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How social media users react to science

NEW WORLDS

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No longer isolated in an ivory tower, scientific ideas, practices and findings are increasingly communicated over various social media platforms. This raises questions about the nature of those platforms and the differences among them. For example, do people react to a scientific image posted on Twitter any differently than they would if they saw the same image on Facebook?

A study conducted by CERN and Haifa's Technion-Israel Institute of Technology suggests that similar scientific topics tend to receive similar rates of user engagement even though they are posted on different social media platforms. In particular, awe-inspiring images tend to attract high engagement irrespective of platform – and in some cases, even if these images are not newsworthy at all. For example, a picture of a CERN dishwasher for circuit boards was viewed over 121,000 times on Facebook and retweeted over 1,200 times on Twitter, presumably because it was so surprising and funny. Indeed, it seems that the same principles that explain the allure of viral cat videos can apply to tweets about sub-atomic particles.

The study also found an unexpected difference between user engagement rates on different platforms. As one would expect, on platforms where CERN operated accounts with larger audiences, such as CERN's English-language Twitter account, posts about scientific topics tended to receive more shares and clicks overall. But on average, on platforms where CERN had fewer followers, such as Instagram, each follower tended to be relatively more engaged. The results suggest that perhaps in new platforms, early adopters might tend to be more engaged followers.

The study, published in the scholarly journal *PLOS ONE*, explored how users engage with posts about particle physics on different platforms of social media: Facebook, Google Plus, Instagram and Twitter. The researchers also examined the characteristics of the posts that tended to attract large numbers of user interactions. For that purpose, the authors analyzed user interaction rates with nearly identical items that were cross-posted on five of CERN's official social media accounts over an eight-week period in 2014. The researchers tracked a wide range of interactions, including the number of "likes," comments, shares, clicks on links, and time spent on CERN's site.

The study was conducted by Kate Kahle from CERN along with the Technion's Aviv Sharon and Ayelet Baram-Tsabari.

"To our knowledge, this study provides the first cross-platform characterization of public engagement with science on social media," the researchers said. "Although the study focused on particle physics, its findings might serve to benchmark social media analytics in other areas of science as well."