

The role of social media in protests

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Researchers tracked 581,750 protest messages over a 30-day period

(PhysOrg.com) -- A study has explored the dynamics behind social network sites in recruiting and spreading calls for action that contribute to riots, revolutions and protests.

Led by Oxford University and published in the journal *Scientific Reports*, the study finds that the most influential group consists of a small group of users close to the center of a network. This group, described by the researchers as the ‘spreaders’, plays a critical role in triggering chains of messages reaching huge numbers of people. However, early participants in the protest and those starting the recruitment process, have no characteristic position within the network: they are the leaders of the movement and first movers in their local networks. They spark the initial online activity that recruits the spreaders, but they are scattered all over the network, suggests the study.

Lead researcher Dr. Sandra Gonzalez-Bailon from the Oxford Internet Institute (OII) at Oxford University, in collaboration with colleagues from the University of Zaragoza, Spain, led by Dr. Yamir Moreno, analysed Twitter activity data during mass protests in Spain in May 2011. These protests were sparked by the political response to the financial crisis, resulting in demands for new forms of democratic representation. The main target of the campaign was an organised protest on 15 May which brought tens of thousands of people to the streets of 59 cities all over the country. After the march, hundreds of participants camped in the city squares until 22 May, the date for local and regional elections, with crowded demonstrations taking place daily during that week.

Researchers followed the posting behavior of 87,569 users and tracked a total of 581,750 protest messages over a 30-day period. They found that the growth of the movement was driven by two parallel processes: the recruitment of users, started by early participants who provided what the study calls ‘random seeding’; and the diffusion of information, which made the movement grow from those roots by means of the ‘spreaders’. The latter were more central in the network not necessarily because they had a higher number of connections but because they were connected to others with equally good connections.

The time at which different users first got involved and started emitting messages allowed the researchers to distinguish between activists who were leading the protests and those who responded later on. They found that when calls to action came from many different sources within a short time window, their effects were amplified, resulting in ‘recruitment bursts’. The vast majority of users were recruited this way responding to the collective behaviour of others, says the study.

Lead author Dr. Sandra Gonzalez-Bailon, Research Fellow at the OII, said: "Digital media has played an important role both in the recent wave

of mobilisations in the Arab world and in protests across Western countries, such as the Occupy movement across cities worldwide. This is the first empirical study analysing the mechanisms behind protest recruitment by means of online networks. It shows that mass mobilisations depend not on the influence of central users, who are nonetheless crucial for their growth, but on the actions of many users in local networks that will ultimately reach the influential core."

"Why people back a cause is based on many factors and relates to what is happening in the offline world. By examining the collective behaviour of online users, we have established that most people are influenced by what those around them do. If they are exposed to many messages calling for action within a short time frame, they are more likely to respond to this apparent urgency and join in. This creates recruitment bursts that can translate into a global cascade with truly dramatic effects, as the massive demonstrations and the wave of occupations that followed shows."

The authors caution that because they did not control for users' demographic information or for exposure to offline media, further research would be needed to account for these factors and to eventually lead to a proper understanding of how [social media](#) and online networks mediate the coordination of collective action and mobilizations.

Provided by Oxford University

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