

A study on habit formation and its measurement in the use of digital health care

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Abstract. Mobile application marketing has taken the approach of maximizing the time spent using the application. However, in the realization of exercise habits, the more important indicator is how habitually they use applications. This study proposes to develop a “habitation score”, a quantitative measure of application use habits in order to improve the persistence rate of application use. The authors calculated a “habitation score” from the following process. Firstly, feature extraction from profile data and behavioral data. Secondly, six variables including the indicator of habitation were selected from the data characteristics as explanatory variables. Finally based on the explanatory variables, a habitation score was calculated using logistic regression model. Through this development, the authors found two things. One is that the smaller the change in usage frequency, the closer it gets to habit formation. The other is that using the application at multiple times during the day and engaging in multiple categories of exercise had a positive impact on habit formation. Furthermore, we confirmed that “habitation score” had more influence on the subscription retention rate than the time spent during a certain period. This study examined the subject matter of “Beatfit”, on-demand fitness service on a smartphone application to help users achieve their exercise habits. This study is expected to be applied not only to the healthcare domain, but also to a variety of subscription-based services where habit formation is important.

Keywords. Logistic regression model, Healthcare, Habitation, Mobile Application, Feature Engineering

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