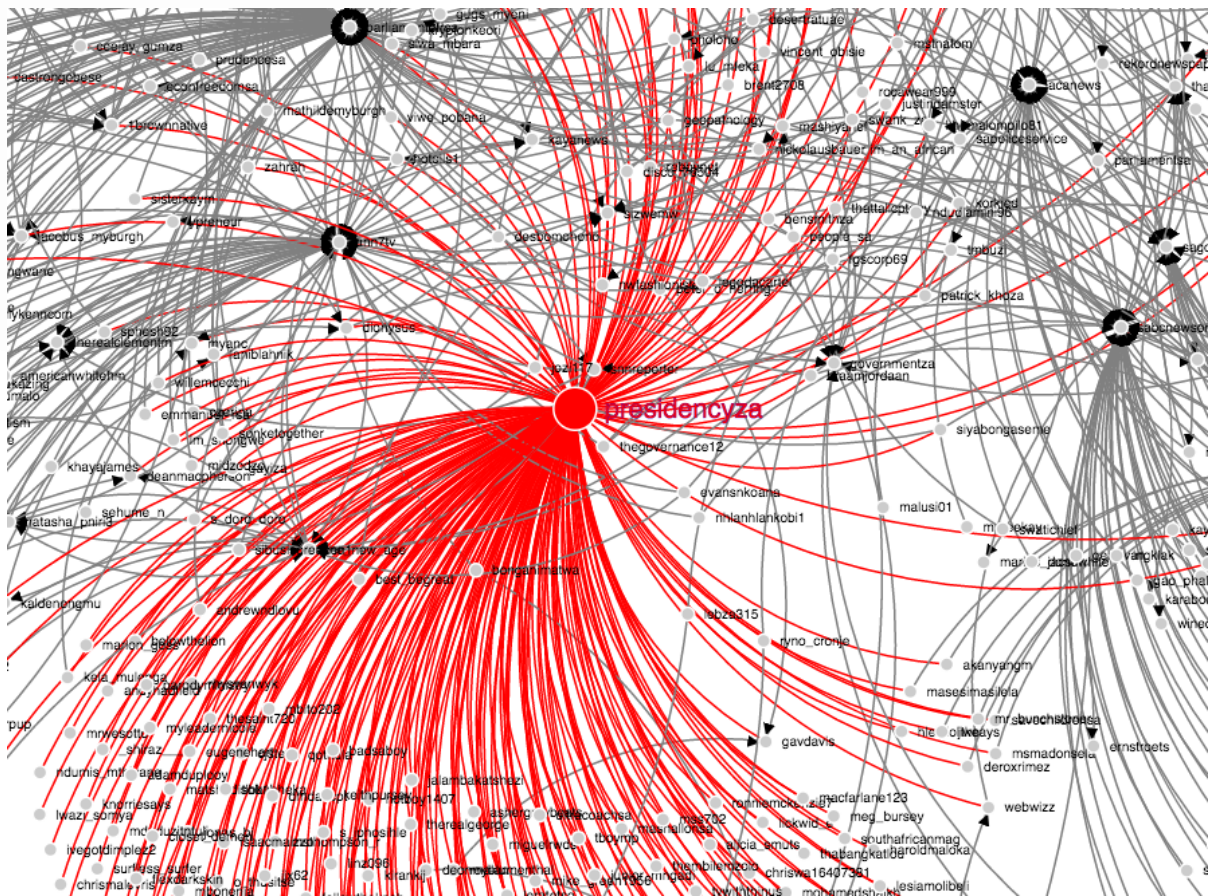


# Policy Brief



## The role of Twitter during times of crisis: a policy brief

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## Executive Summary

- This policy brief provides an introduction to the EU-FP7 project ‘Media, Conflict and Democratisation’ (MeCoDEM), in particular its Work Package focusing on ‘ICTs and democratization conflicts’. This paper also introduces the Mecodify platform that can be used for the analysis of Twitter data in and around conflicts and crisis situations.
- The main aim of the MeCoDEM project is to investigate the role of traditional media and ICTs during and after democratization conflicts.
- To achieve this, an online platform was created: Mecodify. The Mecodify platform allows social science researchers to easily extract, analyze and visualize social media data in relation to democratization conflicts. Mecodify is an open-source tool, accessible at <http://www.mecodem.eu/mecodify/>.
- Three case studies on the use of Twitter are presented in this brief: (1) South Africa’s 2015 State of the Nation Address (SONA); (2) The 2015 terrorist attacks in Garissa, Kenya; and (3) the 2017 terrorist attack in Stockholm, Sweden.
- The cases cover a spectrum of conflict-related social media use: (1) the South African SONA case exemplifies (failed) government communication in an emerging democracy; (2) the Garissa attack in Kenya as a case of a terrorist attack associated with a minority in a fragile democracy; and (3) the Stockholm terror attack on 7 April 2017 as an example of terror in the context of an established democracy in Europe.
- The main implications of the studies were: (1) that Twitter is less of a threat to the power of mainstream media than popular rhetoric might have us believe, and that a great deal of shared information originates with mainstream outlets; (2) that social media can be effective tools for public communication if used with such an intent; and (3) that Twitter can be used for practical, pro-social communication in the aftermath of a crisis, but that this use is limited by the architecture of the platform.
- The policy suggestions based on these studies are: (1) always remember the symbiotic relationship between Twitter and mainstream media outlets; (2) don’t overestimate the power of a social media platform to bypass “traditional” media; (3) Twitter is often an elite, niche platform; (4) identify sources of social media influence (domestic and international) to take advantage or anticipate the spread of information on Twitter; (5) never assume control over hashtags or downplay the possibility of propaganda.

## 1. Introduction

While Facebook and YouTube are associated with what we might describe as the entertainment side of social media, **Twitter has cemented its reputation internationally through political events and social movements.** The 2009 Iranian elections and subsequent protests, democratic uprisings in Tunisia, Egypt and Libya between 2010 and 2012, and the Gezi protests in Turkey in 2013 are but a few examples of events where Twitter is reported to have played a role in activist coordination and the spread of information. The architecture of the Twitter platform—a 140 character maximum, simple interface and primacy of instantaneous communication—means that it is often favoured over other platforms for on-the-spot messaging.

A key task for researchers has been to not only more **precisely describe and analyse the role of social media platforms during times of protest, dissent, upheaval, violence or political crisis**, but also to more precisely **describe and analyse social media use** during such events. During the early years of Twitter, for example, the term “Twitter Revolution” was bandied about in mainstream media outlets, suggesting a well-defined connection between social media use and political change. This popular rhetoric saw its start in relation to Iran in 2009, and its peak during the so-called “Arab Spring” between 2010 and 2012. And, in the United States, much power was attributed to social media during the 2008 Presidential elections, which saw Barack Obama come to power. In all of these cases, however, the popular understanding of both the use and role of social media was primarily anecdotal. As time has gone by, academic work on the use of platforms such as Twitter has shown that **things are more complicated than popular understanding of social media would have us believe.**

The main aim of the MeCoDEM project is **to investigate the role of traditional media and ICTs during and after times of democratization conflicts**, and to assess whether and how media and ICTs were used to promote certain campaigns, trigger social change and/or instigate political action. A central component of the MeCoDEM project is that of impact: the various ways in which the results of the project can have a potentially positive effect upon understanding, analysing and even mediating democratization conflicts.

**ICTs are analysed both as causes and possible solutions of conflicts** and as tools that can be employed for **organizing protest, holding governments to account, public deliberation and mediation.** Studying such use of ICTs often necessitates dealing with big data stored digitally online, a process requiring technical skills to automate the data-

gathering process, save the extracted content in encrypted storage, analyse the data and, finally, provide means of data visualization for non-technical audiences so they can examine the data and use it for their own purposes.

To achieve this, **an online platform was created: Mecodify**. The Mecodify platform emerged out of the MeCoDEM project to allow social science researchers to **easily extract, analyse and visualize social media data in relation to conflict and crisis situations**. It is an open-source tool, available at <http://www.mecodem.eu/mecodify/>.

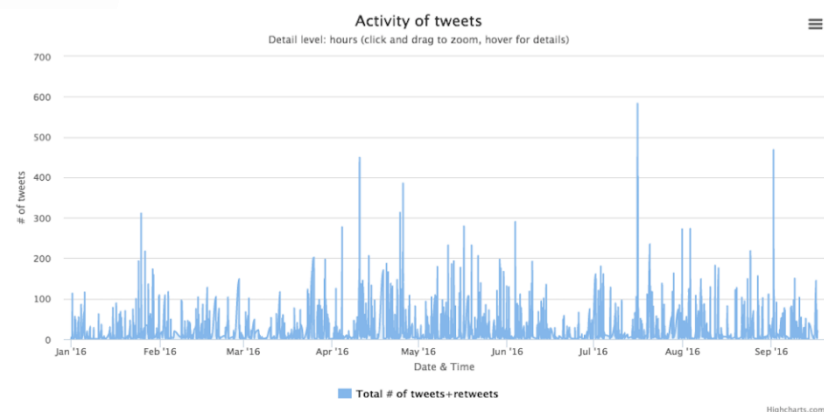
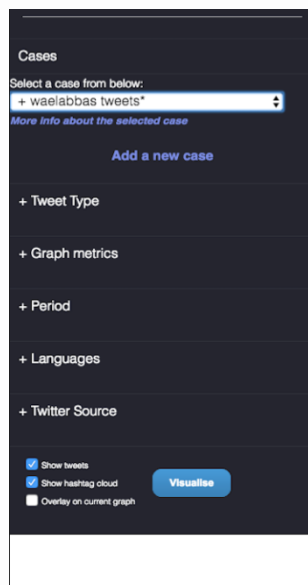
The Mecodify platform is particularly useful because:

- you can use it to extract, analyse and visualize data in the form of tables and graphs, with timelines and many features such as comparative overlays and flags to pinpoint offline events;
- it provides a set of filters, making it possible to inspect data thoroughly, focus on different areas of interest and create graphs;
- the timeline graph gives details of messages over time, allowing you to plot graphs of the intensity of tweets and analyse relationships that emerge from the data.

The platform can help answer hypotheses, derive research questions and play a complementary role to non-technical research methods. An example of its use is to identify key tweeters in a particular conflict. This information can then be used in interviews with other activists in the field<sup>1</sup>. Similarly, the platform can be fed with names that recur throughout public communication of a particular issue or event, to find out what particular individuals tweeted, when, how, using what device and, possibly, from where. The applications of the platform are numerous and bound only by the limits of the users' imagination and creativity. The image below shows a Twitter search indicating recurring hashtags and tweet frequency.

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<sup>1</sup> A note on the public nature of Twitter data: all data will come from public Twitter feeds. No private communication (direct messages, etc.) will be analysed. In addition, only tweets that use hashtags (#) are analysed: hashtags are used when the user wishes to engage in a public discussion. In other words, not only are all of the tweets public, these tweets are sent specifically with the intent of being seen by as many people as possible and/or engaging in public debate. In addition, the Mecodify platform has restricted access, and, thus, data in the system is not publicly available.



Hashtag cloud:

#السياسي #المنصوره #مصر للطيران #egypt #مصر #وائل\_عباس #شیر  
#tunisia #تيران\_وصنافير\_مصرية #فودافون\_جوايسيس #ارجل #ترقيوه  
ميدل\_ايسْت\_نيوز\_علق #تغريدات\_اقرا #افتح\_الميدان\_لوانت\_راجل #عواد\_باع\_ارضه  
هنا\_صوتك #تيران\_صنافير #soundcloud #علشانك\_ياحمارة\_خطفت\_طيارة #الصحافة

## 2. The Mecodify interface

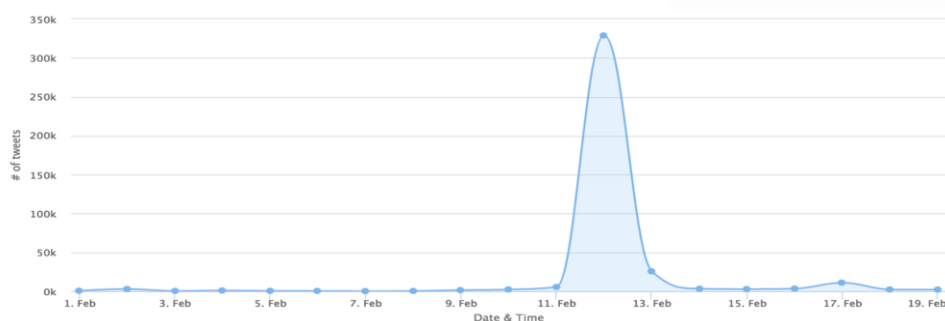
In the following section, brief outlines of three studies using the Mecodify tool will be presented, followed by a discussion on what these studies tell us about social media use, and how the project results can help policy-makers think about the role of social media platforms. These three studies represent various forms of “public communication events”, from the “democratization conflicts” at the centre of the MeCoDEM project (South Africa), to the use of social media during times of crisis (Kenya and Sweden).



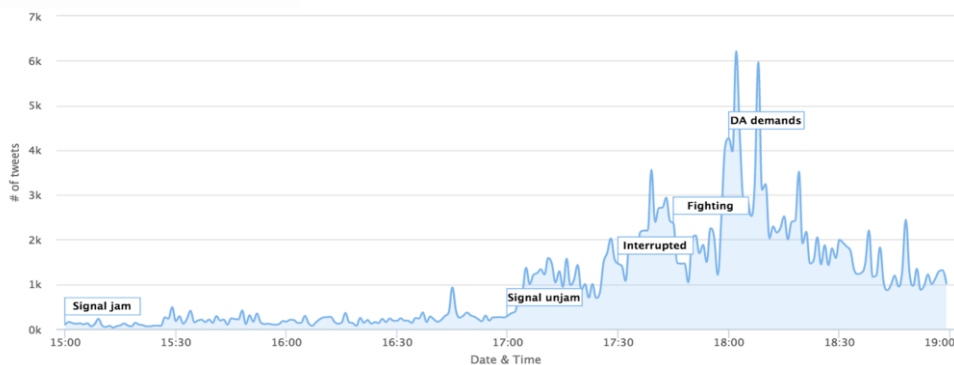
## Research Spotlight I: South Africa's 2015 State of the Nation Address (SONA)

*In collaboration with: Tanja Bosch (University of Cape Town, South Africa) and Lone Sorensen (University of Leeds, UK).*

- This case provides a clear-cut example of a democratization conflict in relation to accountability and responsiveness.
- The 2015 South African State of the Nation Address (SONA) was hailed as **South Africa's first social media event**. After accusations of corruption and a lack of responsiveness, the South African Presidency embarked on a social media listening exercise in the weeks leading up to the 2015 SONA, inviting the public, via social media, to make suggestions on what the president should speak about in that year's address.
- Mecodify was used to capture **over 145,000 tweets (over 345,000 including retweets) from February 1-13, 2015**, using the hashtag #SONA2015. The tool was then used to visualize influential actors, hashtags and peaks in activity over time and to analyze how these peaks corresponded to offline events.
- Tweets published by the official Presidency Twitter account @PresidencyZA and Jacob Zuma's personal Twitter account @SAPresident, as well as responses to those tweets during the same period, were also captured.
- The majority of activity on Twitter happened during Zuma's actual speech. Twitter users followed the address on television and online and reacted to the unfolding developments, **demonstrating the interaction between social media activity and legacy media coverage, and between social media activity and live events**.

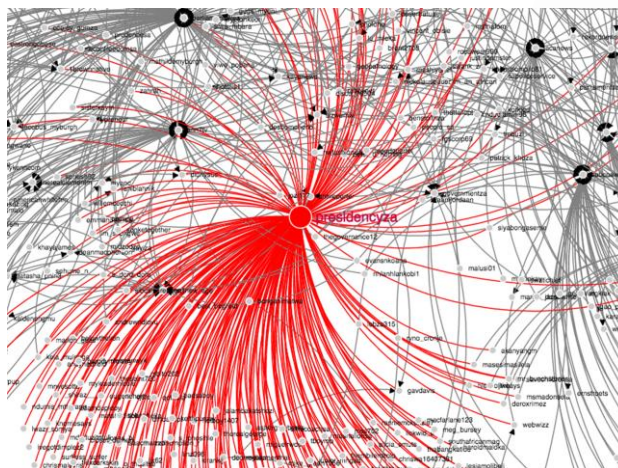


**Tweets using #SONA2015 (February 1-13, 2015)**



### Tweets using #SONA2015 (February 12) and related incidents

- The two graphs below show a clear spike in the use of the #SONA hashtag on the day of the speech, as well as how tweets were related to mentions of specific offline events.
- A network visualization of responses to and from @PresidencyZA (see below) reflects an **almost entirely unidirectional mode of communication**. The red edges in the diagram constitute tweets directed to @PresidencyZA while any blue lines would have indicated tweets directed by @PresidencyZA to others. The visualization of the communication pattern during the run-up to the SONA demonstrates no evidence that the Presidency was seen to be listening, by using the opportunities for two-way communication afforded by social media, following their invitation for suggestions from the public. A supplementary qualitative analysis of public social media commentary revealed extensive dissatisfaction among citizens who engaged in this conversation.

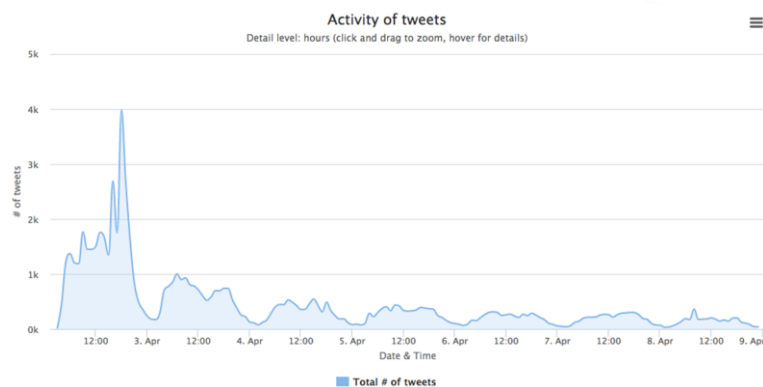


### Twitter network of activity to and from President Zuma's account

## Research Spotlight II: The Terrorist Attacks in Garissa (Kenya)

*In collaboration with: Nicole Stremlau (University of Oxford, UK) and Gianluca Iazzolino (University of Bath, UK).*

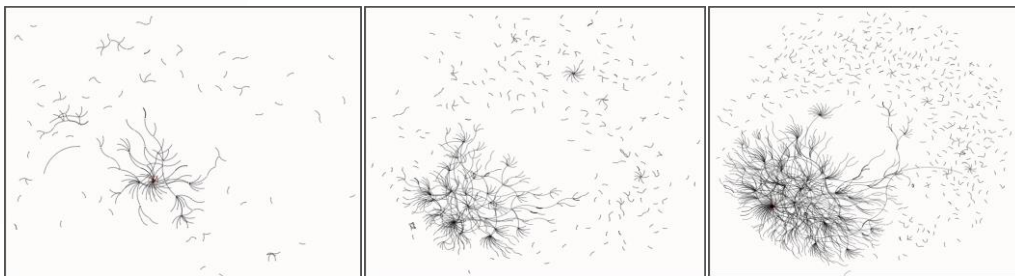
- This case study is an example of a conflict in which a community (the Somali community) becomes associated with terror and subsequently subjected to extensive securitization by the executive forces.
- The militant group and Al-Qaeda offshoot Al-Shabaab took responsibility for the attack on April 2, 2015 in which gunmen stormed the Garissa University College (Kenya), leading to the deaths of 148 people and the injury of at least 79.
- Using the Mecomify platform, the study harvested Twitter data based on a search query using the hashtags #Garissa and #GarissaAttack.
- A total of 68,892 tweets sent in the period April 2-8, 2015 were collected. The following timeline of the tweets was generated using the Mecomify platform. It indicates heavy use immediately after the event (the large spike), and low-level (but sustained use) in the days following the attack:



**Tweets using #Garissa and #GarissaAttack (April 2-8, 2015)**



- The Mecodify platform was also used to produce visualizations of the Twitter networks that began to form immediately after the attack. This allowed a nuanced look at who the main providers of information on Twitter were, how they interacted, and how these networks evolved over time. The darker spots at the center of the networks indicate influential Twitter users. A series of separate webs of influence also develop over time where tweets can be seen to cluster around influencers.

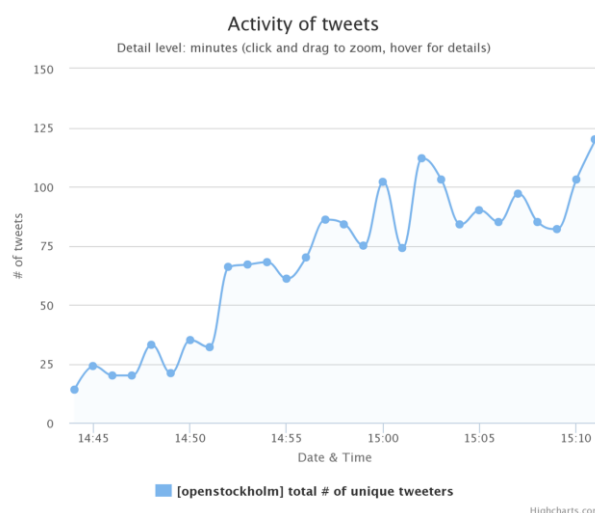


**Twitter networks 6 hours after the attack, at the end of the first day, and 7 days after the attack**

- The results of the study show that **mainstream news organizations (such as the BBC, CNN and Reuters) maintain a significant portion of their historical currency** when it comes to both providing information and having information forwarded from their accounts. In particular, they emerged as key actors and network nodes.
- **Other actors also emerged as important, particularly local bloggers and activists.** As dedicated networkers, they managed to generate a significant number of “retweets” of their material, despite far lower follower numbers than their large, mainstream media counterparts. These results also point to the important role of local social media “celebrities” and activists in media ecologies.

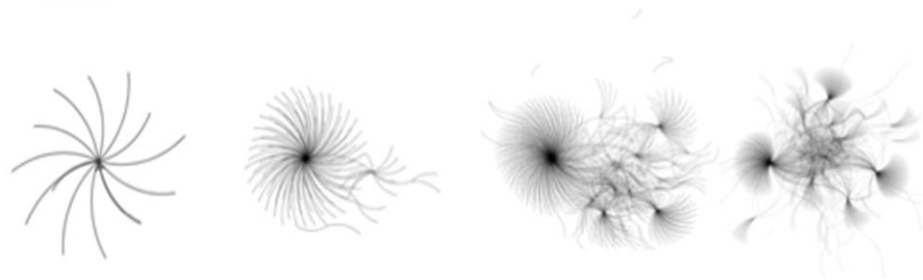
### Research Spotlight III: The Terrorist Attack in Stockholm

- On April 7, 2017, a terrorist with reported sympathies to the so-called Islamic State drove a truck down a crowded shopping street in central Stockholm, killing five and injuring 15. This was considered to be the first major terrorist attack of its kind in Sweden.
- Immediately following the attack, the hashtag **#OpenStockholm** was started on Twitter by a user with a protected account, encouraging residents of the city to announce where people who were stranded as a result of the attack would be able to stay. The hashtag quickly expanded to include information about temporary shelter, ride-sharing, the availability of food, etc.
- The use of the #OpenStockholm hashtag in the period April 7-12, 2017, was examined using the Mecodify platform. The aim was to gauge the use and spread of the hashtag – which was considered **a pro-social use of social media in a time of crisis** – as well as to identify the key Twitter users for the spread of the hashtag. The chart below shows how the use of the hashtag quickly gained in popularity over a short period after the attack.



### Use of the #OpenStockholm hashtag in the immediate aftermath of the attack

- By the end of the day of the attack (April 7, 2017), tweets containing the #OpenStockholm hashtag had been sent/retweeted over 21,000 times. That number increased to **47,000** by April 12.
- Clear networks formed around the hashtag, with a core of Twitter “opinion leaders” aiding the spread.
- Analysis of the tweets in the days after the attack showed how **the #OpenStockholm hashtag was also used for criticism of Swedish immigration policy, and occasionally hijacked for anti-democratic purposes**. The graphics below show how the hashtag began as centered around one user, but quickly developed into a network with several influential nodes.



**#OpenStockholm Twitter network 1, 5 and 15 minutes after the attack and at end of the day of the attack**

### 3. Key Implications

Results from studies of Twitter using MeCoDEM's Mecodify platform have provided us with valuable insight into how the use of social media in and around democratization conflicts and times of crisis can shed light upon a number of key communication issues.

#### Issue I: The South African SONA Study - Can social media be effective tools for public communication?

- Politicians may not be able to reply to every user, but they **can reflect all responses in more depth, and follow up with validation or dismissal of common points. Using social media as a front for democratic listening without engaging with users can have negative effects.**
- **Twitter can be a “listening post” for democracy**, but with a particular focus on those at the edges of society. However, it is less recognized in the sense of providing a platform for constructive, dialogic engagement with elites. This very particular culture of democracy on Twitter **requires an even more clearly demonstrated commitment to listening from the elite.**
- When using Twitter for purposes of democratic listening, it is important to bear in mind that **the most vulnerable and excluded constituents may not have access to the platform.**

#### Issue II: The Garissa Study - Can Social Media Challenge Mainstream Media Power?

- **Large, multinational news organizations retain their power.** In the case of African nations this issue points to the role of the media of former colonial powers (such as UK's BBC) in shaping coverage. Twitter users frequented large-scale sources, or sources that were well known in their region.
- **Evidence of the challenge of self-published user-generated content to “established” journalism did not materialize.** Twitter proved to be an important vehicle for mainstream journalism to both spread information and promote their brands during this particular event.

- The results of the study also point to the rather **narrow levels of use of the social media platform, and the elite-centric nature of Twitter users**. Unlike Facebook, which has a much broader user base but tends to be used for fewer, more in-depth
- posts and comments, Twitter is a platform that lends itself well to live, on-the-spot updates (including videos and images) but has a much smaller number of users, many of whom are journalists, politicians, celebrities or activists.


### Issue III: How can social media be used in the aftermath of crises?

- #OpenStockholm is a clear example of how **Twitter can be harnessed for social good in the aftermath of a crisis** such as a terrorist attack. Beyond symbolic statements of support, Twitter can function as an important place for information on food, shelter, healthcare and re-connecting families.
- Even when started by private citizens with relatively few followers, **hashtags can spread quickly**. This expansion, however, is usually dependent upon the retweeting of the tweets/hashtag by Twitter users with a considerable following. So, **effective Twitter campaigns are still reliant upon the engagement of others**, especially of opinion leaders. In addition, the elite nature of Twitter's users means that a relatively limited audience will be reached.
- It is in the nature of Twitter that, just as hashtags can be "hijacked" by others for political purposes, hashtags can also be lost in a larger flow of tweets unrelated to the original purpose. Loss of control and dilution are an under-considered component of Twitter use.



#### 4. Policy Recommendations

- **Always remember the symbiotic relationship between Twitter and mainstream media outlets:** Informational campaigns either via social media or via “conventional” mainstream media outlets must always consider that these venues have a symbiotic relationship. Twitter is now an established vehicle for distributing content, and mainstream outlets are also used heavily during times of crisis as sources of information.
- **Don’t overestimate the power of a social media platform to bypass “traditional” media:** Social media have the power to create alternative discourses (showing police violence, for example), and to challenge official storylines. Our research has shown, however, that even in times of conflict with large numbers of tweets, traditional media outlets (national and domestic) maintain a great deal of their informational capital. This is likely explained by the fact that users will fall back on their media habits rather than rely solely on anonymous users. It is also important to note that the perceived trustworthiness of national media will impact the use of social media to bypass (or not bypass) those outlets. The less trust, in other words, the more one might turn to (alternative sources on) social media.
- **Twitter is often an elite, niche platform:** While a great deal of popular rhetoric about Twitter emphasizes its popular potential, the use and spread of material via the platform is related to the volume of use in the regions affected. Campaigns on Twitter in areas of heavy use can work, while a similarly designed campaign in an area of lighter use may fail. In many countries, Twitter users are overrepresented by the “elite”, and so Twitter use may only reach a limited portion of the population.
- **To take advantage of or anticipate the spread of information on Twitter, identify sources of social media influence (domestic and international):** Twitter is a platform that requires users of influence to latch onto messages in order for them to gain widespread attention. A user’s number of followers is one marker of influence, as is the level of influence of those followers themselves. Identifying influential individuals in advance of events can help to anticipate spread and network formation.
- **Never assume control over hashtags or downplay the possibility of propaganda:** Twitter is rife with examples of social media campaigns that have gone



horribly wrong because hashtags were “hijacked” by opponents. Similarly, Twitter has been used on numerous occasions to spread false or dangerous information under the guise of pro-social motives. Thus, one can never assume that an intended outcome of a Twitter campaign will be exactly as planned.

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