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Influence in Social Media: An Investigation of Tweets Spanning the 2011 Egyptian Social Movement

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Abstract

This paper studies the patterns of influence of Twitter users during the Egyptian social movement of 2011. It uses the lens of social movement theory to investigate the drivers of individual user's social influence in the Twitter-sphere during the movement. Following this lens, we suggest an extended model of sustained social influence (that considers retweets as the measure of user influence) as a function of the duality of individual Twitter user's social actions and the underlying facilitating Twitter network structure. Based on an analysis of organic large-scale Twitter data of the Egyptian social movement, we examine how characteristics of individuals' social actions, namely activity and tenure on Twitter, and characteristics facilitated by the network (i.e., the number of followers as well as centrality in the community structure of Twitter), impact retweet influence in time windows spanning the movement. Utilizing a mixed-method approach, consisting of machine learning and human coding, we conceptualize social movement-related engagement activities of Twitter users, which map to generic frames of social movement mobilization. The analysis reveals interesting patterns across different contexts of the Egyptian movement. As far as individual social action was concerned, social movement related to "who and where" activities, as well as tenure, were found to contribute to individual social influence. In terms of the facilitating structure, the follower network, an observed network structure, and centrality, an unobserved network structure were both found to contribute significantly toward sustained influence.

Keywords: Social media, Twitter, retweets, influence, social movement, computational social science