

# Friends' online influence increases ecommerce purchases 60 percent

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Ravi Bapna, U of MN. Credit: University of Minnesota

A study on peer influence in ecommerce shows a 60% higher chance of buying an online service if it's purchased by friends, according to

research that appears in the current issue of *Management Science*, a publication of the Institute for Operations Research and the Management Sciences (INFORMS), the leading professional association in analytics and operations research.

[Do Your Online Friends Make You Pay? A Randomized Field Experiment on Peer Influence in Online Social Networks](#) is by Ravi Bapna and Akhmed Umyarov of the Carlson School of Management at the University of Minnesota.

Demonstrating the existence and strength of peer-to-[peer influence](#) has become the Holy Grail of modern research in [online social networks](#), the authors note. In social networks, it has been consistently demonstrated that user characteristics and behavior tend to cluster. There are multiple, rival mechanisms that compete to offer an explanation, ranging from shared interests to peer influence to other factors.

In this paper, the authors devised an experiment that tests causal peer influence in the general population of a large-scale online social network.

"While the received wisdom focusses on using influential [users](#) to spread ideas and behavior in social networks, our research establishes that even the average 'John Doe' type users exert influence on their friends to pay for premium subscriptions" says Bapna.

The authors conducted their experiment using data from the freemium site Last.fm.

The authors' approach yields statistically and economically significant estimates of peer influence, and, most important, prove that peer influence is indeed a cause. They show that friends' influence causes more than a 60% increase in a customer's probability of buying the

freemium service due to the influence coming from an adopting friend.

In addition, they find that, when peers exert influence, users with a smaller number of friends experience stronger relative increase in the likelihood of adoption compared to users with a larger number of friends.

Last.fm is a freemium community with a large number of free users and a small number of premium subscribers. As with many freemium communities, premium users bring in a disproportionately large share of company profits.

A major problem for the long-term viability of freemium communities like Last.fm is converting free users into premium subscribers.

The authors found that premium subscribers are small in number, accounting for only a few percent of all users, but that are significantly more likely to be socially connected to other premium subscribers.

Freemium social communities typically operate based on a two-tiered business model that offers free access to the basic set of features and content while charging a fee for more advanced, premium features. For example, free users of the Last.fm website listen to online music radio interrupted by commercials, while premium subscribers enjoy continuous, commercial-free listening.

Based on 2009 data, free users of Last.fm yield approximately 12¢ per registered user in the network per month, as opposed to paid subscribers who are almost 24 times more valuable, paying \$3 per month.

The panel data set is based on publicly available information about 3.8 million users that make up the largest connected component of the Last.fm network. The authors also tracked self-reported demographic

information and website-reported social activity information.

Provided by Institute for Operations Research and the Management Sciences

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