Introduction to "Digital Transformations of Business Operations" Minitrack

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This year "Digital Transformations of Business Operations" minitrack at HICSS has accepted six papers, which explore the increasing complex roles that advanced information technologies play in healthcare, business operations, and consumer decisions and activities. These papers are as follows:

- *Does Telehealth Reduce Rural-Urban Care Access Disparities? Evidence from Covid-19 Telehealth Expansion*: This paper empirically examines the expansion of telehealth coverage, before and after Covid-19, in rural and urban areas using a unique dataset with detailed patient-visit information. It finds that the expansion of telehealth actually increases the disparity between urban and rural areas; as urban patients substitute in-person visits with telehealth visits, rural patients still continued with in-person visits. This paper helps us understand the implications of telehealth expansion on rural-urban care-access disparities and the existing barriers when expanding telehealth in rural areas.
- *Estimating the Impact of Asymptomatic Carriers on the spread of Infectious Diseases: An interaction-based Model*: To replicate realistic outbreak of an infectious disease, this paper includes asymptomatic carriers into an epidemiological model, which uses differential equations and transition rates to predict the spread of a viral outbreak. The results replicate those described in the literature, showing that a small proportion of asymptomatic carriers can be responsible for major transmissions. This study makes impactful applications to healthcare management and public safety policymaking.
- *Power of Information Transparency: The Impact of Physician Payments Sunshine Act on Pharmaceutical Companies*: While the Physician Payments Sunshine Act (PPSA) mandates company disclosures of payments to physicians, the impact of this information transparency on pharmaceutical companies' payment-to-physician practice has not been fully examined. To fill this research gap, the authors conduct a difference-in-difference analysis using pre- and post-PPSA payment data from six major pharmaceutical companies. They discover a general trend of a reduction in total payments and the number of paid physicians but an increase in the payment per paid physician. This study sheds light on the impact of the PPSA on Big Pharma's drug promotion spending strategies and offers insights to policy makers on the efficacy of the policy.
- *Content Spending and Network Quality in Mobile Channels: A Hidden Markov Model of User Engagement and Content Consumption*: This research addressed an interesting and important issue of how to encourage user engagement and content consumption in mobile apps. The authors develop an HMM framework to study users' content consumption behaviors in a mobile app using a large dataset from the app provider. They find three user engagement states and heterogeneous impacts of prior content spending and network quality on user engagement in each state. This line of study provides important implications to app providers on content pricing and user targeting.
- *Detecting Red Flag of Workplace Crime Using Mobile Data on Abnormal Usage Activities*: Can you predict workplace crime based on abnormal mobile activities from sales representatives and how? This paper aims to address these practical research questions. The authors empirically examine the association between workplace crime occurrence and abnormal app usage of sales representatives using a unique dataset. They find that the abnormal activity pattern is an effective signal for identifying workplace crimes. This research provides guidelines for companies on how to monitor employees on their abnormal usage activities to reduce workplace crime.
- *Optimal Location of a Remote Dental Unit*: (nominated as the best paper of this minitrack) From an economic perspective, this paper explores the optimal location of the remote unit of a major hospital. Counterintuitively, the authors show that it may be optimal for the hospital to allow overlaps in terms of patient coverage between the hospital and the remote unit. The findings lead to policy implications for dental care reimbursement and service expansion. It also offers insights for dental care providers who are considering adding a remote unit to serve patients in more distant regions.

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