Social Ties Help Drive User Content Generation That Leads to Online Ad Revenue Growth

Dec. 11, 2012 — A research study on online social networks reveals that networking sites can drive advertising revenue by encouraging the density of social ties, or boosting the level of friendship or social connections between users. According to the findings, in a forthcoming paper in Management Science, more connected users prompt increases in visitation and browsing on the site, which helps stimulate online advertising revenue growth.

The research co-authored by Scott Shriver, assistant professor of marketing at Columbia Business School, Harikesh Nair, associate professor of marketing at the Stanford Graduate School of Business, and Reto Hofstetter of the University of St. Gallen in Switzerland introduces new techniques to determine whether more connected users generate more content and vice versa. The researchers examined the history of social tie formation and content creation on Soulrider.com, an online community of windsurfers based in Switzerland. "Prior work in this area has reported a correlational relationship between social ties and user-generated content," said Professor Shriver. "Our work attempts to go further by establishing and measuring causal effects."

To address the question of causality, the authors leveraged the fact that users often post blogs about wind speeds at their preferred surfing locations. After merging the Soulrider.com data with wind speed information from the Swiss meteorological office, the researchers were able to establish that wind speeds correlated with content production but not social tie formation. The team was then able to explain observed content production in terms of factors independent of social ties, which in turn allowed them to separately identify the causal effects of interest.

"One of the main issues that site operators like Facebook deal with is how to monetize the content that is created on their sites," said Professor Shriver. "Our research finds that the density of the links between users on the network is critical for the ultimate success of the social network. It's not sufficient to just get people to join the site -- increasing the strength of the relationships is key to increasing page views and therefore ad revenue."

Ultimately, the research shows that being more connected has a stronger effect on content generation than the reverse. And, establishing more user connections generates more content on the network, which leads to a self-reinforcing virtuous cycle that helps sustain the growth of the network site.

The research suggests that online social networks should give users incentives to connect with friends in order to maintain network and revenue growth. The study proposes that offering better content generation tools, such as facilitating tie-formation activity like "friending" functions and including tools that enable comments and photo tagging, will help increase user interaction on networking sites. The other option for
networking sites is to generate artificial content by paying users to post content, but the incentives approach may be preferable as artificial content generation runs the risk of alienating users if it is discovered.

Study data also shows that 80 percent of the content was generated by 10 percent of users. Based on this finding, Professor Shriver noted, "Targeting ads specifically towards the most productive users in this 10 percent group may be a more viable way of generating additional page views, increasing click-through rates, and thereby boosting ad revenues."

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