCATION

I am a 3rd year PhD student at Wharton Business School, University of Pennsylvania. I have joined the program in 2018 and am currently pursuing my PhD degree on Information Systems, which is a specific track at the department of Operations, Information and Decisions. I am interested in Information Strategy and Economics and therefore have taken courses on methodological and theoretical foundations of economic theory, statistics/econometrics and information technology. Because my research is mostly empirical, I have been taking additional courses to better equip myself with statistical and econometric methods, which will also enable me to complete the Master's degree in Statistics at Wharton. In this regard, I have taken multiple courses on advanced statistical inference, econometrics, applied econometrics and data mining both from the economists' and statisticians' perspective. Please find more information on my educational background below.

The Wharton School- University of Pennsylvania	Philadelphia, USA
PhD in Operations, Information and Decisions	2018- Expected:2023
Koç University	Istanbul, TR
Bachelor of Industrial Engineering	2016
Hong Kong University of Science and Technology (HKUST)	Hong Kong
Bachelor of Industrial Engineering – Exchange student	Fall 2015

RESEARCH & WORKING PAPERS

My research interests broadly lie in determining how information systems / digitization transform businesses and our lives and in measuring the economic effect these digital transformations have on businesses. More specifically, one stream of research I focus on aims to understand how digitization in healthcare affects entities such as long-term-care facilities and hospitals, as well as patients. Digitization and the increasingly connected nature of healthcare, thanks to electronic medical record systems (EMR) and wearable technologies, enable healthcare providers to have access to more patient data and complete patient history at the time of care. Additionally, they strengthen the networked nature of healthcare delivery, which may indicate even further benefits than individual use of information technology by separate entities. In my work-in-progress project, which

has just won the Best Student Paper Award at Conference on Information Systems and Technology (CIST) 2020, I focus on EMR implementation by nursing homes and analyze the effect of EMR adoption on nursing home residents' out-of-home (hospitalization) expenditure. Focusing on nursing homes, this project is also closely related to a problem that is becoming more significant every year as the population structure changes with a higher median age due to aging baby-boomers. In collaboration with Lorin Hitt and Prasanna Tambe, this analysis I conducted shows that EMR adoption by nursing homes help reduce the hospitalization costs of nursing home residents, especially for those with chronic conditions. Furthermore, we find additional benefits from simultaneous use of EMR by nursing homes and the hospitals where these residents were taken, emphasizing the importance of accounting for the networked nature of healthcare providers. You can find a short description of the project and findings below.

In a second stream, which I started working on very recently, I aim to understand the role of online platforms in society. Platforms that enable exchange of digital content or digitize commerce are becoming a more integral part of our daily lives every day. At the same time, authorities are concerned about the power these platforms have. In line with these concerns, I am interested in exploring the extent to which these platforms have market power and the mechanisms through which they can exert this power.

Does EMR Implementation by Nursing Homes Decrease Hospitalization Costs? Work in progress *(With Lorin Hitt & Prasanna Tambe)*

Abstract: Electronic Medical Records (EMR) have the potential to reduce medical expenditures by increasing communication between healthcare providers and avoiding unnecessary tests and medical errors. Using a three-year panel of Medicaid spending (hospitalization costs) for long term care patients in nursing homes, we analyze the effect of nursing home EMR adoption on out-of-home healthcare expenditures for their residents. We find a strong and persistent reduction of hospitalization costs when hospital and nursing homes both adopt EMR, a savings of about 13% of Medicaid expenditure on average for those patients (and as much as 35% for the subset of hospitals that are part of a hospital system). This is above the 3.5%-14% direct effect of nursing home adoption alone. Given the networked nature of healthcare delivery for long-term care patients or patients with chronic conditions, our findings underscore the importance of looking outside the adopting institution when accounting for health IT (HIT) value.

AWARDS & PROJECTS

CIST (Conference on Information Systems and Technology) USA

Best Student Paper Award 2020

- Won Best Student Paper Award by the paper "Does EMR Implementation by Nursing Homes Decrease Hospitalization Costs?"

INFORMS, Undergraduate Operations Research Prize Competition USA

Honorable Mention 2016

- Awarded by honorable mention for the paper "A Reformulation of the Appointment Scheduling Problem with Customer Choice Behavior and Multiple Customer Types"