Cost-effective marketing campaigns on social media

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Social media is the new equivalent of "word of mouth" advertising, and in the United States alone, corporate social media spending is projected

to exceed $17 billion by 2019.

Companies rely on a robust social media plan to increase sales. But how do they determine the best way to spend their money and maximize their results?

UConn assistant professor of operations and information management Jing Peng and three colleagues have studied the issue, and discovered that depending how popular your company's social media message is, you should employ different strategies.

For example, a company like Starbucks, which tends to be a social-media standout, would promote its products differently than, say, Allstate insurance, which doesn't have the same passionate following.

The research, titled "Network Overlap and Content Sharing on Social Media Platforms," was published in the *Journal of Marketing Research* in August. Peng's co-authors are professors Ashish Agarwal from the McCombs School of Business at the University of Texas-Austin, and Kartik Hosanagar and Raghuram Iyengar, both of the Wharton School at the University of Pennsylvania.

"This research is very relevant today because marketing communication through platforms such as Twitter can enable firms to reach new customers through users' connections, and drive the demand for their products," Peng says, noting that previous studies have shown that content sharing among friends is highly effective in acquiring new users, as compared to direct communication from a firm.

Understanding the factors that drive sharing, then, becomes key to marketing practices, he says. Prior research had addressed what is being shared and who is sharing, but Peng and his colleagues wanted to address network overlap and its impact. The extent of common connections

between a sender and receiver may represent their common interests, common audience, or their content sharing practices.

Understanding how the propensity of senders is linked to their network overlap can be valuable information for selecting the users best able to spread content, he says. In a directed network, like Twitter, a connection can be a "followee" (person who is being followed), follower, or mutual follower.

The researchers suggest that the network connections between two users can influence their sharing propensity in three ways:

- A high number of common followees suggests that the sender and receiver have similar interests and, in turn, have similar propensity to share a particular piece of content. Similarly, a higher number of common followers and common mutual followers between the sender and receiver may suggest that their other followers share similar interests or tastes.
- A receiver may respond differently to a message, depending if he or she shares a weak or strong tie with his or her audience, which may lead to differential effects of followers.
- A larger audience of common followers and common mutual followers, may suggest higher redundancy in the information received by the audience, and deter a user from sharing the content because he/she is looking for uniqueness.

In their research, the authors started with a set of "seeds" (authors or users who spontaneously share content). They investigated nine brands listed by Fortune magazine as the top Fortune 500 companies using social media. They collected the tweets authored (or retweeted) by each brand over a 30-day time window around April 2016. Next, for each tweet they collected social graph information and retweeting. Their research showed that 6.4 percent of social media shares have more than

one co-sender.

To test their findings, the researchers collected an additional data set from Digg, a large online social news aggregation website. They focused on the sharing of 31 ads in a month. Because the Digg network is much smaller than Twitter, they were able to capture all social information about each user.

They analyzed the results using a "hazards model."

The work produced three key findings:

- Network overlap plays a significant role in content sharing on online social networks. The propensity of a receiver to share content depends on all three measures of network overlap – followees, followers, and mutual followers – suggesting that each measure independently contributes to the sharing propensity. Sharing propensity increases more with common followers than with common mutual followers.
- The effects of common followers and common mutual followers are moderated by the novelty of content. The impacts are positive only when the content is relatively new, and not shared by many others. If it is already widely shared, the positive effects decrease, implying that users' need for unique content is likely influencing their decisions.
- Targeting senders, while taking into account their network overlap, saves between 35 and 70 percent of the time to spread content to a fixed percentage of users.

Given the results of the impact of network overlap on content sharing, the researchers suggest that user targeting can be improved by drawing on the user's network overlap with followers.

"Our results illustrate that 'seeders' with high network overlap should be selected only when the content is not popular," Peng says. "In practice, the popularity of content often varies across brands. Different brands may want to target different sets of 'seeders.' For instance, it would be more effective for popular brands like Starbucks to target users with lower network overlap. In contrast, an insurance company that struggles for engagement may want to choose high network overlap users as 'seeders.'

"Social media platforms have become a popular medium for firms to reach and engage with customers," he adds. "Understanding what leads to effective content sharing is at the core of cost-effective marketing campaigns."

More information: Jing Peng et al. Network Overlap and Content Sharing on Social Media Platforms, *Journal of Marketing Research* (2018). DOI: 10.1509/jmr.14.0643

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