Chapter 28
Differences between Role of Strong Ties and Weak Ties in Information Diffusion on Social Network Sites

Sanaz Kavianpour
Advanced Informatics School, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia

Zuraini Ismail
Advanced Informatics School, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia

Bharanidharan Shanmugam
Advanced Informatics School, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia

ABSTRACT
The popularity of Social Network Sites (SNSs) has increased recently. Social network sites provide platforms which operate based on exchanging information among users; therefore, information propagation is a significant topic in social networking researches. The goal of this chapter is to study the factors that have a significant role in information diffusion, then compare the role of ties in spreading information and evaluating the strength of ties. The result shows that, although strong ties have an important role, the likelihood of information diffusion by weak ties is higher.

INTRODUCTION
Nowadays many social interactions happen in online social networks; so huge amount of information is provided for social researchers on social networking sites. The number and the nature of information that are shared by social network users about different topics have a dramatic change by the growth of social networks.

People in online social networks share different information to others. Gross and Acquisiti stated that different information will be shared among
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users based on the nature of social network sites. They argue that in most of the sites some sort of shared information is the same such as profile picture, demographic and interests. However, in matchmaking sites the main focus is to share personal information, in business networking sites such as LinkedIn the members tend to share professional information, and in personal publishing sites – e.g. Wordpress.com – people share their thoughts and ideas via blog posts (Gross, 2005).

Social Networking Sites (SNSs) are proficient and useful platforms which simplify the information diffusion. Once a user joins to a social network she will interconnect to other users via different types of relationships. Users share social data with other users which can be propagated to relevant users or not. Statistics from Facebook (Viswanath, et al, 2009) depicts that users have 130 friends on average. So if each friend of a user shares social data, a user will receive 130 social data that not all of them are relevant to her.

Flow of information in SNSs is huge and only a portion of this information is related to the users. Distinguishing the final audience of social data is difficult as controlling the social contexts which transfers among individuals, is not completely possible. But there are different rules which control social context in SNSs because individuals have main role in information propagation.

Propagation of information in social network sites has been addressed in recent researches due to its importance in epidemiology to understand its influence on social beliefs and extremism. Information propagation over the network depends on different elements such as users, information content, Diversity-bandwidth trade-offs, Type of the network, and the strength of ties and so on.

RELATED WORK

The communication technologies and facilities of social network sites enable users to connect to each other and to communicate more easily. These features make information propagation through social network sites one of the major subjects of the recent studies. Researchers have done study on information dissemination on social network sites from different point of view.


INFORMATION DIFFUSION

A social process in which innovation is communicated and information is rebroadcasted via channels overtime among members of a social system is a diffusion of information. Information diffusion is different from information creation. The process of information propagation varies by different factors. For example, some nodes in social networks are called as opinion leaders that mean they are the centre of information flow and they have effect on other nodes (Canright, Engø-Monsen & Weltzien, 2004). On social network sites, by capturing the users’ friend list the active user can be find, and this user can be considered as opinion leader to be used in order to spread information. Some factors that have role in information diffusion are as following.

Users

Jenkins emphasizes on the role of end users in information diffusion. In information spreading end users have main role while in virus spreading users are just passive carriers without any choice to infect others or not (Magnani & Rossi, 2011). In information propagation, beside which