Exploring Participants' Behavior on Online Weight Loss Community: A Data Mining Perspective

TREO Talk Paper

Yun-hong Xu
Faculty of Management and Economics, Kunming University of Science and Technology, Kunming, China
xuyunhong@gmail.com

Xianli Zuo
Faculty of Management and Economics, Kunming University of Science and Technology, Kunming, China
teresa.zuo@qq.com

Abstract

Objectives: More people increasingly use the online health communities (OHCs) to look for health information and social support, especially these people who are embarrassed or stigmatized by personal health conditions such as obesity. Although people who struggle to lose weight are turning to the emerging online weight loss communities(OWLCs) for sharing information and seeking support of issues surrounding weight loss, there is lack of related researches to study the users' participation behavior in these OWLCs from a data mining perspective. This study aimed to classify community user according the characteristics of their participation behavior and understand the issues discussed in OWLCs.

Methods: We crawled the 39weight loss community data. To classify the community users, we considered four feature indexes of users: the number of threads, replies, friends and scores. According that, we classify users into four categories: interactive user, self user, actively reply user and diving user by K-means clustering on the RStudio software from R language. Secondly, through observation and content analysis of collected threads, we classify the issues that users discussed as four categories: Personal Experience, Dieting strategy, Emotional echo and Health information support. We then performed the related description to these categories.

Results: Using K-means clustering and content analysis, we find that compared with other categories users, positive interactive users and actively reply users are more active in community; they more easily known to other communities users and cause widely influence for community; the two categories users are most likely to play the role of opinion leaders. We should pay more attention to these users. At the same time, our category of users' threads provide one way to understand the shape of participation in OWLCs, such as the category of Personal Experience provides important social support to the participants. Our study also has limitations. There is only one weight loss community was examined, so our results are not generalizable. The timeframe for data collection might also introduce seasonal effects on the participation behavior of community users; for example, many posts in December referred to reducing sport, and posts in summer often discussed dressing figure.

Conclusion: This study based on the characteristics of users behavior in OWLCs from a data mining perspective. We describe the roles of user and the content of users' threads discussed. Our work contributes to understanding the participation behavior for providing practical implications to community moderators in encouraging and maintaining participant engagement on OWLCs. In the future, we will study the positive and negative emotional attitudes of threads how effect and maintain users participation behaviors.