The Cultural Value of BBC Twitter Accounts during a Key Period in the Syrian Conflict

Digital Data Analysis Report

This research forms part of the evidence for the Cultural Value Project

ABSTRACT

The Syrian conflict began in 2011. Since then over 100,000 people have died, and millions have been displaced. On the 21st of August 2013 the Assad regime used chemical weapons on civilians in Ghouta, a suburb of Damascus. The UN investigation later described this as a large scale attack, resulting in numerous casualties among civilians.[1] We chose to analyse tweets for the whole month as they give a picture of the 'Twittersphere' before, during, and after this shocking global news event in what the US Institute for Peace has called "the most socially mediated civil conflict" in history.[2]

The same study concluded the "pattern in social media toward clustering into insular like-minded communities is unmistakable and has profound implications".[3] These implications are particularly profound for traditional International Broadcasters such as the BBC World Service that are seeking to deliver value in an evolving technological landscape during global news events. The use of chemical weapons in Syria was chosen as an example of a global news event with particular characteristics - the truth is hard to establish quickly, the news is profoundly disturbing, there are significant implications for global politics, and this event is part of an on-going conflict. To assess how news organisations delivered cultural value while reporting on a socially mediated civil conflict, this case study examines Twitter use during the particularly brutal period of August 2013, during which time the number of child refugees topped one million and chemical weapons were used on civilians in Ghouta. The study uses more than 2 million tweets containing the hashtag #Syria produced by over 400,000 Twitter users.

The study finds that communities of Twitter users value different aspects of broadcast material and curate their own news experience accordingly. Some online communities are deeply invested in an issue and seek out the latest updates, while many others have little prior knowledge and seek easily accessible content which explains the context behind a particularly prominent event or headline. This highlights the importance for BBC World Service of developing a range of clearly defined roles for their social media accounts so they can deliver the elements of cultural value which a specific community of social media users expects.

---

[1] *Report on the Alleged Use of Chemical Weapons in the Ghouta Area of Damascus on 21 August 2013*, United Nations Mission to Investigate Allegations of the Use of Chemical Weapons in the Syrian Arab Republic (13 September 2013)

[2] Twittersphere refers to postings (tweets) made on the social media website Twitter, considered collectively. Chris Messina was an early advocate of the use of tweets during a crisis. His blog post from 2007 on the issue can be found: http://factoryjoe.com/blog/2007/10/22/twitter-hashtags-for-emergency-coordination-and-disaster-relief/
Marc Lynch, Deen Freelon and Sean Aday, *Syria's Socially Mediated Civil War*, USIP, January 2014
http://www.usip.org/sites/default/files/PW91-Syrias%20Socially%20Mediated%20Civil%20War.pdf
For an example of this type of analysis during a global news even see:
Ali Fisher, "Bullets with Butterfly Wings: Tweets, Protest Networks, and the Iranian Election" in *Media, Power, and Politics in the Digital Age* (ed. Y Kamalipour) (2010)

[3] Marc Lynch, Deen Freelon and Sean Aday, *Syria's Socially Mediated Civil War*, USIP, January 2014
http://www.usip.org/sites/default/files/PW91-Syrias%20Socially%20Mediated%20Civil%20War.pdf

Contents

Executive Summary:

The civil war in Syrian began in 2011. Since then over 100,000 people have died, and millions have been displaced. On the 21st of August the Assad regime used chemical weapons on civilians in Ghouta, a suburb of Damascus. The UN investigation later concluded this was a large scale attack resulting in numerous casualties among civilians.[4] The full horror of these attacks was shared with the world via social media, including Twitter and YouTube, making the use of chemical weapons an example of the phenomena which that US Institute for Peace has called "the most socially mediated civil conflict" in history.[5]

The use of chemical weapons created a near real-time news event in which traditional news organisations had little option but to gather information from the same social media sources that their 'audience' were also using to follow events. The opportunity for users to curate their own news experience from a range of near real-time sources reconfigures the relationship between news broadcaster and the news consumer and has particularly profound implications for traditional International Broadcasters. This comes at a time when organisations such as the BBC World Service are grappling with what it means to deliver value in an evolving technological landscape and socially mediated news environment.

To assess how news organisations delivered cultural value through their reporting on the conflict in Syria, this case study focuses on how Twitter and specifically the hashtag #Syria was used to share information and report on events in Syria during August 2013. From an archive of more than 2 million tweets produced by over 400,000 Twitter users this study examines the 'Twittersphere' before, during, and after the use of chemical weapons to analyse how international news organisations responded to this shocking global news event.

The research found that, perhaps unsurprisingly, activity on Twitter about #Syria was higher in the latter part of August than before the 21st August. However, within the spike in interest

---

[4] *Report on the Alleged Use of Chemical Weapons in the Ghouta Area of Damascus on 21 August 2013*, United Nations Mission to Investigate Allegations of the Use of Chemical Weapons in the Syrian Arab Republic (13 September 2013)

[5] Twittersphere refers to postings (tweets) made on the social media website Twitter, considered collectively. Chris Messina was an early advocate of the use of tweets during a crisis. His blog post from 2007 on the issue can be found: http://factoryjoe.com/blog/2007/10/22/twitter-hashtags-for-emergency-coordination-and-disaster-relief/
For an example of this type of analysis during a global news even see:
Ali Fisher, "Bullets with Butterfly Wings; Tweets, Protest Networks, and the Iranian Election" in *Media, Power, and Politics in the Digital Age* (ed. Y Kamalipour) (2010)

the research indicates news organisations adopted different modes of interaction with 'audience'. The reporting by some news organisations, such as the BBC, caused sharp spikes in the number of users interacting with their content, but these spikes dissipated rapidly. In contrast, news organisations such as RT were able to build interest amongst its readers over time, while Al Jazeera had consistently covered the evolving situation in Syria prior to the use of chemical weapons and maintained a relatively consistent level of interest amongst followers on Twitter.

Headlines:

Interest in news about #Syria increased dramatically after 21st August,
- The rate of retweets-per-day increased by 331.51% for AJElive, 1448.29% for BBCBreaking, and 1158.32% for RT_com after the 21st August compared to the rate of retweets before the 21st.

In English, two news organizations competed for prominence – BBC and RT (Russia Today)
- Among all news accounts studied in English:
    - BBCBreaking recorded the highest number of retweets per hour, over 800 in a single hour on the 23rd August.
    - RT recorded the highest number of retweets in any 24 hour window.
    - BBC published two of the top four most shared URL.
    - RT published three of the top seven most shared URL.

However, while BBC and RT competed for prominence they engaged almost entirely different groups of Twitter users.
- During the period 17th to 23rd August, for example, only 2.1% of users who interacted with either BBCBreaking or BBCWorld also interacted with RT_com.

In Arabic, Al Jazeera was the dominant news organisation, followed by CNN Arabic.
- Among all news accounts studied in Arabic
    - Al Jazeera was most the most prominent news organisation in terms of mentions and accounted for five of the top ten most shared URL.
    - CNNArabic was the only other major news organisation to appear in both the most mentioned users (11th) and in the top shared URL (5th)

This is not a global conversation
When we investigated who was interacting with whom, we identified a series of sparsely connected networks, rather than one 'global conversation'. This means a news organisation needs a range of accounts able to tailor content to engage members of these separate conversations.

Trust is a two-sided relationship.
When we investigated the way users responded in the aftermath of the chemical attack, the research found a group of users who were demanding news organisations, including the BBC, provide greater coverage of the attack. This highlights that trust is a two-sided relationship. If users are to trust they are

receiving credible information about events elsewhere in the world - they also expect to see key events they experience being reported to the rest of the world by the same 'trusted' news sources.

Conclusions

Different users value different aspects of broadcast material, and may curate their own news experience accordingly. In effect, while some are deeply invested in an issue and looking forward to being updated, many others have little prior knowledge and seek easily accessible content which explains the context behind events.

The value of citizen originated content

Users appear to value organisations like the BBC as trusted sources, and want these organisations to carry their content about key events. The big question is whether the BBC and/or individual BBC journalists can make use of user-generated content, which, as this research shows, carries huge cultural value in informing the global public about the reality and horror of an event, without compromising on key editorial values, at a time of acute crisis and confusion?

Finding a way to use this material would offer increased value for managers in terms of the use of technology and for funders in terms of humanitarian responses. Les Observateurs run by France 24 is one potential model, alongside the recently created BBCOS (Outside Source). For example, Les Observateurs balances citizen generated content with maintaining credibility by ensuring content is selected, checked, translated and explained by journalists from France 24. Here we suggest that the World Service is perfectly positioned to deliver value from a near real-time aggregating and filtering of content guided by the knowledge of their reporters.

The value of different modes of interaction between users and the BBC: a comparison of international news organisations

Users primarily valued the BBC production of entry level news content. This was highlighted BBCBreaking achieving the highest spike in hourly retweets. The cultural value demonstrated by the tweet predominantly responsible for this spike lies in engaging (or re-engaging) individuals and planting Syrian conflict in public consciousness and conscience. This finding indicates that the BBC is creating high utility value by responding in a timely way to big stories by providing content which extends the story in accessible forms through social media. This is also evinced by the high number of individuals retweeting BBC URLs who originally accessed content on-line rather than through Twitter.

Spikes which appear and dissipate rapidly were one of the range of 'engagement profiles' which we observed. Other profiles include 'slower growth' shown by RT_com and 'sustained engagement' shown by AJELive. Users derive different types of value from the opportunity to engage in different ways with news organisations.

News organisations can fulfil different roles in a socially mediated news environment.

Cultural value is not simply about total traffic volumes but also about the way in which users are engaged. No single role on Twitter will serve to engage the BBC's diverse audiences. Maximising cultural value depends on developing a slate of accounts which take on a variety of roles serving different constituencies.

This research identifies variation in the roles played by twitter accounts from international news organisations in these networks, producing different kinds of engagement. We have expanded on the different roles that news organisations adopted, specifically emphasising the opportunity to 'bridge' between different communities. Other roles for example 'broadcaster', 'curator', and 'facilitator' are outlined in the recommendations for further research (page ref**).**

Recommendations for future research

1) Develop a robust taxonomy of roles that a news organisation can fulfil across social media.
2) Based on the taxonomy, develop the slate of Twitter accounts which can fulfil different roles in social media and enhance engagement value.
3) Extend cultural value through 'bridging' between communities to facilitate information flow.
4) Conduct comparative research across diverse social media to understand the cultural value derived across different platforms.

Introduction:

Context and Scope of the Research

The Syrian conflict began in 2011. Since then over 100,000 people have died, and millions have been displaced. This case study examines Twitter use during a particularly brutal period of this conflict. We analysed more than 2 million tweets containing the hashtag #Syria, during August 2013. On the 21st of that month the Assad regime used chemical weapons on civilians in Ghouta, a suburb of Damascus. The UN investigation later described this as a large scale attack, resulting in numerous casualties among civilians.[6] We chose to analyse tweets for the whole month as they give a picture of the 'Twittersphere' before, during, and after this shocking global news event.[7]

Hashtags, i.e. words or phrases preceded by the # symbol, offer a way for users to organize and search messages. We chose #Syria to define our sample as it was a tag which we had observed in common use in the previous months. The BBC included #Syria in many of their tweets. Such hashtags allows users to come across their content without specifically seeking out BBC accounts.

The dataset for #Syria included tweets (short text messages; max. 140 characters in length), retweets (re-post of another user's tweet), and mentions (tweets which indicate another Twitter user in the body of its text by an *@username* expression). Twitter users utilising #Syria included a range of news organizations, journalists, activists, and commentators, as well as individual citizens. Many users shared their opinions in the text of their tweets, and other content in the form of embedded links. This report analyses the relative prominence, position and cultural value of international broadcasters, particularly BBC Twitter accounts, and examines differing roles which these and other accounts played in networks using #Syria.

Analyzing a data set determined by the use of a commonly used hashtag, in this case #Syria, allowed the relative prominence and value of BBC accounts to be assessed. To do this we harvested a data set of over 2 million tweets to develop a network representation which showed how a variety of news organisations' accounts engaged publics via Twitter. We used a variety of modes of analysis – including Volume Analysis and Cluster Concentration Analysis – to observe the aggregated behaviour of Twitter users i.e. who was interacting with whom in the 'Twittersphere' through patterns of tweets, re-tweets and mentions. In addition we looked at some qualitative data – both the content of selected popular tweets from news organisations, and the

---

[6] *Report on the Alleged Use of Chemical Weapons in the Ghouta Area of Damascus on 21 August 2013*, United Nations Mission to Investigate Allegations of the Use of Chemical Weapons in the Syrian Arab Republic (13 September 2013)

[7] Twittersphere refers to postings (tweets) made on the social media website Twitter, considered collectively. Chris Messina was an early advocate of the use of tweets during a crisis. His blog post from 2007 on the issue can be found: http://factoryjoe.com/blog/2007/10/22/twitter-hashtags-for-emergency-coordination-and-disaster-relief/
For an example of this type of analysis during a global news even see:
Ali Fisher, "Bullets with Butterfly Wings; Tweets, Protest Networks, and the Iranian Election" in *Media, Power, and Politics in the Digital Age* (ed. Y Kamalipour) (2010)

role of user generated content for #Syria. This conflict is taking place at a time when many combatants and civilians in Syria have access to mobile technologies connecting them to social media, enabling them to record and tweet events, creating what the US Institute for Peace has called "the most socially mediated civil conflict".(USIP, 2013)

Aims and Rationale

This study aims to explore how the BBC can, and does, use Twitter to engage audiences around major political events or disasters: what value is derived from engaging with communities on Twitter, and how the BBC can use social media to sustain interest in lengthy political conflicts. We also aimed to examine the validity of a commonly held assumption that Twitter enables mass participation in an event, through a single interconnected discussion – what the BBC refers to as 'the global conversation.[8]

The use of chemical weapons in Syria was chosen as an example of a global news event with particular characteristics - the truth is hard to establish quickly, the news is profoundly disturbing, there are significant implications for global politics, and this event is part of an on-going conflict. These characteristics have particular impacts on how Twitter is used. This case study complements the others chosen for this research project which concern the BBC's use of Twitter during their 100 Women Season (October 2013) and the London Olympics (July 2012). It also draws on prior case studies conducted by the Open University on the uses of social media at the BBC's Arabic Service.[9]

We aimed to identify the cultural value associated with BBC Twitter accounts active under these conditions, looking particularly at the size and characteristics of communities, including users in the UK and in Syria. We compared BBC Twitter accounts with those of other international news organisations in order to assess the relative strength and value of the BBC's use of Twitter. We were guided by the components of cultural value identified in the Cultural Value Framework. In this way we hoped to offer an assessment of the cultural value generated by BBC accounts around #Syria on Twitter. Specific questions included:

1. To what extent were various international news organisations an important source of information for Twitter users tracking events in Syria?
2. Were different international news organisations serving different groups with different news and information needs?
3. Did the BBC, and other international news organisations play specific roles in the flow of news and information (for example were

---

[8] ABDEL-SATTAR, N., GILLESPIE, M., LAMI, M., SAYED, N., WISSAM, M., BBC Arabic and Social Media: A Case Study of Nuqtat Hewar, Research Report, June 2012
http://www.open.ac.uk/researchprojects/diasporas/publications/report/bbc-arabic-and-social-media-a-case-study-of-nuqtat-hewar

[9] Gillespie, M. 2013 'BBC Arabic, Social Media and Citizen Production: An Experiment in Digital Democracy before the Arab Spring'. Theory, Culture and Society. Vol 29 No 3

they providing unique access to some information for specific groups)?

4. What patterns can be observed in Twitter traffic throughout the month of August in relation to different accounts?

Data Gathering, Presentation and Analysis

Collection and Parameters:

Data, and the metadata encoded into each tweet, was collected during August 2013 for all content containing the hashtag #Syria. The data was collected by polling the Twitter 'search API' every five minutes.[10] The response from the API is provided in a format known as JSON, which can be stored in flat text files until required for analysis.[11] The rationale for archiving content in near real-time is provide greater flexibility to analyse the data, when compared with the systems offered by large providers of commercial analytics.

Types of analysis:

Combining different analytic techniques allowed us to develop an understanding of the value which the BBC derived from its social media accounts and which the users derived from them. The analysis also investigated whether some BBC accounts fulfilled a range of roles within the discussion of #Syria and understand the nature and value of those roles.

1. 'Volume of Activity' analysis sought to understand patterns within the volume of content that was shared, for example, which accounts were frequently retweeted or were frequently mentioned, and what URL were most often shared. The volume data also allowed the analysis of whether an account was retweeted consistently over a given time period or whether all retweets came from one very short spike of interest. This analysis produced an 'engagement profile' for each of the accounts studied – where retweets and mentions are understood as proxies for engagement. Where the volume analysis required a comparative element the BBC was compared to similar international news organisations. The specific accounts for comparison were selected by identifying the accounts most frequently mentioned and retweeted during the month of August and from that list identifying those which were news organisations.

2. ''Network Analysis' was used to construct a representation of the interactions which occurred between Twitter users. This type of analysis seeks to understand how information flows between users and has been recommended in previous studies of the BBC World Service (Mackay, 2012). This analysis demonstrated the size of the discussions around #Syria in terms of the number of accounts participating and whether discussion took place in one large network or many smaller, sparsely connected networks. In addition, this approach made it possible to analyse whether BBC Twitter accounts engaged users that were getting information from a range of BBC sources, or conversely whether each BBC account served a different community.

---

[10] API stands for Application Programming Interface. In the case of Twitter the API is the structured interface which allows data to pass in an efficient manner from Twitter servers to the programme on a user's PC or mobile device, for example 'Tweetdeck' or 'Twitter for iPhone'.
[11] JSON stands for JavaScript Object Notation. It is a format which allows data to be transferred easily with the advantage that it is (relatively) easy for both machines and humans to read.

3. 'Social Media Link Analysis' was used to collect further data on the content frequently shared on Twitter. Content is mainly shared though pasting web links into tweets. This demonstrated the size of the content sharing public on other platforms such as Facebook and Google Plus for the articles frequently shared on Twitter. It also allowed us to rank content based on how frequently it was shared across the social media platforms.

4. 'Key Actor Analysis was also employed, however it led to non-findings. The description of the analysis can be found in Appendices to this report (page ref).

5. 'Content Analysis': The specific examples we have offered in this report were chosen for their value in illustrating a wider point within the analysis. We selected tweets to examine by harvesting those with 'BBC' in their content and then narrowing down according to specific time periods, or accounts, that we identified as being of interest from the Volume Analysis. Where Content Analysis is used, we do not claim that the tweets analysed are necessarily statistically representative or significant of the overall content (though in some cases they may be), nor have we done any detailed coding of tweets. The Content Analysis was limited by time and resources but offer a different window onto cultural value.

Section 1: Scale of the Twittersphere:

The result of data collection from the Twitter search API was a corpus of 2.1 million tweets[12], including 1.7 million retweets or @mentions.

The metadata of tweets provided additional information, for example, about any URL shared in that tweet, and the language of the tweet. Although the hashtag is in English, tweets were observed in 50 different languages. Approximately 66% of the tweets were in English and 20% Arabic. Less common languages included Turkish, Indonesian, Spanish, German and French. As a result of the prominence of English and Arabic, the subsequent analyses focus on content in these languages only.

Volume analysis allowed us to determine which accounts and content were particularly valued, based on the number of times users engaged with them either by retweeting, mentioning or sharing URLs. The value of BBC Twitter accounts is shown in various ways, for example users may interact frequently with a specific BBC Twitter account, showing they value the editorial and content of that account. On the other hand, they may bypass BBC Twitter accounts all together and select content to share directly from BBC web pages, indicating they value the underlying BBC content rather than the BBC Twitter presence. From the metadata we examined in turn; numbers of retweets, mentions, shared URLs and shared domains, so that we could compare prominent accounts for #Syria.

---

[12] An approximate total of 2.6 million tweets were recorded by topsy. Some tweets will have been lost due to rate limiting (limit on tweets collected per 15 minute period), others were lost due to a failure of the archive system on 15th and 16th August.

English language volume data:

Russia Today (RT_com) and BBC accounts are prominent throughout. Analysis of the most frequently mentioned accounts in English language tweets (fig 1) showed that 6 out of the top 10 accounts were news organisations, mostly focussing on 'breaking news'. News organisations are often prominent because users value the information they are providing. Another group of frequently mentioned users were politicians (Barack Obama having the most mentions of any account). Not all interactions reflect positive value, as some accounts are targeted by users because they disagree with the perspective presented by that account – this behaviour can often be observed in relation to politicians.
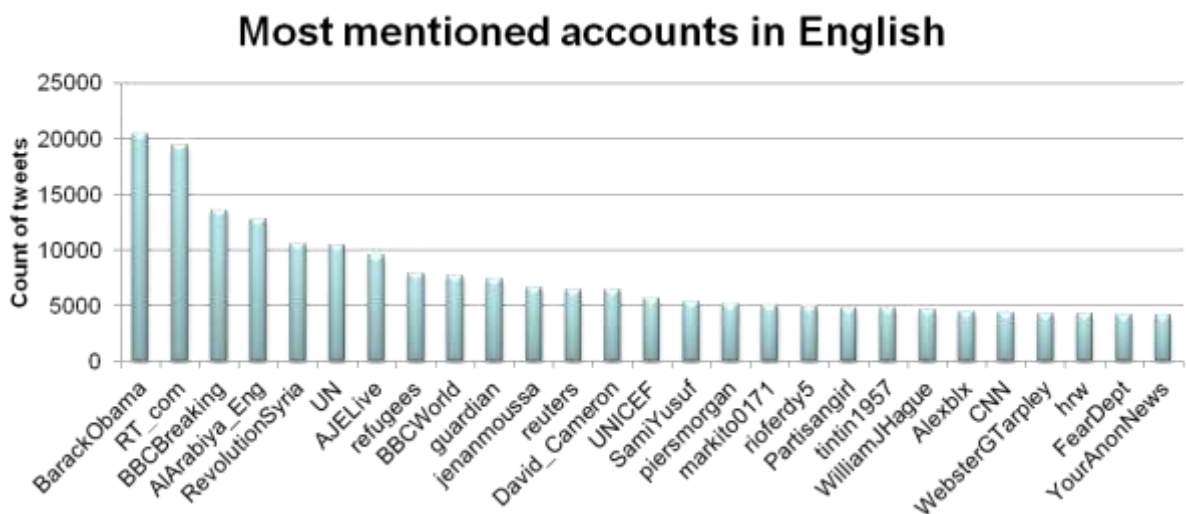
Figure 1. Most mentioned accounts in English. This figure lists the Twitter accounts which were most frequently mentioned in all the English-language tweets with hashtag #Syria during August 2013. Horizontal axis lists those accounts. Vertical axis represents number of tweets in which those accounts were mentioned. **For example**, the account @BarackObama scores above 20 thousand tweets on the vertical axis; this means that the account @BarackObama was mentioned in more than 20 thousand English-language tweets with hashtag #Syria during August 2013.

In addition to considering value through number of mentions, value can also be interpreted through the specific content (URLs) that users choose to share via Twitter. The most valuable URLs, i.e. those most frequently shared in English language tweets during August, belonged to the BBC and Russia Today. A link to an article on CNN was the next most valuable link to content produced by a major news organisation.
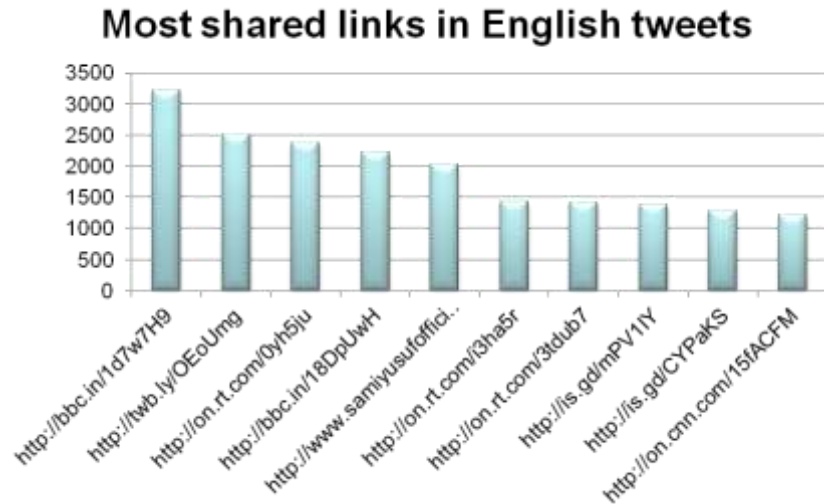
Figure 2. Most shared links in English.

A final perspective on value from the metadata around a tweet is to identify the internet **domains** which are shared most frequently. Domains are string names which identify websites (for example, "bbc.co.uk" for the BBC's main website). Analysis of the domains focuses on the collective value embodied by all the pages on a website. This helps distinguish sites with one popular page from those that provide a range of valuable content across a number of pages.
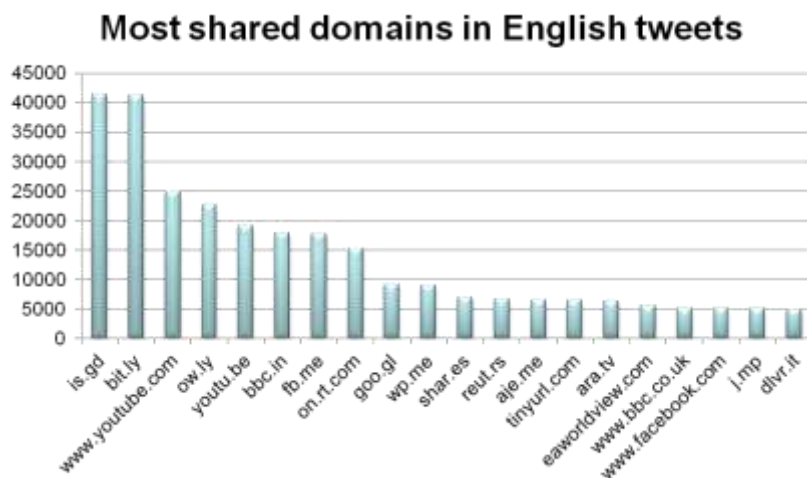
Figure 3. Most shared domains in English.

As in the previous measures, Russia Today and the BBC are the most prominent news organisations. However, at the domain level Reuters appears more prominently than in previous analysis. While none of the individual pieces of content (articles, web-pages, etc.) by Reuters was shared a lot, collectively Reuters was the 3rd most shared domain from a news organisation. This pattern may reflect the nature of Reuters content, as the news agency focuses on producing a vast range of short pieces with high turnover and which focus on specific items of breaking news or information. This demonstrates that while some

15

organisations may have a small number of pages that are each shared a lot, it is also possible to deliver value through a large number of pages which users share only a few times each.

We then also looked at two other types of domains. Firstly 'link-shorteners' (e.g. *bit.ly*) which are web services which allow their users to create short URLs to pages of *any other* web-site. We did not attempt to resolve all these shortened links to their original page due to time constraints and the role of link-shorteners falling largely outside the scope of this study. Thus we cannot judge what is being shared via link-shorteners. Secondly, we looked at content shared from other social media sites such as YouTube. In fact both the long form Youtube.com and the shortform YouTu.be each individually appear more frequently than any news provider's domain. In addition, content from Facebook is more frequently shared than content directly from any news domain (with the exception of a "BBC.in" domain which is a shortened domain for the longer URL for pages on "bbc.co.uk" for example).

This means that the kind of cultural value represented by high volume varies according to type of social media, and the role that an organisation seeks to fulfil. Some organisations will provide a greater proportion of the URLs shared via Twitter, while others have a very prominent Twitter account but produce very few frequently shared URLs. This highlights the complexity of determining the value of an international news organisation, but also the huge range of opportunities to create value.

The final part of our volume analysis looked at the circulation of news between social media platforms. A significant proportion of content on Twitter around #Syria came from YouTube and Facebook, and this emphasises the need for an integrated multiplatform approach to assessing value. This finding is also reiterated by the 'source' of tweets (fig 4) which identifies the platform or device used to access Twitter, showing that while Web remains to be the dominant source of tweets, Facebook also scores among the most frequent platforms for tweeting.
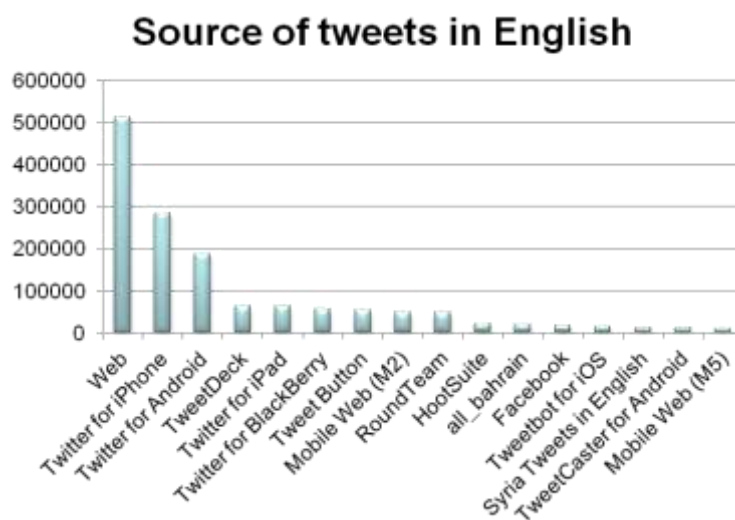

Figure 4. Source of tweets in English tweets. This figure represents which technical sources were most frequently were used for tweeting in English with the hashtag #Syria during August 2013. Horizontal axis lists those sources. Vertical axis represents numbers of tweets which were tweeted by those sources. **For example**,

16

web scores ~500k on the vertical axis, which means that totally in ~500k English-language tweets with hashtag #Syria were tweeted directly from Twitter web-pages in August 2013.

Arabic language volume data:

As with English language tweets, we examined which accounts and content users valued, based on the number of times users engaged with them either by retweeting, mentioning or sharing URLs. Although a smaller sample of around 400,000 tweets, the findings from tweets in Arabic also provide insights into the accounts and content which users value. The users represented in this data use English words or Latin characters for hashtags but the rest of the tweet appears in Arabic. This language use pattern may seem slightly unusual, but it is not new. Many tweets during the protests that followed the 2009 Iranian presidential election, included hashtags that were in a different alphabet from main text of the tweet.[13]

Within these tweets, Al Jazeera's Arabic service is prominent throughout the volume measures, CNNArabic appears in slightly a less prominent position, while other organisations and users have a more specific role. When we looked at most mentioned accounts (fig 4) Ahlalsunna2 and Syria_AlHadath came out on top. These are both specifically focused on the fighting in Syria. It may be this acute and exclusive relevance to #Syria, and geographical proximity of these accounts that are valued. As demonstrated by Figure 4, **The BBC did not achieve significant prominence in tweets in Arabic, as its accounts are not among 20 most mentioned or retweeted accounts in Arabic.**
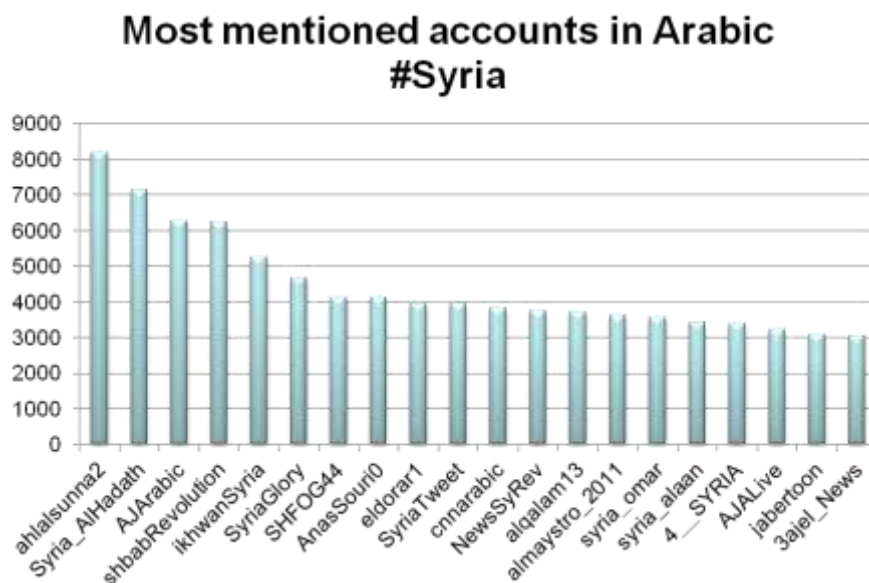
Figure 5. Most mentioned accounts in Arabic. This figure lists the Twitter accounts which were most frequently mentioned in all the Arabic-language tweets wish hashtag #Syria during August 2013. Horizontal axis lists those accounts. Vertical axis represents number of tweets in which those accounts were mentioned. For example, the account @ahlalsunna2 scores above 8 thousand tweets on the vertical axis; this means that the account @ahlalsunna2 was mentioned in more than 8 thousand Arabic-language tweets with hashtag #Syria during August 2013.

---

[13] Ali Fisher, "Bullets with Butterfly Wings: Tweets, Protest Networks, and the Iranian Election." in *Media, Power, and Politics in the Digital Age*, (ed. Y Kamalipour) (2010)

Supporting these findings, an analysis of the most frequently shared URL showed users particularly valued specific webpages from Al Jazeera, and to a lesser extent CNN Arabic, with the majority of the most frequently shared links leading to content from one of these two news organisations. We also observed that users valued specific YouTube video files, which may indicate a preference for consuming news in video format, or may relate to a preference for social media formats in general (Facebook and YouTube both feature ahead of all news organisation domains).
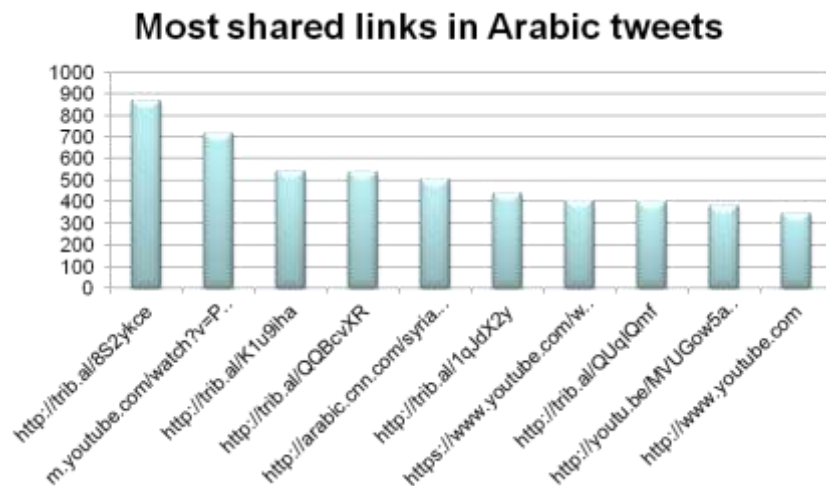
Figure 6. Most shared links in Arabic.

The most valued news organisations in terms of their domains were Al Jazeera, Al Hayat and CNN Arabic. The data on the most shared domains demonstrated that users are agile and comfortable using a wide range of tools to manage their social media content.
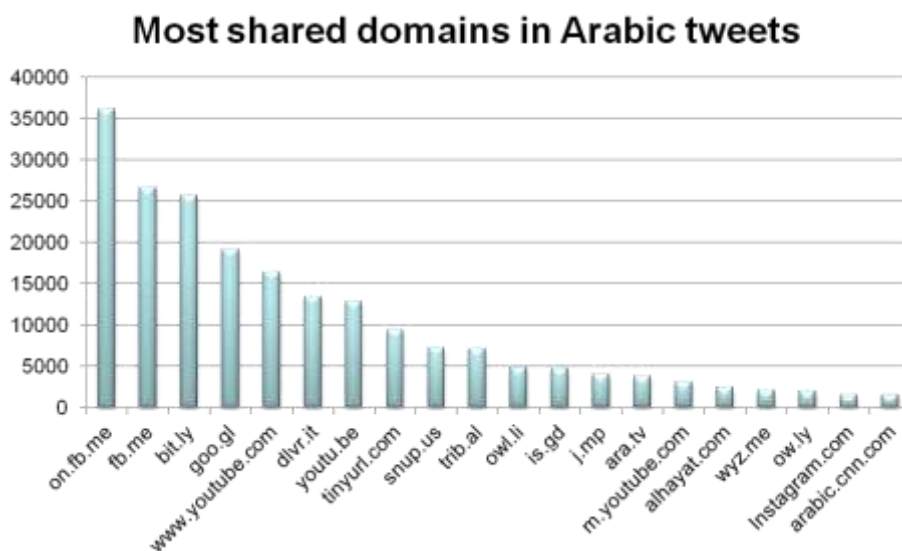
Figure 7. Most shared domains in Arabic.

In comparison to English language tweets, web based access is a less prominent source of interactions with Twitter (figure 8). Mobile phones, Facebook and automated services for

18

posting content between social media platforms, such as IFTTT, have more prominent positions than in the English language sample.

Source of Tweets in Arabic
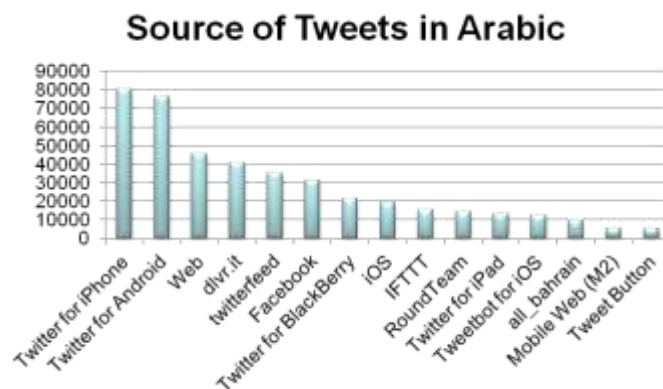
Figure 8. Source of tweets in English tweets. This figure represents which technical sources were most frequently were used for tweeting in Arabic with the hashtag #Syria during August 2013. Horizontal axis lists those sources. Vertical axis represents numbers of tweets which were tweeted by those sources. **For example**, web scores ~500k on the vertical axis, which means that totally in ~500k Arabic-language tweets with hashtag #Syria were tweeted from web-browsers in August 2013.

The comparison of English and Arabic language tweets confirms what may easily be intuited, that engaging in different languages is likely to require a news organisation to adopt different modes of interaction. Identifying, understanding and adopting those different modes of interaction may be a role to which the World Service is particularly well suited, even if their current content does not appear prominently in this example.

Section 2: Variations in engagement over time.

The first section has shown how value can be understood by analysing the total level of activity over a given period. This section extends that analysis by adding the parameter of time. This allows us to understand whether different organisations were valued more highly at particular times during August. It also provides the opportunity to compare the way users interact with different news organisations.

Comparison of the news organisations covered events in Syria found large variations in how frequently news organisations used the hashtag #Syria. For example, BBCBreaking less than 30 times, @RT_com over 200 times and @AJElive nearly 350 times. Equally, variations were observed in the ratio of retweets to original tweets. This indicates how many Twitter users were engaged by each individual tweet from news organisation accounts. For each tweet BBCBreaking had an average of 483 retweets, while RT_com averaged 86 and AJElive averaged 27 retweets. To investigate these variations in response we examined the frequency with which these accounts were retweeted per-hour during August, which we termed their 'engagement profile'.

This analysis calculated the hourly rate of retweets and mentions for a range of news organisations. This kind of analysis shows whether there is a huge surge of interest at one moment, or whether interaction is even and sustained. Most accounts will fall between

these two extremes, and we call the pattern of their retweets and mentions plotted over time their 'engagement profile'.

We plotted the engagement profiles for the accounts from several news organisations to see what patterns were occurring around #Syria (fig 10). This allowed us to analyse the peaks in interest, shown by the retweeting of content. The specific accounts for comparison were selected on the basis of being the most frequently mentioned or retweeted news organisations in the volume data presented previously, in either English or Arabic. By comparing these engagement profiles we can see whether they all follow the same pattern, perhaps all spiking at the same moment when a news story broke.
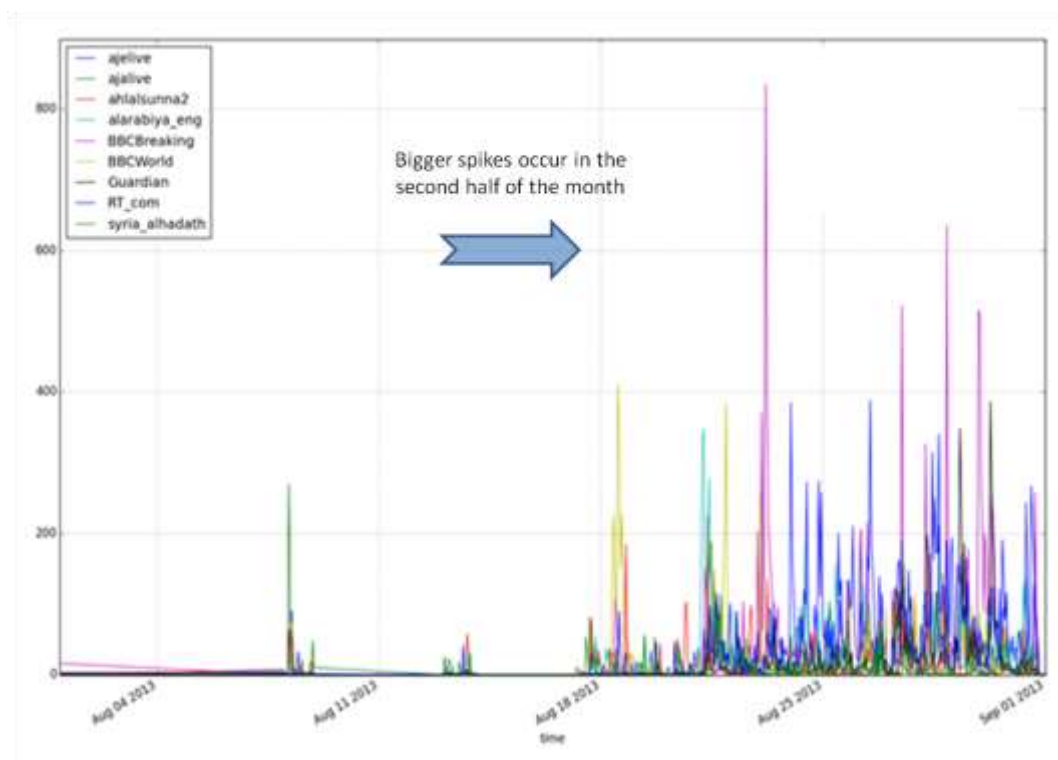
Figure 9. Engagement profiles of news organisations. This figure represents how often the most prominent accounts of broadcasting organisations were retweeted or mentioned during August 2013. The horizontal axis is divided into weeks.The vertical axis represents hourly number of retweets or mentions for those accounts (only tweets which include hashtag #Syria are counted). The curves represent respective accounts. **For example**, the pink curve (of @BBCBreaking) scores more than 800 on the vertical axis near August 23. This means that there was an hour when @BBCBreaking was retweeted or mentioned more than 800 times in tweets with #Syria hashtag.

The engagement profiles of these news organisations showed a tendency towards greater levels of interaction in the second half of the month, as demonstrated by the more frequent and higher spikes. As one would expect, most activity appeared after the chemical weapons attack on the 21st August. It is unsurprising that large news events such as this can trigger a period of intense interest by both the news organisations reporting the events, and the users who are retweeting and mentioning their content. This points to the high utility value of content from news organisations, in the period during and immediately after a watershed event.

However, within this general trend, the analysis also indicated that the peaks in interest did not occur at the same time, instead the engagement profiles of the news organisations spiked at a range of different points during the last week in August. This indicates users' interest was not sustained, and instead was confined to brief periods of interaction.

To understand the nature of the interaction in greater detail we compared the engagement profiles of two prominent BBC accounts, BBCWorld and BBCBreaking. The comparison of the engagement profiles for the two accounts shows that while there are some moments where both were experiencing a surge of interest, there were many episodes where only one account spiked (figure 10).
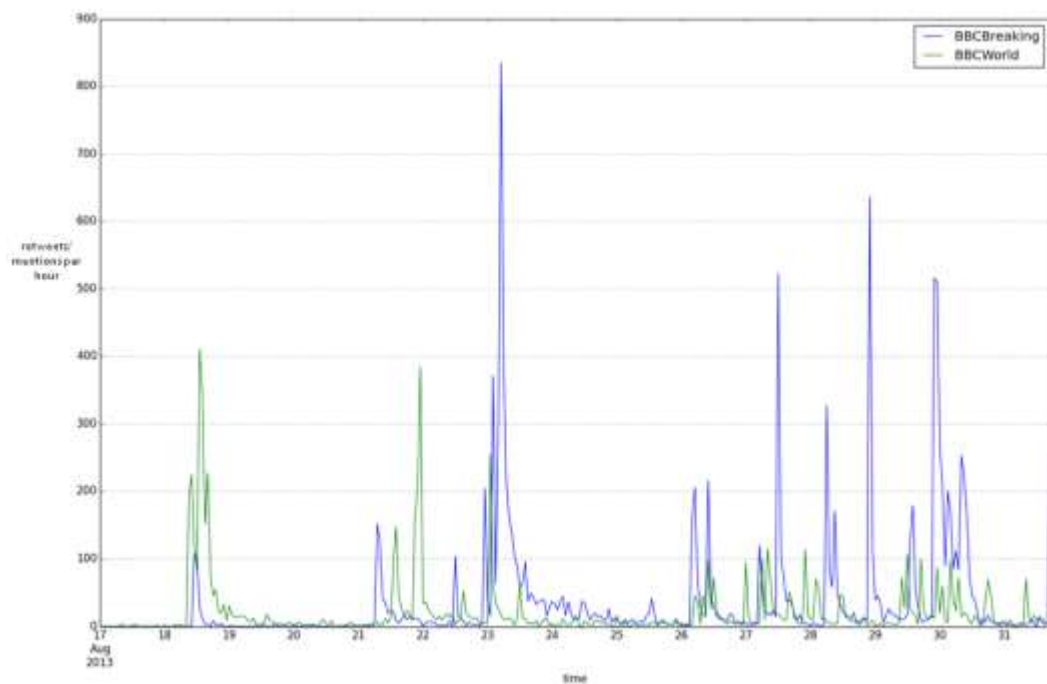
Figure 10. Volume per hour of retweets and mentions: comparison of BBCBreaking and BBCWorld. This figure represents how often the @BBCBreaking and @BBCWorld accounts were retweeted or mentioned during the second half of August 2013. The horizontal axis represents moments of time. The vertical axis represents hourly number of retweets or mentions for those accounts (only tweets which include hashtag #Syria are counted). The curves represent respective accounts. **For example**, the blue curve (of @BBCBreaking) scores more than 800 on the vertical axis near August 23. This means that there was an hour near when @BBCBreaking was retweeted or mentioned more than 800 times in tweets with #Syria hashtag.

Viewed over the latter half of August, the highest peak in hourly interaction which the BBCWorld account attracted was before the chemical attack, with a number of smaller peaks in interest in the week after the attack. By contrast, the engagement profile for BBCBreaking shows very large spikes in interest in the aftermath of the attacks**. This demonstrates that while both accounts were producing tweets containing #Syria, they were generating different responses. This is important for our analysis of cultural value as it indicates that different accounts may hold different value for those that engage with them.**

In fact, even when spikes appeared at the same time, the specific stories with which users engaged could differ. For example, on the 18th of August, both BBCBreaking and BBCWorld

experienced spikes in their engagement profile. However the content of their tweets was different; for BBCWorld the most frequently retweeted tweet was; "Big wave of #Syria refugees cross border into Iraqi Kurdistan", whereas the surge in interest for BBCBreaking came from "UN inspectors arrive in #Syria's capital Damascus on much delayed mission to probe alleged use of chemical weapons".[14] This indicates that specific content is likely to be responsible for spikes seen within a single account.

To understand whether there are other factors that can influence the engagement profile, we compared the engagement profiles of 6 international news organisations, and focused solely on the week after the chemical attack (Figure 11). These six were selected as they were news organisations that ranked highly amongst accounts frequently mentioned in English.
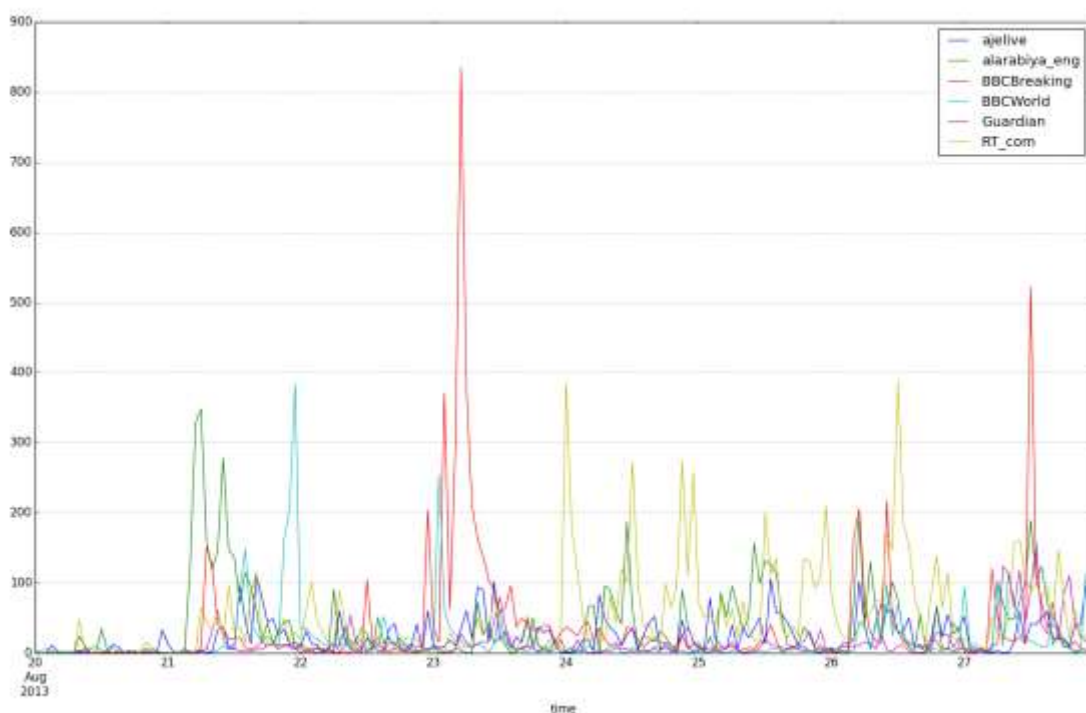
Figure 11. Engagement profiles of selected news organisations during the week after the chemical attacks. This figure represents how often the most prominent accounts of broadcasting organisations were retweeted or mentioned during the week after the Syrian chemical attacks. The horizontal axis represents moments of time .The vertical axis represents hourly number of retweets or mentions for those accounts (only tweets which include hashtag #Syria are counted). The curves represent respective accounts. **For example**, the pink curve (of @BBCBreaking) scores more than 800 on the vertical axis near August 23. This means that there was an hour when @BBCBreaking was retweeted or mentioned more than 800 times in tweets with #Syria hashtag.

BBCWorld and AlArabiya_eng showed similar 'engagement profiles' with the most prominent spikes in interest occurring soon after the chemical weapons attack. Interaction then settled into a relatively low level, often below 100 interactions an hour.

---

[14] This refers to earlier allegations of chemical attacks preceding those on the 21st August.

In contrast, the engagement profiles of BBCBreaking and RT_com (Russia Today) show them becoming more prominent over the following few days. BBCBreaking showed dramatic spikes in activity, including the two biggest hourly spikes in our data, on the 23th and 27th August, but at other times it had a low profile. Response to RT_Com really got going only on the 24th, and subsequently RT_com became a prominent account. It did not elicit such isolated spikes in activity as BBCBreaking, instead the interaction was sustained at a moderately high level.

The engagement profile for the The Guardian was different again, remaining low but steady throughout nearly all of August, and only gaining traction at the very end of the month.

The findings of this analysis add weight to the earlier observation that brief spikes – predictably - in interest can be caused by an item of particularly engaging content. Of course what will engage users is not always clear. But news organisations have much to learn from this kind of data, which could be integrated into production processes in similar ways to insights from longer established audience research methods. The findings also indicate that while some organisations such as BBC have sharp spikes in interest which dissipate rapidly, others, such as RT or Al Jazeera, are able to build or sustain interest over time. This might be due to a particularly good run of engaging content, but the style or approach to communicating via Twitter may also influence their ability to sustain interest.[15]

To test the validity of the distinction between the different types of 'engagement profile', the graph was redrawn using a 24 hour rolling mean (or Moving Average[16]) (Figure 12). The use of a rolling mean helps identify those accounts with a sustained level of engagement, in contrast to those accounts with a few large spikes.

---

[15] Here we use "communication" and "interaction" as interchangeable terms.
[16] Kenney, J. F. and Keeping, E. S. "Moving Averages.", in *Mathematics of Statistics, Pt. 1, 3rd ed.* Princeton, NJ: Van Nostrand, pp. 221-223, 1962
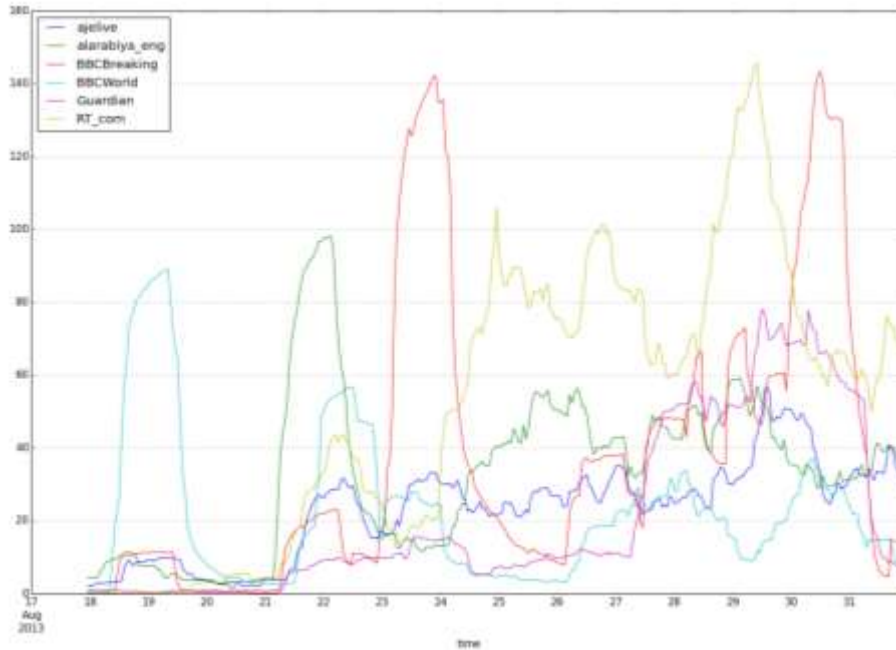
Figure 12. Volume per hour of retweets and mentions for selected news organisations during the second half of August 2013. This figure represents how often selected accounts of broadcasting organisations were retweeted or mentioned during the second half of August 2013. The horizontal axis represents moments of time .The vertical axis represents hourly number of retweets or mentions for those accounts on the basis of 24-hour rolling average (only tweets which include hashtag #Syria are counted). The curves represent respective accounts. **For example**, the red curve (of @BBCBreaking) scores more than 140 on the vertical axis near August 24. This means that there was a moment of time when @BBCBreaking had been retweeted or mentioned more than 140 times per hour on average during the prior 24 hours in tweets with #Syria hashtag.

The analysis for the period 17th to the 31st August, highlighted an element which was not immediately obvious in the hourly volume numbers. RT_com had the highest 24 hour mean score, with just under 3,500 retweets and mentions for a 24 hour period spanning the 28th and 29th August. RT_com achieved this result despite having neither the first nor second highest hourly peak in traffic. This suggests that while spikes in interest, like those seen for BBCBreaking, tend to draw attention, the more sustained engagement profile of RT_com drew more interaction over a 24 hour period *and*, as shown earlier, over the entire month of August.

RT_com and BBCBreaking were the 2nd and 3rd most mentioned accounts in English language tweets over the entire period of August. Despite this apparent similarity, their contrasting engagement profiles highlight that the two organisations became prominent in very different ways.

Cultural value of different engagement profiles:
The comparison of the 'engagement profiles' of international news organisations suggested three broad models; spikes, slow growth, and sustained engagement. Each of these profiles embodies different values to the users, and have implications for measures of performance, including the understanding of 'Reach' which for the BBC "remains the most straightforward and best-known KPI – the number of users, of the WS across the world".(Mackay, 2012)

Spikes

Accounts which tend to achieve spikes in interest have, for a brief period, a high reach value. At these moments, "the WS produces international news that reaches a large number of people in target areas who engage with its news" (CVF definition). The sudden spike also indicates the account is able to rapidly focus a lot of attention on a specific issue with users who retweet acting as potential reach multipliers for the news organisation.

Users value the utility and distinctiveness of these accounts which bring news to their attention that they may not have previously noted. The fact that interest dissipates rapidly may be a result of an account not following up the story, but equally likely is that users are not particularly invested in the issue, so their attention is soon taken to another 'breaking' news event. This suggests users may value breadth rather than depth, in effect preferring 'entry level' news rather than the nuance produced by ongoing in-depth reporting of an issue.

Slower growth

Accounts with slower growth in engagement do not appear to be able to focus the same level of attention immediately on a specific issue. Instead, engagement builds over time for both the news organisation and the users. Users may value the quality and utility of this type of engagement as it feeds their growing interest. This mode of interaction may facilitate the growth of a community or network increasingly interested in the issue.

This type of engagement profile often produces lower peaks in terms of reach, when compared to the brief spikes in hourly interaction. However, considered over a longer time period, such as 24 hours, this slower growth can outperform, in reach terms, accounts which achieve brief spikes. The level of interaction could be a more effective measure than reach in understanding this phenomenon, contributing to a refinement of the "various forms and uses of the notion of engagement" within the BBC. (Mackay, 2012)

Sustained engagement

Accounts demonstrating sustained engagement achieve a consistent level of interest from day to day, and so for those users have high engagement value. This sustained engagement, in our study, produced a lower level of reach than the other engagement profiles, for example the engagement profile of Al Jazeera English (AJElive). Accounts of this type might benefit from exploring "measures of more complex and varied notions of impact" (Mackay, 2012) as other studies have found that greater influence can be delivered by having an active audience who retweets or mentions the user (Cha et al 2010).

Users value accounts with this type of engagement profile this type of account for their utility value and the consistency with which issues are covered. The expectation of consistency creates a relatively loyal following, but may make it hard to re-direct interest onto a new issue.

Further research could be undertaken to explore whether there is a necessary trade-off between reach and engagement values, or whether both high reach and high engagement can be pursued within an organisation. This research, for example, could use key actor analysis across a range of case studies, to identify different metrics an organisation could utilise to examine their slate of accounts to see which drive engagement and which increase reach.

Section 3: Valuable content at pivotal moments:

To better understand the Twittersphere at key moments after the chemical attacks we analysed the content of a number of tweets during two periods – the hours immediately after the chemical attacks on the 21st August, and the morning of the 23rd August when BBCBreaking experienced dramatic volumes of retweets.

A spike in activity for BBCBreaking:

As highlighted by the volume analysis, the BBCBreaking account had the largest spike in hourly retweets of any of the news organisations we examined in our data. In the preceeding hours BBC breaking had tweeted twice in relation to Syria. One tweet quoted "UN chief Ban Ki-moon", saying that "A chemical attack in #Syria would be a "crime against humanity" with "serious consequences". However, it was the other tweet, focused on the plight of child refugees in Syria, which captured the interest of Twitter users (figure 13):

Figure 13. Frequently shared BBC tweet about child refugees

The BBCBreaking tweet was at the centre of the most intense activity at any moment in the whole month, this may be surprising as the refugee crisis was not a 'breaking' news event in the same way as the use of chemical weapons. UNHCR had previously publicised the refugee crisis on social media. For example, a video was posted by UNHCR on YouTube on the 20th of August sought to highlight that 30,000 refugees had crossed the border from Syria in less

than a week after the Kurdistan Regional Government authorities in northern Iraq opened access to the temporary Peshkhabour pontoon bridge north of Sahela.

Figure 14. UNHCR video about Syrian Refugees posted on YouTube

The value provided by BBCBreaking in this case was to use a specific 'event' - the number of child refugees reaching a million, to draw attention to a more protracted issue - the conflict. This had the potential to amplify the work of others who were more heavily invested in the issue, although in this case the BBC tweeted their own story rather than taking the story directly from the UN.

Reporting on the chemical weapons attack:

When news of the use of chemical weapons broke, news organisations neither covered it at the same moment, nor in the same way. The following examples contrast the different styles through which BBCBreaking and RT_com covered the evolving situation on the 21st August, and illustrate how some social media users lobbied news organisations for a type of coverage they felt they weren't getting.

On the 21st August BBCBreaking was observed tweeting just once about #Syria.[17] The tweet focuses on the denial issued by the Syrian government that an attack had happened, but alludes to YouTube footage which may contradict that statement figure 15.

Figure 15. BBC tweet featuring official denial of chemical weapons use

---

[17] The date refers to the day as measured by GMT / UTC

In effect, BBCBreaking gave prominence to the reporting of elements it could verify, i.e. the denial from the Syrian government, while civilian casualities were only alleged. This is in line with the focus on being a trusted news source, and the value placed on reporting accurate and authenticated information.

RT_com tweeted much more frequently about Syria during that day - twelve times as opposed to BBCBreaking's once. It used Twitter to provide rolling updates as more information became available. The initial tweet focused on reports of an attack and, like BBCBreaking, the linked article highlighted the conflicting claims and denials from the Syrian Government (figure 16)

Figure 13. Frequently shared RT tweet about chemical attack

RT_com followed up by reporting the denial of an attack which had appeared on Syrian State TV, and also tweeted from diverse sources including Al-Arabiya and the Syrian Government (Figure 14). RT_com noted that sources for Russia Today had not witnessed the event so were at that point were not able to independently verify. They provided an alternative type of value in producing what they call a "wrap-up", or round-up, of different sources in just 140 characters. Subsequent tweets focused on statements by Russian authorities which indicated the chemical attack might have been carried out by one of the rebel groups.

Figure 14. RT tweets covering different perspectives on the chemical weapons strike

Using this approach RT_com was able to provide a degree of transparency in some of its reporting by acknowledging that as an organisation it did not have confirmed information. Instead it explicitly drew on and aggregated information from others. Using this approach may have been one of the factors behind the greater level of engagement which RT_com built over the later part of August, as users valued the greater synthesis between sources

of information, alongside the more traditional reporting style they could access from other sources such as the BBC.

But news organisations are not the only ones on Twitter able to distribute content. In a digital environment, that 'audience' is also able to report or disseminate news content to which they have direct access, and indeed make direct demands of news organisations at the moment a crisis occurs, indicating what they value and what they feel news organisaitons should be reporting. The following are illustrative of the response to the coverage by the BBC, and other news organisations (figure 15). While not statistically representative of the overall audience, they were thought representative of a particular type of reponse from some users and provide an important and alternative perspective on value.

Figure 15. Tweets complaining about mainstream coverage of the attack

The first type of response illustrated above expresses indignation that news organisations were not covering the event in greater detail. While these illustrations focus on the BBC, examples were found addressing a range news organisations including CNN, ABC, Reuters, AP, LeMonde, and the Huffington Post. This type of response, although critical of the specific coverage, highlights the value placed on these organisations. It also shows that what it means to be a trusted news organisation may have evolved; now there is an expectation that when users believe something important is happening, these trusted news organisations will be covering it.

So when we reflect on trust value we must consider both the trust for users that they are being told what is important in the world, but also that 'trusted' news sources will report what is happening to them to the rest of the world.

Finally we also saw the attempt and desire to provide content to news organisations. This is illustrated here by a response to the BBCBreaking tweet (figure 16). Grasswire is an organisation running what it calls the 'open news room', focusing on citizen journalists collecting and verifying content. In this example Grasswire are trying to use Twitter to provide content to the BBC by responding to to a tweet from BBCBreaking. In many other examples, the tweets contain links to graphic images and videos, often of children, either dead or dying from what was purported to be the effects of chemical weapons.
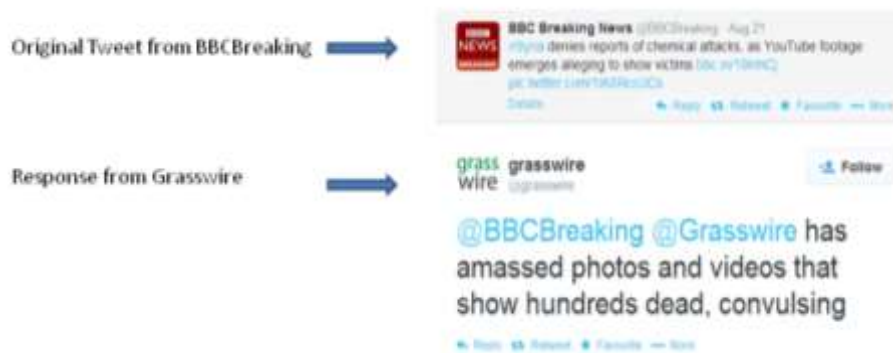
Figure 16. Attempts by Grasswire to share content with the BBC

As in this tweet, many others '@mention' news organisations in the hope of gaining their attention, or the attention of other BBCBreaking followers. As in the previous examples, **users appear to value organisations like the BBC as trusted sources, and want these organisations to carry their content about key events.**

Perhaps user generated content offers the potential to develop a new role for World Service journalists who could filter information to deliver greater value for users, allowing the BBC to leverage their expertise, and act as a 'bridge', connecting different communities sharing and experiencing events online.[18] This is examined in the next section.

Section 4: Communities within the Twittersphere.

The value of bridging between communities is greatest when those communities can be clearly identified within the Twittersphere.[19] While many imagine a global conversation taking place through digital media, it is more frequently observed to be many "few to few" interactions.[20] Specifically this approach can show whether the Twitter accounts of different international news organisations are serving distinct communities, and whether the same is true for individual BBC accounts. This will allow us to understand the 'distinctiveness' of specific BBC accounts.

---

[18] Ethan Zuckerman, Rewire: Digital Cosmopolitans in the Age of Connection, (New York, 2013)
[19] Ethan Zuckerman, Rewire: Digital Cosmopolitans in the Age of Connection, (New York, 2013)
Also see; Valdis Krebs and June Holley, 'Building Smart Communities through Network Weaving', Orgnet, 2002, http://www.orgnet.com/BuildingNetworks.pdf

[20] Ali Fisher, "Mapping the Great Beyond; Identifying Meaningful Networks in Public Diplomacy" CPD Perspectives in Public Diplomacy, Paper 2, 2010
Ali Fisher, "Evaluating Online Public Diplomacy using Digital Media Research Methods: A Case Study of #ObamainBrazil", InterMedia White Paper, July 2011.
Ali Fisher, Collaborative Public Diplomacy: How Transnational Networks Influenced American Studies in Europe, Palgrave Macmillan, 2013.

Connections between international news accounts

One aspect of distinctiveness is reaching users that other news organisations do not. For the BBC this would reflect the ability to address what the organisation sees as the enduring gap in the provision of trusted information. To understand the distinctiveness of the users that retweeted or mentioned the BBC accounts, we compared these users to those who mentioned other international news organisations. For this analysis we focused on the same accounts of international news organisations as previously, specifically:

- BBCBreaking
- BBCWorld
- RT_com
- alArabiya_Eng
- AJElive
- AJAlive
- AJAarabic
- CNNArabic
- Ahlalsunna2
- Syria_alhadath.
- Guardian

We observed that for the period 17th to 23rd August:

- 11.6% of those users who interacted with BBCBreaking also interacted with one or more other accounts of prominent news organisations listed above (dropping to 7% if BBCWorld is excluded).
- 6.2% of users who interacted with BBCBreaking also interacted with BBCWorld.
- 2.1% of users who interacted with either BBCBreaking or BBCWorld also interacted with RT_com.

So the vast majority of users who interacted with BBCBreaking were not interacting with accounts of other prominent international news organisations, nor with other BBC accounts (specifically BBCWorld). So users choosing to interact with either BBCBreaking or BBCWorld identify something distinctively valuable in their content, as they do not retweet other news content from other prominent news sources.

The analysis was repeated for the subsequent week, 24th to 31st August, which showed an increase in overlap between the BBCBreaking and other prominent international news accounts in English and Arabic. But the overall picture does not change: the majority of those interacting with BBCBreaking did not interact with other prominent international news accounts.

There is however a marked increase in overlap between users interacting with the BBC accounts and RT_com (2.1% increasing to 7.9%). As shown in the earlier analysis it was during this period that RT_com was increasingly engaging with Twitter users around #Syria, and this may account to some extent for the increase in overlap. The majority of users who

interact with the BBC are distinct from those interacting with other news organisations, but a significant minority engage with others. The size of this overlap fluctuates and further research would be required to understand factors which influence the size of the overlap.

An analysis of 'modularity'

This section focuses on a range of BBC accounts to see if they are also interacting with different users, or whether some combinations of accounts serve the same Twitter community.

This analysis uses a statistical method known as 'modularity'. Modularity is used to characterise the interactions within a network, and identifies those groups of users that interact with each other more frequently than they interact with the rest of the network. Each of the groups identified in our analysis is known as a community.

In our analysis we observed 8989 of these communities in total, but only 34 contained more than 100 users and the four largest communities each account for approximately ten percent of the entire network.
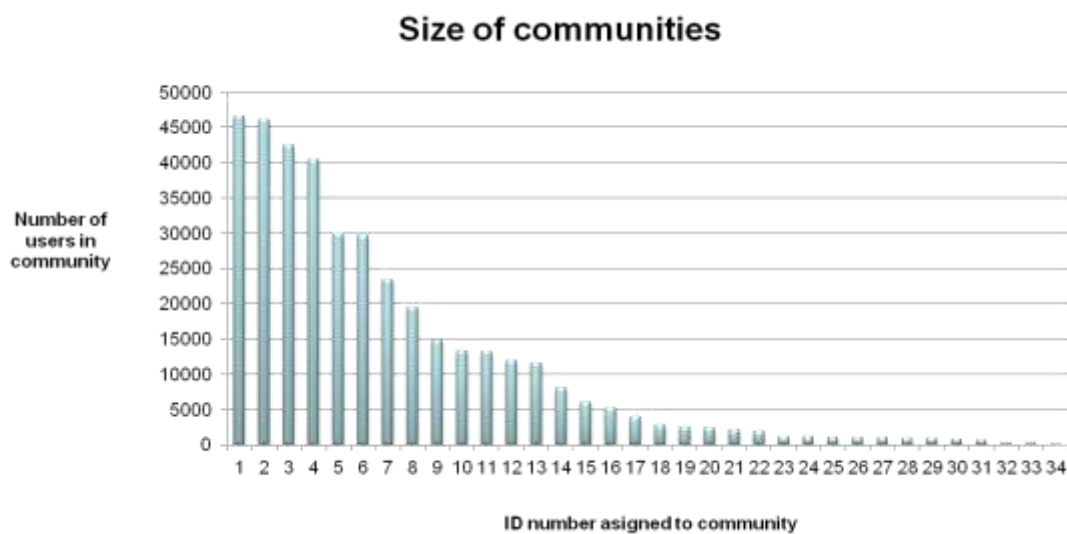
Figure 17. Size of communities sharing information about the chemical weapons strike

The large number of communities confirms that the network for #Syria consists of a multitude of smaller communities made up of few-to-few interactions, rather than a large global conversation. Furthermore, the analysis showed that many of these communities included at least one BBC account, indicating the ability of different BBC accounts to serve distinct groups. The tailoring of content to specific communities is something which we believe the BBC World Service could further explore, given the knowledge and experience of their journalists.

Equally important, however, is that some BBC accounts interact with the same community. This indicates the users in that community value the opportunity to access a range of BBC services. For example, the most prominent BBC account, BBCBreaking, is retweeted by the same community of users who also retweet BBCNewsUS, BowenBBC, BBCWorldTonight, BBCMarkMardel and BBCMundo.

As noted in the earlier section there was little overlap between users that engage with BBCBreaking and those engaging with BBCWorld. That finding is further borne out by this analysis. Using modularity-based network partitioning (partitioning of a network that allows to identify communities whose members are significantly more tightly connected with each other rather than with the rest of the network), BBCWorld is shown to be most retweeted by a community that also retweet BBCNewsHour, BBCMiddleEast, BBCPaulMoss, BBCBusiness, and BBCAsianNetwork, rather than BBCBreaking.

On the basis of this data we believe that users value being able to select from a range of content. As such, the BBC operates in an environment where many smaller communities of users curate their own experience of the BBC via social media. In this environment, the evaluation of BBC performance should combine targets, such as reach or quality, for individual accounts with an analysis of the way accounts perform collectively. This collective assessment would highlight, for example, which accounts fulfil important roles in supporting and amplifying the efforts of other BBC accounts.

Section 5: Other social media platforms

In addition to users being to curate their own experience of the BBC via social media, users can curate their own news feeds from across social media. As highlighted earlier many users value entry level news which explained the background and context of a breaking news story. To understand this a little further and to investigate the potential of assessing cultural value through a cross-platform comparative approach we used the fifty most shared links from Arabic tweets and identified if these were also popular on Google Plus social media platform (i.e. were shared by Google Plus users) and Facebook social media platform (i.e. were actively shared by Facebook users) The data on how often articles had been 'liked' via social media was collected using SEOQuake toolbar[21]. This data included the number of times users have shared those web pages via Facebook[22] and Google Plus[23]. SEOQuake toolbar allows us to collect this data in an automated and trustworthy manner.

Most 'liked'

Of the links most frequently shared via tweets in Arabic, the one which was also most frequently shared via Facebook and Google Plus was the Washington Post's blog post "9 questions about Syria you were too embarrassed to ask". This has 655,000 Facebook likes and 1,212 Google Plus shares. To compare, the most popular BBC news link in this data "Syria crisis: Incendiary bomb victims 'like the walking dead'" had 46,000 Facebook likes.

---

[21] SEOQuake toolbar stands for an extension for Google Chrome web browser, which allows us to collect various data about web-pages.
[22] via Facebook "like" functionality
[23] via Google "PlusOne" functionality

We suggest that the higher popularity of the Washington Post's publication is a property of its distinctive content: it gives an overview of the Syrian conflict for those looking for entry level news through which to understand the context of breaking news events. Thus, while many media sources published formal breaking news articles which provided the readers with the most up-to-date information, the Washington Post successfully filled the free niche by preparing a semi-formal blog post which provided a relatively informal overview of the background.

Summary of Findings

As this study shows, different people value different aspects of broadcast material, and may curate their own news experience accordingly. In effect, while some are deeply invested in an issue and looking forward to being updated, many others have little prior knowledge and seek easily accessible content which explains the context behind events. This further reinforces the importance for BBC World Service of further developing clearly defined roles for their accounts to fulfil across social media platforms.

Our research returned some findings with regard to cultural value associated with Twitter accounts that would be expected:

- International news organisations including the BBC, RT (previously known as Russia Today[24]) and Al Jazeera, tweeted using the hashtag #Syria more frequently after the chemical attack than they had before the 21st of August. Average tweets per day increased by 346.44% (AJElive), 2263.64% (BBCBreaking), and 1488.93% (RT_com) respectively. This indicates the value they place on Twitter as an important channel of communicating breaking news to global publics, alongside traditional broadcast media.
- Twitter users also retweeted and mentioned international news accounts more often after the 21st than they had previously, indicating that these accounts were a valued source of information. Retweets per day increased by 331.51% AJElive, 1448.29% BBCBreaking, and 1158.32% RT_com respectively. This finding is in line with previous studies that Twitter is a valued source of information to which people turn during and immediately after a crisis event.[25]
- BBC accounts, including BBCBreaking and BBCWorld, experienced dramatic spikes in the hourly volume of retweets and mentions, returning to a relatively low level of interaction between spikes.
- Among all news accounts studied, BBCBreaking recorded the highest number of retweets per hour, over 800 in a single hour on the 23rd August.

---

[24] At points in the document we refer to RT by the older Russia Today to reduce potential for confusion with the use of 'RT' as an abbreviation of retweet on Twitter.

[25] The Iranian Election on Twitter: The First Eighteen Days, The Web Ecology Project, (26 June 2009)
Gilad Lotan, Erhardt Graeff, Mike Ananny, Devin Gaffney, Ian Pearce, and danah boyd 'The Revolutions Were Tweeted: Information Flows During the 2011 Tunisian and Egyptian Revolution', *International Journal of Communication*, Vol. 5, 2011

- When we investigated who was interacting with whom, we identified a series of sparsely connected networks, rather than one 'global conversation'.
- **There was variation in the roles played by twitter accounts from international news organisations in these networks, producing different kinds of engagement. We have expanded on the different roles that news organisations adopted, specifically emphasising the opportunity to 'bridge' between different communities. Other roles for example 'broadcaster', 'curator', 'filter', are outlined in the recommendations for further research (page ref).**
- While our study focused on news organizations, we also observed that significant political figures were mentioned and retweeted frequently, including Barack Obama (the most retweeted and mentioned account of all) with just over 20,000, and David Cameron with around 6,000. This underscores how Twitter is a means of communication that thrives on the celebrity status of influential figures, offers the opportunity to publicly challenge those individuals, and used to promote political and partisan agendas.

Slightly less predictable perhaps was the success of Russia Today:

- RT_com (Russia Today) was the news organization retweeted and mentioned most frequently across the whole month – more than 19,000 times. In comparison, @BBCBreaking was retweeted or mentioned just over 13,000 times. Given the prominent role of the Russian Government in determining an international response, it is perhaps unsurprising that some users would turn to a news organisation which provided a Russian perspective. However, it is also important to note Russia Today has also had particular success developing its use of social media presence in recent years, including having over 1.2 million subscribers on YouTube[26].
- When tracked for a 24 hour period, rather than by the hour (which partially allows for the elimination of random fluctuations and the observation of clearer trends), RT_com had the highest level of retweets and mentions relating to #Syria – just under 3,500 for a 24 hour period spanning the 28th and 29th August.

Some of our findings have particular significance for understanding how cultural value is embodied in this data. We focus on 3 aspects of our data which are particularly relevant to understanding the cultural value of the BBC on Twitter, and which suggest how Twitter activity might be enhanced to maximise cultural value in future.

---

[26] https://www.youtube.com/user/RussiaToday

1) The value of citizen originated content

At a time of acute crisis and confusion, the key question is whether the BBC and/or individual BBC journalists can make use of user-generated content? This content carries huge cultural value in informing the global public about the reality and horror of an event but has to be handled in a way which will not compromise key editorial values. Finding a way to use this material would offer increased value for managers in terms of the use of technology and for funders in terms of humanitarian responses.

We saw in a small number of tweets direct appeals by individuals, including Syrian witnesses of the attack and its consequences, to global news organisations, including the BBC (demonstrating its high trust value), to take on and disseminate their content.

These tweets requesting coverage of UGC demonstrate value for citizens in the very power to contribute to the reporting of atrocities. It also highlights that, in an environment where users can easily see what is reported elsewhere in the world, there are greater demands of international broadcasters to use UGC. **Trust is a two-sided relationship. If users are to trust they are receiving credible information about events elsewhere in the world - they also expect to see key events they experience being reported to the rest of the world by the same 'trusted' news sources**.

However, as far as we have observed in the data, the main BBC accounts did not re-tweet this kind of content. The BBC's relatively slow response, as evidenced by a lack of twitter activity in the hours after the chemical attack, underscores an enduring dilemma which sits at the heart of reporting in an environment which contains both traditional and citizen generated sources of information. For example, BBCBreaking could draw attention to statements from the Syrian Government which denied reports of a chemical attack because statements from a government official were, quite understandably, easier to confirm than images taken on the mobile of an unknown 'citizen journalist'. However, it consequently transpired chemical weapons had been used and many of the images were authentic, while the veracity of denials from the Syrian Government was challenged by the findings of a UN report.[27] This kind of dilemma puts the BBC in a difficult position. In an age of social media the BBC risks losing the trust of both loyal audiences and new BBC users in the region.

It is also important to reflect here that some content was so distressing it would be difficult to publish without a strong warning attached. Nevertheless, the potential role of the BBC as a curator of UGC was actually filled by activist and political organisations such as @SyriaTweetEn, an account which retweets English-language citizen generated news content on Syria. Accounts such as these tend to be small, agile, have strong local knowledge and are able to adapt rapidly to a shifting news and technological environment. This type of Twitter account has great cultural value in such crises as they have the potential

---

[27] *Report on the Alleged Use of Chemical Weapons in the Ghouta Area of Damascus on 21 August 2013*, United Nations Mission to Investigate Allegations of the Use of Chemical Weapons in the Syrian Arab Republic (13 September 2013)

to shape or facilitate discussion, even when they cannot verify the sources of all of their retweets.

Here we suggest that the World Service is perfectly positioned. Their journalists on the ground could bring into play the pre-existing cosmopolitan intelligence and local knowledge of people and events to curate citizen originated content. They could use corporate accounts specifically set up for this purpose to propagate this content, or they could use their personal Twitter accounts, in either case with caveats about the content. This would fit with BBC editorial guidelines for using blogs and microblogs, which states;

It may not be enough to write on your BBC microblog's biography page that "retweeting" does not signify endorsement, particularly if the views expressed are about politics or a matter of controversial public policy. Instead you should consider adding your own comment to the "tweet" you have selected, making it clear why you are forwarding it and where you are speaking in your own voice and where you are quoting someone else's.[28]

There were examples of journalists gaining prominence by acting in this way during the Arab Spring, such as Dima Khatib (previously bureau chief for Al Jazeera in Latin America) and Andy Carvin (previously of National Public Radio) (see ref). In addition, we observed a few BBC journalists that tried to make limited use of UGC. For example, BBC's Ian Pannell demonstrated that UGC could be used, if a caveat was included:

'RT @BBCiPannell: Rpts many dead inc children in chemical attack nr #Damascus. Calls 4 UN 2 investigate. #Syria #CW Unverified video. http:\\.... '

Since August 2013, the BBC has taken some small steps toward making greater use of UGC. For example, BBC journalist Ros Atkin and the 'Outside Source' (BBCOS) program which he presents, seeks to combine and curate UGC with traditional BBC sources of information. Our findings show that there would be value in expanding the approach taken by Ian Pannell and Ros Atkin in developing a greater proportion of BBC social media activity that is more welcoming to UGC.

2) The value of different modes of interaction between users and the BBC: a comparison of international news organisations

Cultural value is not simply about total traffic volumes, it is also about the way in which users are engaged. No single approach to using Twitter will serve to engage the BBC's diverse audiences. Maximising cultural value depends on developing a slate of accounts which take on a variety of roles serving different constituencies. For example, this is explored further in our recommendations (PAGE REF).

In the future it may also be worthwhile further exploring the way competing news organisations engage with users in the Twittersphere across a range of issues. When we

---

[28] Blogs and Microblogs, Social Networking, Microblogs and other Third Party Websites: BBC Use Guidance in Full,
http://www.bbc.co.uk/guidelines/editorialguidelines/page/guidance-blogs-bbc-full#blogs-and-microblogs

compared the frequency with which the accounts of news organisations were retweeted per-hour. This we termed their 'engagement profile'.

We observed three very different 'engagement profiles':

Spikes

Accounts which tend to achieve spikes in interest have, for a brief period, a high reach value. At these moments, "the WS produces international news that reaches a large number of people in target areas who engage with its news" (CVF definition). The sudden spike also indicates the account is able to rapidly focus a lot of attention on a specific issue with users who retweet acting as potential reach multipliers for the news organisation.

Slower growth

Accounts with slower growth in engagement do not appear to be able to focus the same level of attention immediately on a specific issue. Instead, engagement builds over time for both the news organisation and the users. Users may value the quality and utility of this type of engagement as it feeds their growing interest. This mode of interaction may facilitate the growth of a community or network increasingly interested in the issue

Sustained engagement

Accounts demonstrating sustained engagement achieve a consistent level of interest from day to day, and so for those users have high engagement value. This sustained engagement, in our study, produced a lower level of reach than the other engagement profiles, for example the engagement profile of Al Jazeera English (AJElive). Accounts of this type might benefit from exploring "measures of more complex and varied notions of impact" (Mackay, 2012) as other studies have found that greater influence can be delivered by having an active audience who retweets or mentions the user (Cha et al 2010).

Focusing on the engagement profile can help an organisation understand the way users interact with an account and the value that they derive from the news content and help shape the way an organisation engages with users. For example, a deeper analysis of RT_com showed Russia Today included more content aimed at provoking discussion – i.e. a different mode of engagement, than AJElive or BBCBreaking. RT_COM also drew on content from a range of sources, including other news organisations. In short @RT_com acted as a 'bridge' between other accounts, and came the closest to facilitating a large scale 'conversation', while BBC accounts, on the whole, tended to act more like 'broadcasters', disseminating content.

3) News organisations can fulfil different roles in a socially mediated news environment.

The findings indicate that for the BBC to derive greater value from their social media, the organization will need to develop social media accounts with which are able to fulfil a range of specific roles. These roles will range from primarily producing content, to actively bridging

between different communities, and exploring the potential value of aggregating content produced by others.

In the data on #Syria BBC accounts were primarily producing content, much of which functioned as entry level news. Few tweets came from the BBC immediately after the attacks as facts needed to be checked, reducing utility value but increasing quality and trust value of the content.

In our analysis of news organisations, @BBCBreaking showed the biggest spikes in activity, so we examined the largest spike for this account, identified on the morning of the 23rd August, 2 days after the chemical weapons attack. The interactions which cause this spike highlight the value of 'entry level' news: this means clear and accessible content which allows a relative new-comer to an issue or event to understand it within a wider context. This relates to the BBC's utility value in the CVF.

For example, the tweet which was retweeted most during the spike on the 23rd August was: *'Number of child refugees from #Syria reaches one million – 'a shameful milestone', UN says.'* This represents entry level news as the refugee crisis was not a 'breaking' news event - UNHCR had previously publicised the refugee crisis on social media including the YouTube video *'30,000 Syrian refugees cross border in 6 days'* posted on 20th August, along with regular reports across a variety of media platforms.

However, as our data shows that retweets and mentions of news organisations generally increased after the 21st August. That means a significant proportion of users who contributed to this spike may not have considered the ongoing events in Syria in the days or weeks prior to the 21st August. As a result, many would not have seen UNHCR tweets and so this content was both 'breaking news' for them, and informative about one of the wider on-going issues resulting from the Syrian conflict.

The cultural value demonstrated by the success of this particular tweet lies in engaging (or re-engaging) individuals, and planting Syria in public consciousness and conscience. This finding indicates that the BBC is creating high utility value by responding in a timely way to big stories by providing content which extends the story in accessible forms through social media. This is also evinced by the high number of individuals retweeting BBC URLs who originally accessed content on-line rather than through Twitter (page ref). One of the main issues for the BBC is whether it is possible to sustain interest in events such as the on-going conflict in Syria

It is worth noting that when we followed up our Twitter analysis by looking at hyperlinks on Facebook (p.33, and further information in Appendix 6), the most linked to page was the Washington Post's *'9 questions about Syria you were too embarassed to ask'.* The information on this page opens with a map of Syria – perhaps illustrating that this audience too brings with them limited prior knowledge, and demonstrating the important role of social media in bringing contextual, background, and on-going reporting to 'breaking' stories.

Recommendations for further research

The use of chemical weapons within the context of the Syrian conflict was a unique news event which will not recur, so in order to understand the extent to which our findings can be generalised we suggest there is a need to compare them with similar analyses of other global news events. However, whilst acknowledging that caveat, we do believe that some of our results can help identify important avenues of research with the potential to support the evolution of any BBC strategy which aims to maximise the cultural value of BBC Twitter accounts during on-going crises, or at particularly horrific moments during future conflicts.

The findings indicate that for the BBC to derive greater value from their social media, the organization will need to develop social media accounts with which are able to fulfill a range of specific roles. These roles will range from primarily producing content, to actively bridging between different communities, and exploring the potential value of aggregating content produced by others.

We have identified four areas which warrant further research into how the BBC can:

1) Develop a robust taxonomy of roles that a news organisation can fulfil across social media.
2) Based on the taxonomy, develop the slate of Twitter accounts which can fulfil different roles in social media and enhance engagement value.
3) Extend cultural value through 'bridging' between communities to facilitate information flow.
4) Conduct comparative research across diverse social media to understand the cultural value derived across different platforms.

1) Develop a robust taxonomy of roles across social media.
To support a slate of Twitter accounts and maximise the cultural value of the BBC across social media, we recommend research to develop a robust taxonomy of roles. This would define the potential roles BBC accounts could fulfil, and their respective cultural value.

In our suggestions for further research we identified that strategies for maximising cultural value based on developing specific roles within the network and sub-networks may be useful. To that end we have teased out the different roles in the case studies which make up the cultural value project. We believe these roles would fit with BBC editorial guidelines for using blogs and microblogs, which in part states;

> *It may not be enough to write on your BBC microblog's biography page that "retweeting" does not signify endorsement, particularly if the views expressed are about politics or a matter of controversial public policy. Instead you should consider adding your own comment to the "tweet" you have selected, making it*

clear why you are forwarding it and where you are speaking in your own voice and where you are quoting someone else's.[29]

On the basis of the wider research for the Cultural Value project, some potential roles to consider are suggested in Appendix 1.

2) Based on the taxonomy, develop the slate of Twitter accounts which can fulfil different roles in social media and enhance engagement value.

We have demonstrated that different types of Twitter account engage users in different ways. We suggest that the slate of BBC accounts active during a news event should be considered as a whole when strategies are being developed to maximise cultural value.

In terms of the future we would recommend research to:

o Examine the variety of roles which different kinds of account play, and then balancing each of their values within the slate of accounts (see section 4 below for a description of roles).

o Look into user-generated content - how to create new types of account which make the most of its participation, cosmopolitan and national/global value.

o Investigate the interplay between different platforms. If, for example, it is found that most people are accessing content via the web and then sharing URLs via Twitter, investment in research looking at those relationships may help maximise URL sharing, and technological value.

o Establish the relationship between reach and engagement – whether there a trade off between them for each account, and therefore whether can they be maximised by offering a slate of niche accounts.

o Map the Twittersphere around a series of other global news events and issues, to understand which discussions tend to represent a genuinely global conversation, and which a series of small sparsely connected discussions.

3) Extend cultural value through the 'bridging role'.

We have seen from our analysis that some non-BBC accounts deliver high cultural value by acting as 'bridges' - connecting communities. The World Service could enhance their cultural value by further developing 'bridge' accounts.

The engagement value of bridge accounts stems from the ability to reach and engage specific groups not using existing channels. Bridge accounts employ a range of methods to do this including language translation, identifying and spanning boundaries which prevent information reaching a community, and tailoring of content to the specific tone or interest of a community.

---

[29] Blogs and Microblogs, Social Networking, Microblogs and other Third Party Websites: BBC Use Guidance in Full, http://www.bbc.co.uk/guidelines/editorialguidelines/page/guidance-blogs-bbc-full#blogs-and-microblogs

Bridge accounts can derive national/global value by connecting communities to content produced by an international news organization. Alternatively, cosmopolitan and technological value can stem from using news and information to facilitate the connection between communities with similar interests.

Of the accounts we examined RT_com came the closest to fulfilling a bridging roles, whilst maintaining substantial reach through #Syria. Their account established 'conversations' through which those following RT_com could develop connections both with other news sources, and also other users that had a similar political perspective. It is probable that fulfilling a bridging role is easier when approaching news reporting from an explicit perspective. This means the BBC, with a commitment to impartial reporting, may find this role hard to establish, but the high cultural value embodied in connecting networks makes this a worthwhile strategic target.

Strategies for facilitating the development of communities have already been identified in other fields which could be adapted to an international news environment.[30] These studies indicate that accounts that filter and aggregate content often succeed in connecting communities of users, so research which aids the identification of opportunities to do this may enhance the ability to leverage cultural value by 'bridging' between communities.

Further research could also investigate whether opportunities exist for utilising user generated content which can have a powerful 'bridging' effect, and brings with it high participation value. For example, research could examine accounts such as BBCOS (Outside Source), World Have Your Say, and BBC Trending which have already taken steps to embrace user generated content, to see whether they are acting as bridge accounts.

Equally, other simpler solutions may exist which could extend both reach and engagement value through 'bridging'. Further cluster analysis research which maps the information ecosystems around specific events or issues, would allow large sub-groups which are not engaged by the BBC to be identified and therefore opportunities to engage these users to be explored. For example, fundamental and non-editorial parameters such as time-zone and language often have a powerful influence in dividing Twitter communities, forming barriers to BBC accounts' reach. By identifying these barriers it may be possible to find new ways to span the naturally occurring boundaries of time and language.

4) **Conduct comparative research across diverse social media.**
The role of Twitter needs to be considered in relation to other social media in order to build genuinely comparative data, as Twitter is just one piece of a complex jigsaw.

---

[30] John Hagel III, Arthur G. Armstrong, *Net Gain: Expanding Markets through Virtual Communities*, Harvard Business Review Press 1997
Valdis Krebs and June Holley, Building Smart Communities through Network Weaving, (Orgnet 2002).
RS Zaharna, 'The Soft Power Differential: Network Communication and Mass Communication in Public Diplomacy', *The Hague Journal of Diplomacy* 2 (2007) 213-228

For example, mapping the Twittersphere around a series of other global news events and issues, to understand which discussions tend to represent a genuinely global conversation, and which a series of small sparsely connected discussions.

This report broadens BBC internal research looking at the performance of their Twitter accounts, by analysing BBC performance in relation to the Twittersphere as a whole. However we have shown that many users access Twitter and share content from other social media platforms. As a result, in order to really understand who and how people are engaging with news content via social media, we recommend extending the comparative approach to other sites such as Facebook, Google+ and Youtube, to throw light on the evolving position of BBC within a greater proportion of social media interactions.

Given the languages in which the World Service operates we recognize other social media platforms may be particularly relevant for specific language services.

Appendices:

Appendix 1:

Roles within networks, and their potential values

In our suggestions for further research we identified that strategies for maximising cultural value based on developing specific roles within the network and sub-networks may be useful. To that end we have teased out the different roles in the case studies which make up the cultural value project. We believe these roles would fit with BBC editorial guidelines for using blogs and microblogs, which in part states;

It may not be enough to write on your BBC microblog's biography page that "retweeting" does not signify endorsement, particularly if the views expressed are about politics or a matter of controversial public policy. Instead you should consider adding your own comment to the "tweet" you have selected, making it clear why you are forwarding it and where you are speaking in your own voice and where you are quoting someone else's.[31]

The Broadcaster:

Core accounts focusing on producing original tweets, retweeting / amplifying other BBC accounts. The primary value of this role is maximising reach, and of disseminating content that emphasises the core cultural values of the BBC – trust, reliability etc. Because of this content must be tightly managed.

The Bridge:

These accounts seek to reach specific groups ('audiences') either through translation or tailoring of content to the specific tone or interest. These Bridge accounts may already have an existing relationship with the specific community. Their value is from the ability to reach and engage specific groups not reached by the broadcaster accounts.

The Curator:

Accounts responsible for aggregating and filtering content to produce a rich and diverse stream.

- A conservative approach to the role of curator draws external content into a BBC broadcast, thus maintaining high levels of control and protection of core BBC cultural values. Examples of BBC accounts which fulfill this role, identified during the case study of the 100 Women Season, include the journalist account @BBCRosAtkins, or the corporate accounts BBC_WHYS or BBC Outside Source, that function to gather content to shape the agenda for a specific news program

- A social approach to the role of curator is more ambitious. It would use the expertise of BBC journalists to aggregate content, embedding the BBC within a

---

[31] Blogs and Microblogs, Social Networking, Microblogs and other Third Party Websites: BBC Use Guidance in Full, http://www.bbc.co.uk/guidelines/editorialguidelines/page/guidance-blogs-bbc-full#blogs-and-microblogs

culture of 'social search' (finding news through trusted relationships and connections), and drawing on the insight and expertise of many individuals and organisations on Twitter. These users have the potential to enrich the BBC broadcast approach, and to also act as conduits which may extend the BBC's reach. This social approach to the curator role would need clear branding and attentive management but the rewards are high cultural value in terms of participation and engagement, and also for the journalists themselves in terms of understanding their audience and accessing new sources of content for their own reporting.

The Broker:

Broker accounts also create value by accessing hard to reach groups. However, the Broker role is fulfilled by non-BBC accounts retweeting BBC content to their pre-existing network. That content must have a value both to the Broker themselves, and to their network. Potential 'brokers' could be given early warning, or actively made aware of content which may be of interest. This approach is likely to be most effective where potential Brokers are more invested in an issue than the BBC, and where they are not 'crowded out' by the BBC acting as Broadcaster.

The Facilitator:

A facilitative BBC account would provide access to larger audiences for non-BBC accounts that have strong content but a small number of followers. This is a contemporary re-imagining of one of the initial functions of the BBC World Service. For example, in one of the other case studies in the Cultural Value Project (the #100women season), BBCWorld amplified other BBC accounts, but with greater emphasis on facilitation, could have featured tweets from the 100 Women themselves. It can be assumed the 100 Women had things to say which were worth hearing and BBCWorld, BBCNews, and BBCAfrica had large networks of engaged users receptive to new content. Cultural value could have been enhanced for all parties by facilitating the connection between these users and networks. If a greater level of active empowerment of users is desired, then facilitation offers high returns in cultural value for moderate investment.

Appendix 2 Language on Twitter

The language which a tweet is in is a determination made by an automated process within Twitter systems. Other methods of language detection may produce different results with varying levels of confidence. However, the use of the Twitter language encoding rather than independent analysis to determine language provides for analysis which most closely mimics the user experience. This is because any Twitter user choosing to filter content by language will experience the content Twitter has determined is in that language.

Appendix 3 Constructing a Network graph:

Network analysis is a distinctive research perspective within the social and behavioural sciences because it focuses on the importance of the relationships between interacting units (Wasserman and Faust, 1994, p. 4) The 'relationships' and 'interacting units' analysed

depend entirely on the context. They can range from the family ties in Renaissance Florence, (Padgett, 1994) to connections in covert terrorist networks (Krebs, 2002), to calls and between mobile phones in Côte d'Ivoire, (Global Pulse, 2013).

In each case the relationship is represented by a line, known as an edge or arc, connecting the two 'interacting units' each known as a node. As data is added the network grows from one connection between two points (known as a dyad) into large network representations such as the 69 billion friendship links between 721 million Facebook users analysed by researcher at Università degli Studi di Milano, Italy in 2012 (Backstrom et al. 2012)

To create a representation of the information sharing network on Twitter for tweets using the hashtag #Syria, an 'edge' was created for each user that retweeted or mentioned another user. This enables us to see who is interacting with whom in the network. Most elements of the network visualization and analysis were conducted using Gephi, with additional analysis conducted using igraph in R and Networkx in Python, to check the calculations of network metrics.

To identify the network, an edgelist was created to allow network analysis. An 'edge' was created for each user that retweeted or mentioned another user. This is represented on the resulting graph as a line between the node which represents the user that created the original tweet and the node representing the user that retweeted that content.

The social network graphs built for this study represents how different users tweeted to each other about South Asia. Each node (O) represents one Twitter account (or Twitter user). Each edge (→) represents a tweet which goes from one user to another. We say "A's tweet goes to B or "A tweeted to B" (A → B) if one of the three cases occurred:

- User A **replied** to a post of user B (using Twitter "Reply" functionality);

- User A **retweeted** a post of user B (i.e. user A posted a copy of user B's post which indicated that B was the original author);

- User A **mentioned** user B in their post using Twitter's conventional symbol "@".

The thicker the edge from A to B is, the more times A tweeted to B (most of the edges are thin and represent only one tweet).

The graph created from this edgelist produced a network representation containing 408,678 users (nodes) 1,051,542 connections (edges). There are fewer edges than the number of retweets mentioned above because some users will retweet content from the same user a number of times. This is represented by the 'weighting' given to the edge between two users. The more often a user retweets the other, the greater the weight of that edge. Nodes in the network have an average degree (number of connections) of 2.573, and average weighted degree of 4.198. The full network had 8989 communities calculated by modularity class (resolution 1.0, Modularity 0.614). The network also has a density of 0.0006296. This indicates that this is a dispersed network and contrary to ideas of 'many-to-many' communication, the network using #Syria can be described as lots of 'few-to-few' interactions.

Within network analysis, one group of these metrics are measures of 'centrality'. Each *Centrality* measure provides a different perspective on how important (central) a node is within a specific network. There are a wide range of options for calculating centrality (Valente et al. 2008) but our study used three, Degree, Betweenness and PageRank to analyse the networks.

Degree:

Degree Centrality is, in simple form, the number of relationships which connect to a specific node. For example, if I had five friends and drew a network graph which represented these friendships, the node representing me would have a degree centrality of 5.

In formal terms, the degree of a node is the number of lines that are incident with it (Wasserman and Faust, 1994, p. 100)

Betweenness:

Betweenness centrality refers to how often a node lies on the shortest path between any two nodes in the network. Actors ranked highly on betweenness centrality, therefore, have the potential to influence others near them in a network (Friedkin, 1991), seemingly through both direct and indirect pathways. A node with high betweenness centrality can potentially influence the spread of information through the network, by facilitating, hindering, or even altering the communication between others (Freeman, 1979; Newman, 2003).

Thus, 'Betweenness Centrality' focuses on nodes that are both retweeted/mentioned by others *and* retweeted, mentioned someone else themselves. High betweenness often indicates a unique or nearly unique position bridging between one group of users and the rest of the network as all the shortest paths have to pass through that single user.

PageRank:

PageRank is a complex calculation of a probability distribution for nodes in a network. It calculates how likely a user is to reach a specific node from other nodes in a network. The full explanation for PageRank was presented in a paper "The Anatomy of a Large-Scale Hypertextual Web Search Engine" (Brin and Page, 1998) this paper set out the design of a system revolutionised the process of delivering web search results - Google.

A short hand way of thinking about PageRank is that the PageRank of 'node A' is influenced by the degree centrality of 'node A' in conjunction with the degree centrality of the nodes which connect to 'node A'.

The reason PageRank takes both these elements into account is that It uses the idea of a 'random surfer' finding their way across the internet by clicking a link on a web page, landing on the next web page and clicking a link which takes them to a third page and so on. Using the concept of the random surfer Sergey Brin and Larry Page (the 'page' in PageRank) applied the concept of the random surfer to web search through the 'intuitive justification'

that web pages "that are well cited from many places around the Web are worth looking at. Also, pages that have perhaps only one citation from something like the Yahoo! homepage are also generally worth looking at"(Brin and Page, 1998)

In our case, this logic could be restated; people who are retweeted a lot are worth looking at, as are people who were retweeted infrequently – but when they are it is by well known account – perhaps a BBC Twitter account, or @BarakObama for example.

Calculating PageRank requires the researcher to define the damping factor, how likely the 'random surfer' imagined by Brin and Page is to jump from browsing one interconnected set of pages to begin browsing another set of interconnected pages. For our use of PageRank the damping factor was set at (0.85 / 15%). This damping factor was selected as it was the level suggested in Brin and Page (1998) and also highlighted by Becchetti and Castillo (2006) who observed in their analysis of PageRank that the "typical damping factor used in practice is between 0.85 and 0.90".

Modularity:

Modularity is a form of statistical analysis of the network representation which measures how well a network can be decomposed into smaller sub-networks or 'modular communities' (Blondel et al. 2008). This highlights the smaller communities which are interconnected to a greater extent than they connect to the rest of the network.

Appendix 5 Summary of Facebook likes, Google PlusOne and in-links

URL	FaceBook likes	Google PlusOne
http://www.washingtonpost.com/blogs/worldviews/wp/2013/08/29/9-questions-about-syria-you-were-too-embarrassed-to-ask/	655000	1212
http://www.youtube.com/watch?v=eoMJJCVBCgo&feature=youtu.be	241000	0
http://www.bbc.co.uk/news/world-23892594	46000	336
http://www.independent.co.uk/voices/comment/does-obama-know-hes-fighting-on-alqaidas-side-8786680.html	101000	399
http://www.bbc.co.uk/news/world-middle-east-23777201	23000	176
https://Twitter.com/bhaggs	38000	0
http://rt.com/news/syria-crisis-live-updates-047/	11000	172
http://www.bbc.co.uk/news/world-middle-east-23803308	3800	53
http://www.cbsnews.com/news/us-preps-for-possible-cruise-missile-attack-on-syrian-govt-forces/	0	123
https://secure.unicefusa.org/site/Donation2?df_id=12460&12460.donation=form1&JServSessionIdr004=0hc5qtt4a2.app240a&utm_source=Twitter.com&utm_medium=post&utm_content=2013-08-30_12-00&utm_campaign=unicefusa	2500	0
http://www.bbc.co.uk/news/world-middle-east-23745201	3000	15
http://rt.com/news/russia-syria-chemical-attack-801/	4500	46
http://www.motherjones.com/kevin-drum/2013/08/how-rest-world-views-american-military	26000	114
http://www.youtube.com/watch?v=PTrpb4FNc7U&app=desktop	215	9
http://www.youtube.com/watch?v=MVUGow5atNg&feature=youtu.be	23	0
http://www.bbc.co.uk/news/world-middle-east-23782125	183	1

http://www.bbc.co.uk/news/world-middle-east-23877247#TWEET872513	3800	57
http://www.bbc.co.uk/news/world-us-canada-23859892#TWEET870429	2200	17
http://www.youtube.com/watch?v=RO2RBDDmbJA	218	0
http://www.unhcr.org/521628cf9.html	99	0
http://www.samiyusufofficial.com/syria/	12000	153
http://www.aljazeera.net/news/pages/aac451b0-9c2f-4042-a3d8-f95e74e6b368	80	58
http://www.mintpressnews.com/witnesses-of-gas-attack-say-saudis-supplied-rebels-with-chemical-weapons/168135/	63000	332
http://twibbon.com/support/syria-11/Twitter	2700	0
http://www.avaaz.org/en/syria_ceasefire_now_sam1/?twi	1900	0
http://english.alarabiya.net/en/News/middle-east/2013/08/28/Countdown-to-military-strike-on-Syria.html	725	23
http://www.virgin.com/richard-branson/learning-the-lessons-of-iraq	631	853
http://www.aljazeera.net/news/pages/45a1fb7b-d3f8-48f6-93bc-e8ce891e0590	160	67
http://www.aljazeera.net/news/pages/62457723-7773-4f56-953f-3c2fd28b5375	153	63
http://www.petercliffordonline.com/syria-news-3	57	259
http://tavernkeepers.com/al-qaeda-opens-a-third-front-in-syria/	17	0
http://www.mojahedin.org/newsen/28689	2	0
http://www.mojahedin.org/pagesEn/detailsnews.aspx?newsid=28565	1	0
http://english.alarabiya.net/en/News/middle-east/2013/08/21/Syrian-activists-at-least-500-killed-in-chemical-attack-on-Eastern-Ghouta.html	0	16
http://english.alarabiya.net/en/views/news/middle-east/2013/08/31/Why-does-Turkey-support-intervention-in-Syria-.html	0	6
http://www.mojahedin.org/newsen/28688	0	0
http://www.mojahedin.org/newsen/28767	0	0
http://www.mojahedin.org/newsen/28776	0	0
http://www.mojahedin.org/newsen/28777	0	12
http://www.mojahedin.org/pagesEn/newsdetails.aspx?newsid=28361	0	0
http://www.mojahedin.org/pagesEn/newsdetails.aspx?newsid=28480	0	0
http://www.mojahedin.org/pagesEn/newsdetails.aspx?newsid=28484	0	0

Appendix 6 Comparison of RT and BBC on Facebook:

Given the findings that RT_com appeared to generate greater levels of engagement from a smaller number of followers a brief comparative analysis was done on the respective Facebook pages. As this was tangential to the overall research it is presented here:

RT has fewer 'likes' than BBC on Facebook, just as RT has fewer followers than BBC on Twitter.

- BBC News - 3.2m likes
- RT - 1.2m likes

However:

When it comes to engagement - the data shows RT has a greater number of people 'talking about this" in absolute terms than the BBC - despite the much fewer 'likes' (2 million fewer).

- BBC News - 143,753 'people talking about this'
- RT - 177,908 'people talking about this' (these numbers can be found on the respective facebook pages)

("talking about this" is the Facebook term for posting about a specific page - in this case the RT facebook page) .[32]

Russia Today also has a far greater level of engagement as a proportion of their 'likes'. As RT has higher talking about numbers in aboslute terms and lower 'likes' when compared to the BBC, they inevitably have a greater ratio of users who like RT who have 'talked about' the RT page in the last 7 days.

- BBC -> 4.4% of people who have 'liked' BBC on Facebook have created a story on their own Facebook page in the last 7 days.
- Russia Today -> 14.8% of people who have 'liked' RT have created a story on their own Facebook page in the last 7 days.

---

[32] See for example: http://www.insidefacebook.com/2012/01/10/people-talking-about-this-defined/
http://webmarketingtoday.com/articles/7-Keys-to-Facebooks-People-Talking-About-This/

References:

Becchetti and Castillo (2006) http://wwwconference.org/proceedings/www2006/devel-www2006.ecs.soton.ac.uk/programme/files/pdf/p126.pdf

Vincent D. Blondel, Jean-Loup Guillaume, Renaud Lambiotte, Etienne Lefebvre - *Fast unfolding of communities in large networks* (2008) http://lanl.arxiv.org/abs/0803.0476

Report on the Alleged Use of Chemical Weapons in the Ghouta Area of Damascus on 21 August 2013, United Nations Mission to Investigate Allegations of the Use of Chemical Weapons in the Syrian Arab Republic (13 September 2013)

Kenney, J. F. and Keeping, E. S. "Moving Averages." §14.2 in *Mathematics of Statistics, Pt. 1, 3rd ed.* Princeton, NJ: Van Nostrand, pp. 221-223, 1962

Hugh Mackay, 'Understanding Impact', The Open University, May 2012

Cha, M, Haddadi, H, Benevenuto, F. and Gummadi, KP (2010) 'Measuring User Influence in Twitter: the Million Follower Fallacy' *Proceedings of Fourth International AAAI Conference on Weblogs and Social Media.* pp 10-17.