

Most influential Twitter users revealed

August 19 2010, By Devin Powell, ISNS



With over 5.6 million followers each, Britney Spears and Lady Gaga are the most popular people followed on the social networking site Twitter. But they're not necessarily the most influential.

Researchers from Hewlett-Packard's Social Computing Lab in Palo Alto, Calif. have developed a new ranking system that measures a tweeter's influence -- how often his or her followers click on a posted link and then repost, or "retweet", it to their own followers. The goal is to figure out which voices on the social networking site not only stand out from the crowd, but spread ideas throughout that crowd.

"If someone's message does not lead to action or propagate, we cannot say that she is influential," said Daniel Huberman of [HP Labs](#). "Britney can have a multitude at her concert, but if they don't change something in themselves or tell others it is not an influential concert."

In the world of [Twitter](#) users with many followers subscribing to their [tweets](#) are generally assumed to be important.

Consider Martha Stewart. The media cooking personality regularly posts messages on the site and is currently the 50th most popular user in terms of the total number of people who follow her. Nearly 2 million people receive her daily thoughts about restaurants, blog links, and the occasional photo of neon red hot dogs accompanying a plug for her book.

But according to Huberman, Stewart doesn't belong in the top 100 most influential Twitter users -- or even the top 1,000.

To come to this conclusion, Huberman's lab analyzed millions of links posted on Twitter over 13 days in 2009 -- about one-fifteenth of Twitter's total traffic during that time period. They counted how often each link was clicked and how well it spread through the network.

The researchers discovered that most Twitter users were the equivalent of social media dead end roads. They sometimes clicked on links, but almost never retweeted them.

"A lot of people are purely passive," said Daniel Romero, who worked on HP Labs' analysis. "They consume information, but they don't pass it along except when they see something that really catches their eye."

Having lots of followers is no guarantee that your content would spread beyond your immediate circle. It helps, of course. Actor Ashton Kutcher, the third most popular user, was one of Huberman's top 10 most influential people.

But so was Joko Anwar, an Indonesian film maker with 60,000 or so followers.

That's because HP's rankings gave a bonus to Twitter users who were able to successfully overcome their followers' natural passivity and convince them to read their content and spread it around.

Some people with very few followers had a surprisingly large impact -- such as Jader Mattos, a student in Brazil with only 320 or so followers. His digital drawings tended to spread virally and earned him a spot as the 134th most influential.

The influence ranking has a practical value, according to HP researchers. They said it does a better job of estimating the maximum number of clicks a post will get than any other approach -- such as counting the number of followers someone has or counting the number of times their posts are retweeted.

The researchers said that their approach could also be applied to figure out which tweets are more likely to be contagious and spread -- which is a question of interest to Johan Bollen of Indiana University in Bloomington.

Bollen studies the emotional states of users -- and the Twitter network as a whole -- and how to launch campaigns that win their hearts and minds. His lab is currently analyzing how charitable giving spread through Twitter in the weeks following the January earthquake in Haiti.

"This is what we call pro-social behavior," said Bollen. "We want to see whether these kinds of responses can be maximized."

Though Bollen hasn't published the data, his preliminary findings indicate that people who tend to be negative and people who tend to be positive tend to clump into groups, instead of being even distributed throughout the network. This is good news for those who would try to wield influence and can target small groups of negative people instead of

the network as a whole.

PeerIndex, another service that crawls the Twitter network, is developing an alternative to HP's method that ranks people not on influence, but on authority.

Using a algorithm similar to Google's PageRank -- a technique for identifying important websites -- PeerIndex counts how often posts are retweeted and weighs every person in the network by the strength of their connections to everyone else.

"If you're someone who has built up a reputation online, you really don't want to be putting nonsense out," said PeerIndex founder Azeem Azhar. "If I retweet a URL to my network of 2,500 people, that shows value."

Using this approach, PeerIndex picks out the most authoritative voices that are active on Twitter in a variety of fields. In the category of venture capital, for example, the algorithm's top pick is Fred Wilson -- an entrepreneur who has backed several successful websites including Twitter, Zynga, and Foursquare.

Azhar's measure of success? The rankings, which can also track changes in authority over time, tend to correspond to authorities picked out by panels of human experts in each field.

"The main client applications will be for anybody who needs to understand who they need to pay attention to in that sea of voices," said Azhar.

HP Labs' Top 10 Most Influential Twitter Users

1. @mashable, a social media blog
2. @jokoanwar, film director Joko Anwar

3. @google, google news
4. @aplusk, actor Ashton Kutcher
5. @syfy, SyFy Channel
6. @smashingmag, a web design magazine
7. @michellemalkin, conservative commentator Michelle Malkin
8. @theonion, satirical news organization The Onion
9. @rww, tech blogger Richard MacManus
10. @breakingnews, a news aggregator

Provided by Inside Science News Service

Citation: Most influential Twitter users revealed (2010, August 19) retrieved 12 May 2024 from <https://phys.org/news/2010-08-influentia-twtter-users-revealed.html>

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