

# The Hong Kong University of Science and Technology

Dept of Information System, Business Statistics  
and Operations Management

Seminar Announcement

## **Wearables and Gamification: A Preliminary Study on the Influence of Leaderboards in Fitness Apps**

**Dr. Atreyi Kankanhalli**  
**Department of Information Systems**  
**National University of Singapore**

**Date** : 29 October 2015 (Thursday)  
**Time** : 3:30 - 5:00 pm  
**Venue** : ISOM Conference Room 4047



**Abstract:** Wearable technologies such as fitness trackers are gaining popularity with consumers. Indeed, the potential implications and uses of wearable technology are far reaching and can influence many fields such as health and medicine, education, transport, entertainment, and enterprise. However till now, the technology is mainly driven by what can be done rather than what people find useful. It is yet to be seen what tangible benefits these technologies can offer. At the same time, gamification is another trend that has captured the imagination of marketers and corporations. The idea of using game elements in non-game contexts is appealing if it can offer the engagement that people have in games to these other contexts such as training and healthcare. Here, too, there are unanswered questions on the benefits of gamification. At the intersection of these two trends is the use of gamification in healthcare such as in fitness apps. I will start my talk by providing a brief introduction about these areas and then move on to describe a preliminary study done to understand the influence of leaderboards in fitness apps.

Leaderboards are a key gamification element incorporated in fitness apps to spur competition among users. Yet, the influence of leaderboards and the social comparison they entail in these apps is under-studied and not well understood. Motivated thus, we build a theoretical model to explain their influence on the attitude and physical activity behavior of users by drawing on social comparison theory. We also propose that environmental (perceived competitive climate) and individual (self-efficacy) factors moderate the relationship between social comparison via leaderboards and users attitude. The model was tested by collecting survey and objective website data from 80 users of Nike+ Running. Our results show that users' attitude and facilitating conditions increase their physical activity behavior. Additionally, perceived competitive climate and self-efficacy moderate the effect of social comparison on users' attitude in opposing directions. The talk will conclude by discussing the implications of the study and directions for future research at the intersection of these areas.

**Bio:** Atreyi Kankanhalli is associate professor in the Dept of Information Systems at the National University of Singapore (NUS), Assistant Dean Research, and Coordinator of the Service Systems Innovation Research Lab. She obtained her B. Tech. from the Indian Institute of Technology Delhi, M.S. from Rensselaer Polytechnic Institute, New York, and Ph.D. from NUS. She has been a visiting scholar at the University of California Berkeley, and the London School of Economics. Dr. Kankanhalli has considerable work experience in industrial R&D and consulted for several organizations including World Bank and Bosch SEA. Her research interests are in online communities and collaboration, IT innovation, and adoption (particularly in e-government and healthcare). Her work has appeared in MIS Quarterly, Information Systems Research, Journal of Management Information System, IEEE Transactions on Engineering Management, Communications of the ACM, International Journal of Human Computer Studies, and the proceedings of the International Conference on Information Systems, among others. She regularly serves on information systems conference committees including Program Chair at PACIS, and was Associate Editor at MIS Quarterly, is Associate Editor at Information Systems Research, and Senior Editor at the Journal of the Association for Information Systems. Dr. Kankanhalli was awarded the ACM SIGMIS Best Doctoral Dissertation award and the IBM Faculty Award among other honors.