Do have have a herding instinct?

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Could shoppers in the offline world follow similar herding instincts? Credit: Michael Gallacher

(PhysOrg.com) -- A new study shows that consumers have a herding instinct to follow the crowd. However, this instinct appears to switch off if the product fails to achieve a certain popularity threshold.

The Oxford University study, published in this week's *PNAS* journal, is based on an analysis of how millions of Facebook users adopted software, known as apps, to personalise their Facebook pages.

The researchers analysed anonymised data that tracked 100 million installations of apps adopted by Facebook users over two months in 2007. The data allowed researchers to observe on an hourly basis the rate at which 2,700 apps were installed by 50 million Facebook users. They

discovered that once an app had reached a rate of about 55 installations a day, its popularity then soared to reach stellar proportions. A typical app was installed by 1,000 users, but the most popular app 'Top Friends' was in a different league, being adopted by almost a fifth (12 million users) of the entire Facebook population.

The study concludes that social influence had a key role in whether apps became flops or hits. Crucially, when the data was monitored in 2007, Facebook friends would always be notified if one of their online friends adopted a new app. All Facebook users could also see a list of the most popular apps – similar to best-seller lists – so knew how the 'global' as well as their 'local' community of Facebook friends rated the apps.

Senior researcher Dr. Felix Reed-Tsochas, from Oxford University's Institute for Science, Innovation and Society at the Saïd Business School, said: 'Our analysis reveals a very interesting new finding. Users only appear to be influenced by the choices of other users above a certain level of popularity, and at that point popularity drives future popularity. Below this threshold, the effects of social influence are imperceptible. Because popularity seems to depend mainly on the choices of other users in the community, rather than intrinsic characteristics of the applications themselves, it does not appear possible to predict which applications will succeed and which will fail ahead of time.'

The findings could have implications for the online world, for example the book retailers who allow users to rate the products and thereby influence their future popularity. The study may also inform us about our behavior in the offline world too.

Dr. Reed-Tsochas commented: 'There has been a lot of research into the spread of ideas and products. Previously, we have only been able to track the spread of successful innovations, and then only among a small set of potential users. Our research in the virtual world of online social

networks is the equivalent to moving from a fixed telescope that lets us view a restricted number of stars to having a complete map of all the stars in the universe.

‘At this stage, we simply don’t know whether this marks an important difference between offline and online behavior, or whether more detailed and comprehensive data from offline contexts will identify similar collective behaviour in settings that do not involve online environments.’

The data used by the research team contains no information about individuals, and only information about individual applications, so there are no implications in terms of the privacy of individual Facebook users.

Provided by Oxford University