THE HONG KONG POLYTECHNIC UNIVERSITY
DEPARTMENT OF MANAGEMENT AND MARKETING
Departmental Research Seminar

Empowering Patients Using Smart Mobile Health Platforms: Evidence from A Randomized Field Experiment

By

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Date : 13 Jan 2021 (WED)
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Venue : Online via Zoom

Abstract

With today's technological advancements, mobile phones and wearable devices have become extensions of an increasingly diffused and smart digital infrastructure. In this paper, we examine the emerging mobile health (mHealth) platform and its health and economic impacts on the outcomes of diabetes patients. To do so, we partnered with a major mHealth firm that provides one of the largest mobile health app platforms in Asia specializing in diabetes care. We designed and implemented a randomized field experiment based on 9,251 unique observations on blood glucose values and 55,359 unique observations on detailed patient health activities (e.g., steps, exercises, sleep, food intake) and app usage logs from 1,070 diabetes patients over three months together with a follow-up survey after five months. Our main findings show that mHealth technology adoption can lead to a reduction in diabetes patients over time. Patients who adopted the mHealth application undertook higher levels of daily exercise, consumed healthier food with lower daily calories, walked more steps and slept for longer times a day. Our findings suggest that mHealth technology can help patients self-regulate their health behavior. This can lead to long-term behavioral modifications towards a healthier dietary and life style, which ultimately leads to an improvement in their health outcomes (e.g., glucose values, hospital visits). Interestingly, we also found personalized mobile message with patient-specific guidance showed an inadvertent effect on patient app engagement, life style changes, and health improvement due to stress, which in turn, can demotivate patients from self-regulating behavior. Overall, our findings indicate the potential value of mHealth technologies, as well as the importance of mHealth platform design in achieving better healthcare outcomes.

Prof. Xitong Guo is Professor of Information Systems and executive director of the eHealth Research Institute at the Harbin Institute of Technology. His research focuses on eHealth with special interests in healthcare data enabled service management for citizen wellness. He is PI for the State Key Project and Excellent Young Scholars of the National Natural Science Foundation of China. He has published over 100 research papers in journals and conferences including *MISQ*, *ISR, JMIS, JAIS, EJIS, ACM TMIS, DSS, IJEC, I&M, JMIR, IJMI, ICIS*. He received a Ph.D. in Information Systems at the City University of Hong Kong jointly with a Ph.D. in Management Science and Engineering at the University of Science and Technology of China in 2010 and a Bachelor in Mathematics from the University of Science and Technology of China in 2005. He attends the Lindau Economics Nobel Laureates Meeting as a young scientist.

All interested are welcome.

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