Title: The Sustainability of Online Fitness Community: Empirical Studies from Individual and Structural Perspective

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Abstract:

Fitness-related online platforms that embed the use of mobile and wearable technologies to promote better health and wellbeing have proliferated in recent years. Despite the increasing prevalence, it shows that many initially active online fitness online communities fail to retain members. Hence, there is a pressing need to understand the sustainability of such online communities. This thesis consists of two studies and investigates the sustainability of fitness-based online communities from both the individual and the structural perspectives.

Particularly, the first study explores the role of technology-enabled competition in cultivating persistent health behavior. Drawing on social comparison and social network theories, this study develops a conceptual model to understand how different comparison processes, social relationship with comparison referents, and self-tracking systems affect persistent health behavior. We empirically test the model using longitudinal panel data collected from a popular online fitness platform. This study contributes to the extant literature by conceptualizing the role of technology-enabled competition platforms in promoting persistent health behavior, and unveiling the role of self-tracking systems in promoting persistent health behavior. Practically, this study is expected to provide valuable insights to IT designers and consumer health IT developers on how to engage users and sustain long-term behavior.

The second study explores the sustainability of online fitness community from a network structural perspective. In particular, this study attempt to identify influential users and examine the impact of the loss of such influential users on the community-level outcomes. We combine real-world historical data with a network simulation technique to uncover the impact of different types of member loss on the community-level outcomes. This study contributes to the understanding of the importance of influential users with high geo-spatial centrality in participation-based networks that aim at the diffusion of ideas or behaviors geographically.