Characterizing and Predicting Early Reviewers for Effective Product Marketing on E-Commerce Websites

Karthik Raja M[1] and V. Sumalatha[2]

PG Student, Department of Computer Applications[1]

Associate Professor, Department of Computer Applications[2]

Vels Institute of Science Technology and Advanced Studies, Pallavaram, Chennai, India

karthikmanohar2001@gmail.com and sumalathav.research@gmail.com

Abstract: *Online reviews have become an important source of information for users before making an informed purchase decision. Early reviews of a product tend to have a high impact on the subsequent product sales. In this project, we take the initiative to study the behaviour characteristics of early reviewers through their posted reviews on two real-world large e-commerce platforms, i.e., Amazon and Yelp. In specific, we divide product lifetime into three consecutive stages, namely early, majority and laggards. A user who has posted a review in the early stage is considered as an early reviewer. We quantitatively characterize early reviewers based on their rating behaviours, the helpfulness scores received from others and the correlation of their reviews with product popularity. We have found that (1) an early reviewer tends to assign a higher average rating score; and (2) an early reviewer tends to post more helpful reviews. Our analysis of product reviews also indicates that early reviewers' ratings and their received helpfulness scores are likely to influence product popularity. By viewing review posting process as a multiplayer competition game, we propose a novel margin-based embedding model for early reviewer prediction. Extensive experiments on two different e-commerce datasets have shown that our proposed approach outperforms a number of competitive baselines. In our project we have used algorithms like Decision Tree (DT) and Multi-Layer Perceptron (MLP). All are measured in terms of accuracy*

Keywords: E-commerce Websites, User Behaviour Analysis, Margin-based Embedding Model, Automated Spammers, Dataset Analysis, Detection of Suspicious Activities