Chapter 9
Applying Personalized Recommendation for Social Network Marketing

Leila Esmaeili
University of Qom, Iran

Ramin Nasiri
University of Tehran, Iran

Behrouz Minaei-Bidgoli
Iran University of Science and Technology, Iran

ABSTRACT

The competition among manufacturers and service providing companies as well as the widespread presence of electronic processes has introduced new business models that need special e-Marketing. Social network marketing is one of the most recent types of marketing. Today, due to their flexibility and ease of use, social networks have fallen in the center of attention for users of various age groups. The variety of online social network groups, some of which are created with commercial goals, has made users uncertain and skeptical; on the other hand, in today's competitive market, companies are seeking their potential and actual customers. To solve this problem, this paper introduced a group recommender system which, using data mining techniques and information theory, offers customized recommendations based on user preferences. Supposing that users in each group share similar characteristics, heterogeneous members are identified and removed. Unlike other methods, in special cases where the user does not have relationships with other members or when an activity history for the user does not exist, this method could yet offer recommendations.

INTRODUCTION

Identifying and attracting potential customers is one of the most important steps in marketing since only after this, companies may utilize target marketing techniques and save on expenses. Companies, organizations and business people seek various channels to reach their potential customers; and social media such as social networks have, therefore, gained a lot of attention (Zarrella, 2009; Evans, Bratton, & McKee, 2010). Social networking was first introduced in 1960 at university of Illinois in the United States and years later in 1997 the first social network was launched at SixDegrees.com.

A social network is a social structure made of interlinked nodes. Links of financial interactions, friendship relationships, relations based on web and entertainment are examples of such links. In other words, social networks are areas in the cyber space where each user profile represents a user; this virtual world creates an opportunity for them to be linked with other people with whom they have common interests (Adamic, Buyuk-kokten, & Adar, 2003; Haji-Esmaeili, Arasteh, & Borhani-Fard, 2009).

People join social networks and along with many other useful and pleasing activities, make friends, join different social groups or create groups of fans, build new relationships and play games. As human beings, users have different thoughts, preferences and interests; but those with the same ones join the same groups in the social network (Haji-Esmaeili et al., 2009). These social groups could be created around many fundamental ideas and obsessions like commerce, politics, society and religion. Regardless of their types, virtual groups and communities are increasing and many new ones are always being created. Firms, in order to help their staff or customers, and gain information, have moved towards social networks. Using social networks to provide support services is another set of reasons for using these systems; CISCO's tribe.net is, for example, active in this area. In this paper, by providing personal recommendations to each user, we try to help users join groups that match their interests and characteristics. As a result, commercial groups will reach their potential and actual customers; likewise, users will join their preferred groups easier and will benefit from their services.

Our case study is *Parsy-Yar* social network that has more than 3300 groups in 19 categories; they include: politics, commerce, sports, youth, health, religion and entertainment. Due to their variety, always there is a chance for users to join the wrong groups; therefore, users in this social network need to be assisted in finding the right groups by receiving recommendations.

Recommender systems are nowadays an essential web application. By means of personalization in web and by using recommender systems, it is possible to recommend users, items, web pages, persons and groups that suit their characteristics and needs. Among the recommendations made by the recommender system, the user is always free to choose. Information required in such systems is usually acquired from web usage analysis, web content, web structure and user profiles.

Here, a group contains members who have joined the group due to their common goal or interest; therefore, what is recommended in this system is different from recommendations made by other recommender systems. Unlike specialized recommender systems which offer special products, each of which have special features such as color, size and price, here a group is the same as the features of its members; and we could identify a group by its members' features. We believe that users with the same features and interests join the same groups. To identify the main users of each group, hierarchical clustering of users, determining user interaction degree in group and measuring user similarity with other members in the group (the distance of user to cluster centroid) are required. Once the main users of each group and the main group of each user are identified, we use D-tree to predict user membership in a group.

Related Content

Country of Origin Association With Value-Led Fashion Retailer E-Servicescapes
Arooj Rashidand Anthony Kent (2023). *Global Developments in Nation Branding and Promotion: Theoretical and Practical Approaches (pp. 25-45).*
www.irma-international.org/chapter/country-of-origin-association-with-value-led-fashion-retailer-e-servicescapes/326657

E-Mail Marketing: Research and Challenges
Albérico Travassos Rosário (2021). *International Journal of Online Marketing (pp. 63-83).*
www.irma-international.org/article/e-mail-marketing/287415

Using Bibliometrics and Text Mining to Explore the Trends of E-Marketing Literature from 2001 to 2010
Wu He, Thad Chee, Dazhi Chongand Elizabeth Rasnick (2012). *International Journal of Online Marketing (pp. 16-24).*
www.irma-international.org/article/using-bibliometrics-text-mining-explore/63009

Marketing with Twitter: Challenges and Opportunities
Alena Soboleva, Suzan Burtonand Aila Khan (2015). *Maximizing Commerce and Marketing Strategies through Micro-Blogging (pp. 1-39).*
www.irma-international.org/chapter/marketing-with-twitter/131022

Digital Demands Convergence of Strategies, Media, and Messages: Firms Mix Content, Social, and Native Marketing
Kenneth E. Harveyand Luis Manuel Pazos Sanchez (2018). *Diverse Methods in Customer Relationship Marketing and Management (pp. 137-162).*
www.irma-international.org/chapter/digital-demands-convergence-of-strategies-media-and-messages/205201