

The following is a chapter of my thesis. This chapter includes details of two case studies (Reddit's coverage of Wikileaks' release of US diplomatic cables and Reddit's coverage of SOPA) and also an experiment designed to assess the performance of Reddit's voting system and whether presented scores affect reader perception.

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1 The Social Significance of Social News

Previous chapters have considered how Distributed Moderation works, who the participants are and how they behave. This chapter will build on this knowledge of how DM works and consider how the nature of the DM infrastructure influences the resulting product. Where previous chapters have considered large data-sets representing all of the activity for a given period of time this chapter will consider narrowly defined case studies in much greater detail.

This chapter is focused entirely on `reddit`, because for the `Stack Exchange` websites the picture is much clearer - these websites receive questions and provide a framework through which they can be answered and the resultant knowledge organised. The `Stack Exchange` websites seem to meet their purpose well, and their broader social significance comes from providing access to such expert knowledge to anyone for free - this will be discussed further in the final chapter.

The broader social significance of `reddit` is more difficult to pin down, because it is intimately related to what `reddit`'s users choose to put on the website's Front page. `reddit` is described here as a 'Social News' website, and `reddit`'s broader social impact is perhaps more likely to come from subreddits which deal with content that is more serious or 'news-worthy' - than subreddits which deal with content of a humorous or entertaining nature. With this in mind, the decision was taken to study the coverage of particular news stories on `reddit` - to find out whether `reddit` can be said to 'cover' a story in the same manner as a conventional media outlet, and what the specific characteristics of `reddit`'s 'coverage' might be.

The initial approach here was to study coverage of the story on `reddit` and through a selection of conventional news sources (i.e. newspapers and television news channels) - comparing the nature of coverage from each source. However, it quickly became clear that understanding how these stories unfolded on `reddit` would require a significant investment of time - and that there was effectively no limit to the time which could be invested in exploring this. In analysing a newspaper's coverage of a story one is limited to analysing the materials which were actually published, but on `reddit` one has access to all of the posts which did not reach the Front page and one can also look at the process whereby some posts but not others were selected to appear on the Front page. It was therefore felt that research time would be better spent on `reddit` as DM websites are the focus of the research and the systems to gather data from `reddit` were already in place (whereas no procedures were in place to collect the text of newspaper articles).

Where comparisons are made between `reddit` and conventional news we therefore rely on a general understanding of how newspaper articles or television bulletins tend to be presented - e.g. Glasgow Media Group (1976). There are aspects of `reddit`'s 'coverage' (e.g. the prevalence of swearing) which are obviously distinct from what one would expect of a conventional news source. Such major discrepancies between coverage on `reddit` and in the conventional news media can be identified based on prior experience without the necessity of studying a specific newspaper's coverage of this particular story. In fact the predominance of major differences in style and content would make it difficult to conduct a direct textual comparison between `reddit` and newspapers. We must also bear in mind that much of `reddit`'s news coverage comes in the form of links to external sources (including newspapers' websites) and in this sense `reddit`'s coverage subsumes that of the conventional news media. A more fruitful approach here is to consider the types of source which are linked to as part of `reddit`'s coverage (be they newspapers, blogs, videos, etc.) and what these sources have to say about the story in a general sense - rather than becoming mired in a detailed

textual analysis of the specific sources linked to by **reddit** posts as compared to some other set of sources which would be taken as representing the conventional news media.

It is also important to bear in mind that as **reddit**'s userbase and profile have grown the website will increasingly play a part in the broader 'hybrid media system' which characterises countries like the USA and UK where most of **reddit**'s users live (Chadwick, 2013). There is little or no published research on this, but building on previous Chapters it is safe to conclude that **reddit** already demonstrates back-and-forth interplay with other media. Many of the posts on **reddit** are themselves links to media on other platforms both older and newer (e.g. TV/Newspaper websites, youtube, twitter, blogs) and we can assume that when these posts fare well they boost the amount of attention the items will receive. Is there any evidence that elite actors from the older media are now paying attention to **reddit** in the same way that they monitor **twitter** and a selection of blogs? (Chadwick, 2013)

The Hybrid Media System as described by Chadwick (2013) leaves little room for non-elite actors ('members of the public') to influence the makeup or reporting of the news. On occasions where this does occur it tends to be through the remediation of elite actors from the older media, who hence retain their role of 'gatekeepers' of the news. One example described involved a blogger who conducted their own investigation of a source for a major story, then tweeted about their blog, had their tweet re-tweeted such that it was seen by a Channel 4 News reporter and hence had an affect on that story through this avenue. Chadwick (2013) also reports an interview with a blogger who deliberately followed such a strategy, and who acknowledged that their blog's primary target audience was a small coterie of journalists who may pick up on the blogger's stories and channel attention back to the blog through a link in their own report. There was also some ambiguity expressed about whether newer media has the capacity to 'break' a story or whether this requires the involvement of an elite actor.

"I don't think putting up a tweet or a blog post is breaking a story, except in some technical sense... The point at which it's broken is by the mainstream media, not the tweet but the whole story." - Will Straw, *Left Foot Forward* (Chadwick, 2013, p. 172)

Social News websites focus their users' attention on the Front page, and this is akin to a broadcasting mechanism. Can a website like **reddit** effectively break a news story by directing enough attention to it that it becomes impossible for older news media to ignore? In the US Election of 2008 Television news heavily influenced social media discourse (Chadwick, 2013) - does coverage of a story on **reddit** exert any detectable level of influence over discourse on services like **Twitter**?

Chadwick (2013) also explores new variations on collective action which the social side of the hybrid media system makes possible. One such organisation of particular interest, based in the UK, is *38 degrees* - and Chadwick (2013) describes this as following a similar structure to *MoveOn* in the USA. The organisation which runs *38 degrees* creates campaigns and requests 'actions' of its 'members' - with members indicating on the website that they intend to participate by performing these actions.

"Members are asked to sign online petitions or send e-mails and make phone calls to their MPs. They are asked to show up physically at lunchtimes to protest in front of buildings around the country, as they did in 2010 against proposed cuts to the BBC. They are asked to organize flash mobs at parties' local constituency campaign gatherings, as they did in several targeted seats during the 2010 general election, to

raise awareness of the lobbying industry.” (Chadwick, 2013, p. 172)

38 degrees does not follow the ‘peer production’ model whereby all users are essentially equal - but rather has a clearly defined leadership who set the agenda and decide which actions are placed on the website. The relationship between *38degrees* leaders and members is an unusual one and could be described as analogous to a politician and their electorate or a marketer and their market. Leaders pay very close attention to the discourse of their members in determining which actions to attempt, and members ‘vote’ to determine the actions that will be selected by indicating their intent to participate. Leaders ‘test’ ideas by emailing them to small samples of the member list - using early (non-)responses to determine whether a nascent action should be abandoned, and even sending out multiple versions of the email which frame the issue in different ways to determine which framings resonate with ‘members’.

A relatively small staff monitors the hybrid media system and in particular members’ attitudes towards the news stories dominating the ‘political information cycle’. They formulate actions which members might take that could move the situation/story in a favourable direction. *38 degrees* does not attempt to set the agenda for the news - but takes its lead from the news as this is where the thoughts of its members are also likely to be (Chadwick, 2013). This suggests one framing through which the case studies presented here could be considered - does **reddit**’s News content follow trends in the mass media, or does **reddit** attempt to set its own agenda?

It should be noted that by late 2012 **reddit** appeared to be moving away from ‘news’ type content in favour of entertainment, a trend which will be probed further in chapter 8. If one looks at the default Front page for the first time now, in late 2012, it may be difficult to imagine this same default Front page playing host to the case studies outlined below. Furthermore, in late 2012 I would not argue that **reddit**’s broader social significance comes from its coverage of ‘news’ stories but rather the primacy of user-generated content.

After looking at the characteristics of ‘Social News’ through two case studies we will also consider the performance of **reddit**’s voting system in its task of allowing users to collectively determine which posts are ‘the best’ - this is achieved through a content-rating experiment.

Some of the research questions to be addressed in this chapter are as follows:

- Can **reddit** be said to ‘cover’ a particular news story in a similar manner to the conventional news media? What are the specific characteristics of **reddit**’s ‘coverage’ which distinguish it from coverage provided by conventional news organisations? Does **reddit** take its lead from the conventional news media or does it set its own agenda? How might **reddit** mesh with the wider Hybrid Media System (Chadwick, 2013)? Case studies of two stories (**Wikileaks**’ release of US diplomatic cables in section 2 and the Stop Online Piracy Act in section 3) will be employed to address these questions.
- How does **reddit**’s up/down voting system cope with a divergence of opinions on a topic amongst its users? Does the ‘majority rule’, or is there room for conflicting opinions to be expressed and attended to? Sunstein (2002) puts forward a convincing argument for the importance of being exposed to a range of conflicting perspectives on a topic (see section ??), is this something that Social News websites can provide? Section 2 considers this question in the context of the **Wikileaks** story.
- How well does **reddit**’s voting system perform in its task of ranking items of content ac-

ording to the judgments of its users? Section 4 addresses this issue with an experimental approach.

- **Reddit's** voting system allows users to collectively rate each post and determine how visibly it will be displayed. Can this same voting system be utilised as an organisational tool? Are **reddit's** users capable of collectively making higher-order decisions and implementing these? Section 5.1 investigates one case where high-scoring posts urge users to take a particular course of action which is amenable to empirical scrutiny.

In this Chapter a variety of methodological approaches are utilised - each case study was conducted in a different way to probe different questions and an experiment has been conducted to investigate the performance of **reddit's** voting system. For the first case study, concerning **Wikileaks**, the principal approach was to categorise posts and analyse these classifications in order to address questions about the treatment of minority opinions on **reddit**. For the second case study, concerning the Stop Online Piracy Act, a different approach was adopted. This approach involves recounting the story's coverage as it unfolded, in much more detail than for the **Wikileaks** case study and with more emphasis on the timing of events.

2 Reddit's coverage of a story - Wikileaks' release of United States' diplomatic cables in November/December 2010

This section concerns a case study of **reddit's** coverage of the release of United States' diplomatic cables by **Wikileaks** in November/December 2010. A study period of 4th November to 27th December 2010 was selected. This time period covers some time before the release of the first batch of cables, in which charges of rape or sexual misconduct were brought against **Wikileaks'** spokesperson Julian Assange. This time period also incorporates several weeks following the release of the first set of diplomatic cables, where reports about the cables constituted a considerable proportion of the output of the conventional News media. By the end of this study period coverage of this story in the conventional news media had subsided considerably, but isolated articles related to the story did continue to appear during January 2011.

Some of the themes to the conventional news media's coverage of this story are as follows:

- The rape allegations brought against Julian Assange on 18th November 2010 and subsequent extradition proceedings brought against Assange.
- The release of the first batch of diplomatic cables on 29th November, and a large number of articles about the content of individual cables.
- The reaction of governments to the release of the cables; most notably the United States' government's condemnation of the release of this sensitive diplomatic information; and discourse among American public figures about whether the release of this information represented (or should be treated as) a criminal offence.
- The severing of ties to the **Wikileaks** organisation by several large corporations; including the decisions of Paypal and Visa to stop processing donations for **Wikileaks** and the decision of Amazon to stop providing web hosting for **Wikileaks**.

- Distributed Denial of Service attacks against Wikileaks’ website in the first instance, and against those companies which severed ties to Wikileaks in the second instance (in this case being orchestrated by the ‘Anonymous’ group).

Chadwick (2013) presents a much more detailed account how this story unfolded, the timing of events, and also insight into the evolving relationship between Wikileaks and its older media partners.

The key words ‘wikileaks’ and ‘assange’ were selected, and for a post or article to be included in the study its title or headline had to include at least one of these key words.

Data to be analysed from reddit comes from several front end sources. A complete record of all Front page posts is available; in the study period there were 249 posts with a key word in their title which appeared on reddit’s Front page - these posts received a combined total of 87,416 comments. During the study period the ‘politics’ subreddit was being monitored - so a record of almost every post submitted here is available, along with observations of its voting performance on reddit, its comments, and the voting performance of each of these. In total there were 3,093 posts submitted to the politics subreddit during the study period with at least one key word in their title. These politics posts received a combined total of 43,921 comments.

Four newspapers were selected for the purpose of comparison; *The Guardian*, *The New York Times*, *The Independent* and *The Times*. A total of 270 articles appeared in these newspapers during the study period with at least one key word in their headline. Analysis of the content of these newspaper articles has not been conducted, and only the timing of their publication is considered.

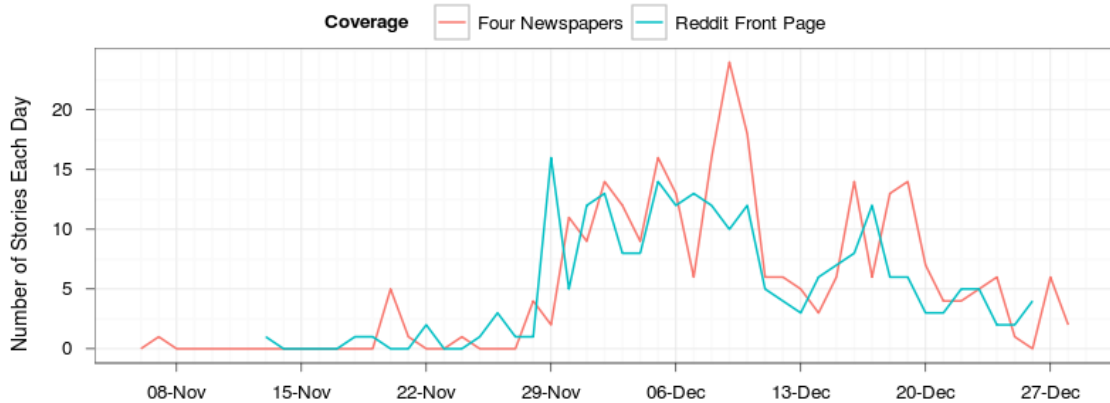


Figure 1: Showing the number of ‘Wikileaks’ posts per day which appeared on reddit’s Front page and the total number of stories per day in the four selected newspapers.

Figure 1 shows the number of articles per day of study which appeared on the reddit Front page and for the four newspapers which were selected. This graph reveals a strong correlation between sources in terms of the number of articles per day about the topic. This suggests that reddit users, through the voting system, have afforded this story a similar level of coverage to the newspapers being observed. It should be noted that many of the articles from the four newspapers being observed come from *The Guardian* and *The New York Times*, these newspapers were among a small group to be provided with the diplomatic cables in advance of their release, and as such the

level of coverage afforded to the story by these newspapers is not typical of newspapers in general. The majority of these **reddit** posts are link posts (they consist of a title which links to an external source). Figure 2 shows the types of source which were linked to by Front page posts, a good starting point for consideration of how **reddit** is integrating with the Hybrid Media System (Chadwick, 2013). ‘Old’ media sources such as the websites of newspapers and television news channels account for 50 and 21 Front page posts respectively. ‘Web articles’ (articles written by professional journalists for websites which do not have an off-line equivalent) are the most popular source being linked to by Front page posts (with 61 posts linking to these sources). Blogs account for 23 Front page posts, 17 link to **Twitter** streams and 6 link to **Youtube** videos.

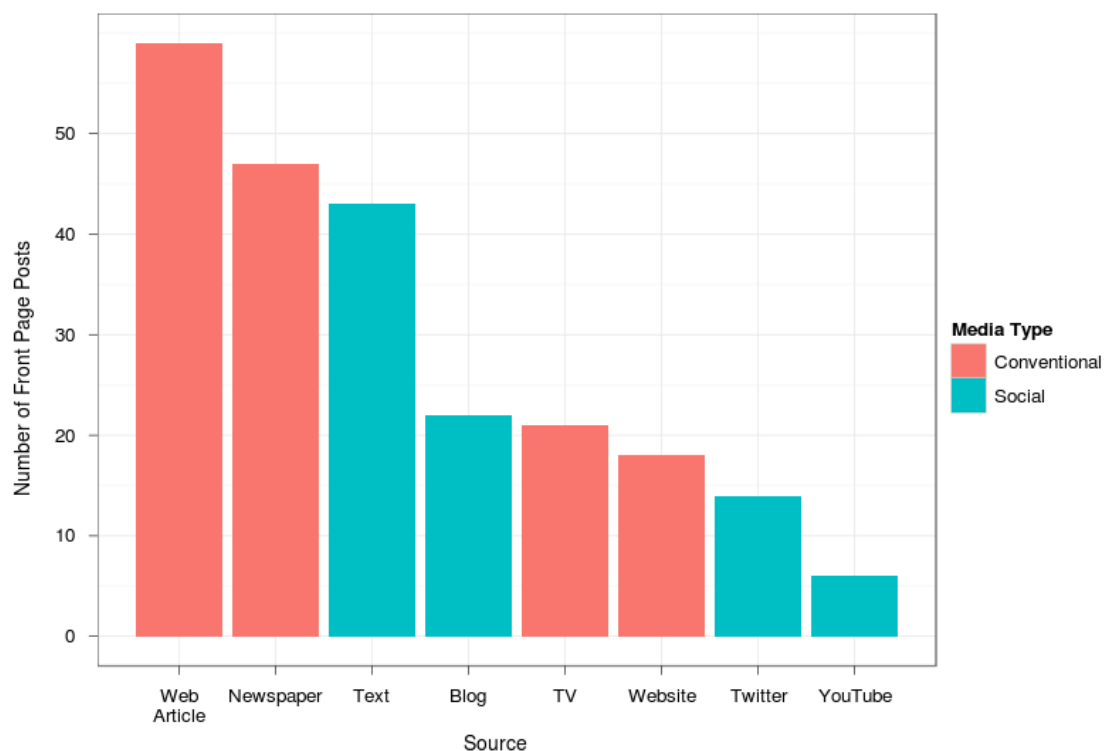


Figure 2: Showing the sources linked to by Front page posts on **reddit**

19 Front page posts link to websites (i.e. the Main page of another website) - many of these are links to the **Wikileaks** website itself. These links were submitted when **Wikileaks**' domain names were revoked or it was forced to change servers - for example several are links to IP addresses where the website could be accessed when it did not have a domain. These posts can be thought of as a counter-measure against efforts to take the website off-line. When a domain was revoked or a hosting account cancelled, the **Wikileaks** organisation moved their website to another location, and through Social Media (e.g. **Twitter** and **reddit**) they could quickly spread word of this change. These cases represent one instance where **reddit**'s users, through the voting system, have determined that **reddit** will become directly involved in this story. In placing a link to the IP address or domain name where the **Wikileaks** website could be found *at that moment* on its Front page, **reddit**'s users were actively working against the various actors who sought to make the **Wikileaks** website inaccessible.

A similar series of events is described by Chadwick (2013, p.95) in relation to **Wikileaks** in 2008 - where their domain name was revoked after a legal ruling and the *New York Times* and CBS

News published the IP address for Wikileaks' server. This could therefore be thought of as **reddit** emulating past behaviour of an elite older media entity. In the face of Distributed Denial of Service attacks and pressure on companies to revoke hosting, the IP address for Wikileaks server was much more dynamic in this case - and perhaps **reddit's** perpetually rolling Front page was well suited to this task, enabling fresh posts to appear on the Front page shortly after a new IP address was announced.

There were also popular posts which called on **reddit's** users to participate in endeavours which aimed to make use of the leaked diplomatic cables, new subreddits were quickly established where work on these projects could be co-ordinated (/r/Leakspin and /r/WikileaksAnalysis) but these endeavours failed to acquire the critical mass of willing volunteers which would have been required to sustain them. **Reddit** also features posts about 'Operation Payback' - the series of Distributed Denial of Service (DDoS) attacks orchestrated by the hacktivist collective 'Anonymous'. Chadwick (2013) describes this operation as follows:

"These actions were an essential aspect of the hybrid media system. They were a show of strength of sorts, by the members of an online anti-leader network who had become politicized and who were willing to take personal risks in order to demonstrate their support for transparency, freedom of expression, and the principle of whistle-blower anonymity." (Chadwick, 2013, p. 108)

Reddit has in the past directly covered 'Anonymous' endeavours on a number of occasions, with the nature of this coverage ranging from announcements or appeals for participation to reports on successful 'operations' and latterly the arrest of participants and the subsequent consequences.

This eagerness to become directly involved in the story as it develops is one way in which **reddit's** coverage differed to that of the conventional news media - which tends to maintain a level of detachment from the story (with occasional exceptions such as that described above).

48 of the Front page posts relating to this story are 'self' posts - text entered directly on **reddit** by a **reddit** user. These represent an interesting category of content - they can be thought of as an equivalent to editorials or letters to the editor in newspapers. The difference is that in **reddit's** case the users who submit these pieces can also be involved (through the voting system) in making the decision as to which opinions are 'published' on the Front page.

All Front page posts and a random sample of posts to the politics subreddit have been classified along a number of criteria: the subject of the post, its tone in relation to this subject, the source the post linked to, and the type of resource being linked to. Presented below is a breakdown of the subjects of posts which reached the Front page and the tone of the post with regard to this subject (tone is rated on a 5 point scale, from very negative to very positive, with a separate 'direct' classification for posts which link directly to a web resource produced by the subject of the post - e.g. links to Wikileaks' current domain or IP address).

A random sample of 20 items were also rated by a colleague to generate a measure of reliability for these classifications. Only the subjects and tones of posts were rated by the second rater. Cohen's KAPPA (Kvalseth, 1989) was used to measure inter-rater reliability as this is a suitable statistic for both ordinal and nominal ratings. For the subjects of posts (a nominal variable) Cohen's KAPPA was calculated to be 0.61 (s.e. 0.12) and there was agreement on 13 of the 20 items. Cohen's KAPPA was also calculated for the tones of the 13 items on which the same subject had been selected (with the variable being weighted linearly because it is ordinal), on this variable

the KAPPA statistic was 0.63 (s.e. 0.12) and the maximum distance between the two sets of ratings was 1 point on the scale. Both of these KAPPA values represent ‘substantial’ agreement, according to Landis and Koch (1977). Given that the second rater was not familiar with `reddit` or `reddit`’s coverage of this story this level of inter-rater reliability is sufficient evidence that these classifications are reliable.

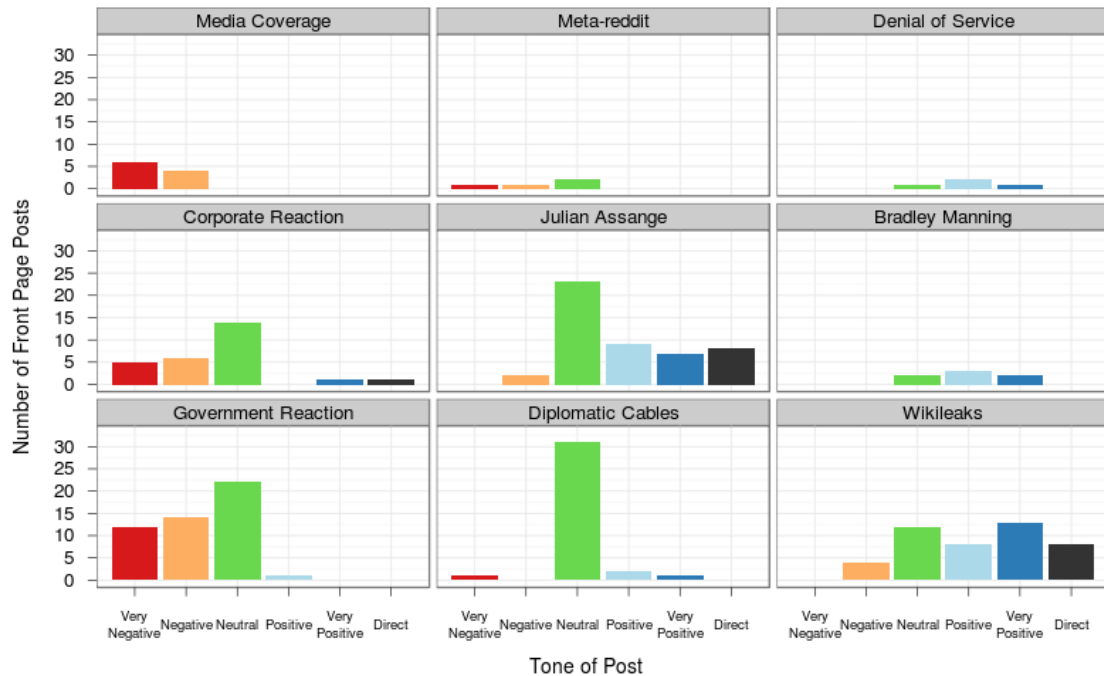


Figure 3: Showing the subject of Front page posts and the tone of the item being linked to with regard to this subject.

Figure 3 suggests that many posts which reach the Front page are neutral with respect to their subject. It does appear however that posts which concern the governments’ reaction to the release of the cables, or the reaction of large corporations (e.g. Paypal, Visa), or the coverage of the story by the mass media - are more likely to be negative than positive. Posts which appear on the Front page that concern Julian Assange or the Wikileaks organisation are more likely to have a positive tone. To take the posts which relate to the Wikileaks organisation as an example: 10% are negative, 32% are neutral, and 58% are positive. One important question to ask is whether these figures reflect the opinions of `reddit` users?

These measures suggest that `reddit`’s users are largely pro-Wikileaks, and critical of the government/business’ reaction to the leaks. There are however a small number of posts which go against this trend, suggesting that `reddit`’s coverage of the story is not entirely one-sided. Posts which link directly to their subject are most likely to concern Wikileaks or Julian Assange. In the case of posts concerning Wikileaks these are links to the current domain/IP where the website could be accessed, or links to announcements on Wikileaks’ twitter stream. In the case of posts concerning Julian Assange they are links to interviews conducted with him or articles/blog posts written by him.

The next question to ask is whether this bias in terms of Front page coverage is a reflection of a bias among `reddit` users, and if so how strong might this bias be? In the absence of reliable

information about the opinions of `reddit` users the profile of text posts submitted to the politics subreddit will be taken as an indication of `reddit` users' opinions. These text posts come directly from `reddit` users and therefore should provide a good indication of the opinions of `reddit` users who submit posts and are active on the politics subreddit. They are also perhaps more likely to espouse a tone which is either positive or negative with regard to their subject. One must however bear in mind that in Chapter 6 we saw that users who submit posts and users who vote are to some degree separate populations.

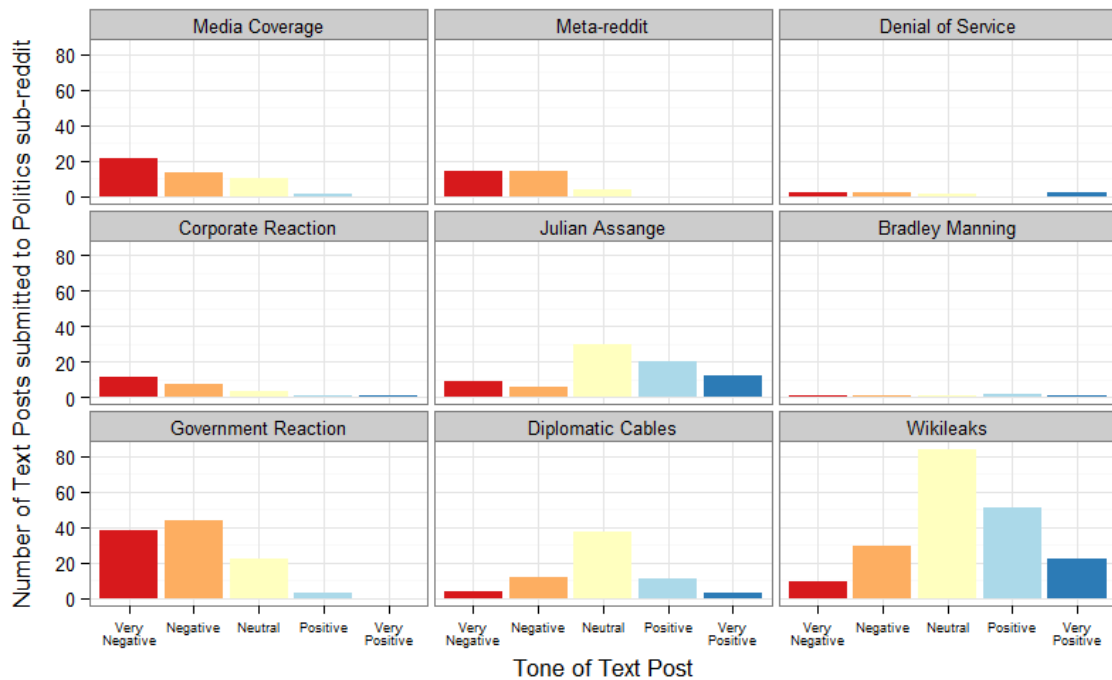


Figure 4: Showing the subject of text posts submitted to the 'politics' subreddit and the tone of these posts with regard to their subject.

Figure 4 suggests that text posts are indeed more likely to adopt a tone which is not neutral with regard to their subject, and that posts which are negative or critical of their subject are more common than those which are positive. In relation to `Wikileaks` and Julian Assange there is much greater variety in the tones espoused by these posts than on the Front page - suggesting greater diversity in the opinions of `reddit` users than the Front page would indicate. To return to the example of posts about the `Wikileaks` organisation; here 19% of posts are negative, 43% are neutral and 37% are positive. On the subjects of government/corporate reaction to the leaks and media coverage of the story, opinions seem to be more one-sided, with very few posts having a positive tone in relation to these subjects.

Posts which have been classified as 'meta-reddit' represent a particularly interesting type of content. These are posts which address coverage of the story *on reddit*, usually in a critical manner - the most common criticisms in this case being that there are too many prominent posts about the `Wikileaks` story, or that posts about the `Wikileaks` story are too one-sided and out of touch with the general population. These 'meta' posts which address some aspect of `reddit`'s collective behaviour are relatively common on the website. ¹ Indeed it is quite common to see a number

¹Over time this kind of post has become less common on `reddit`'s default Front page, by 2013 they have become rare.

of posts on **reddit**'s Front page about a particular topic, alongside a post criticising the current popularity of said topic. For one example of this see redd.it/n0iaf, which appeared on the Front page through **/r/funny** and referenced a trend on **/r/atheism** over the previous days whereby individuals would make posts offering to donate a certain amount to a charity for each up-vote they got (and would receive a lot of up-votes).

Reddit users actually devote quite a lot of time to discussions about the nature of the website; with many users citing the downsides of the **reddit** 'hive mind'. These users seem acutely aware of the possibility that the website's voting system has a particular effect on the discourse which takes place there, and caution against being swept along by the tide of popular opinion on the website. Whether these 'meta' posts actually affect user behaviour in the long run remains to be seen; but they are undoubtedly a fascinating aspect of the activity on **reddit**. The effectiveness of 'meta' posts as a form of self-regulation is considered further in section 5.

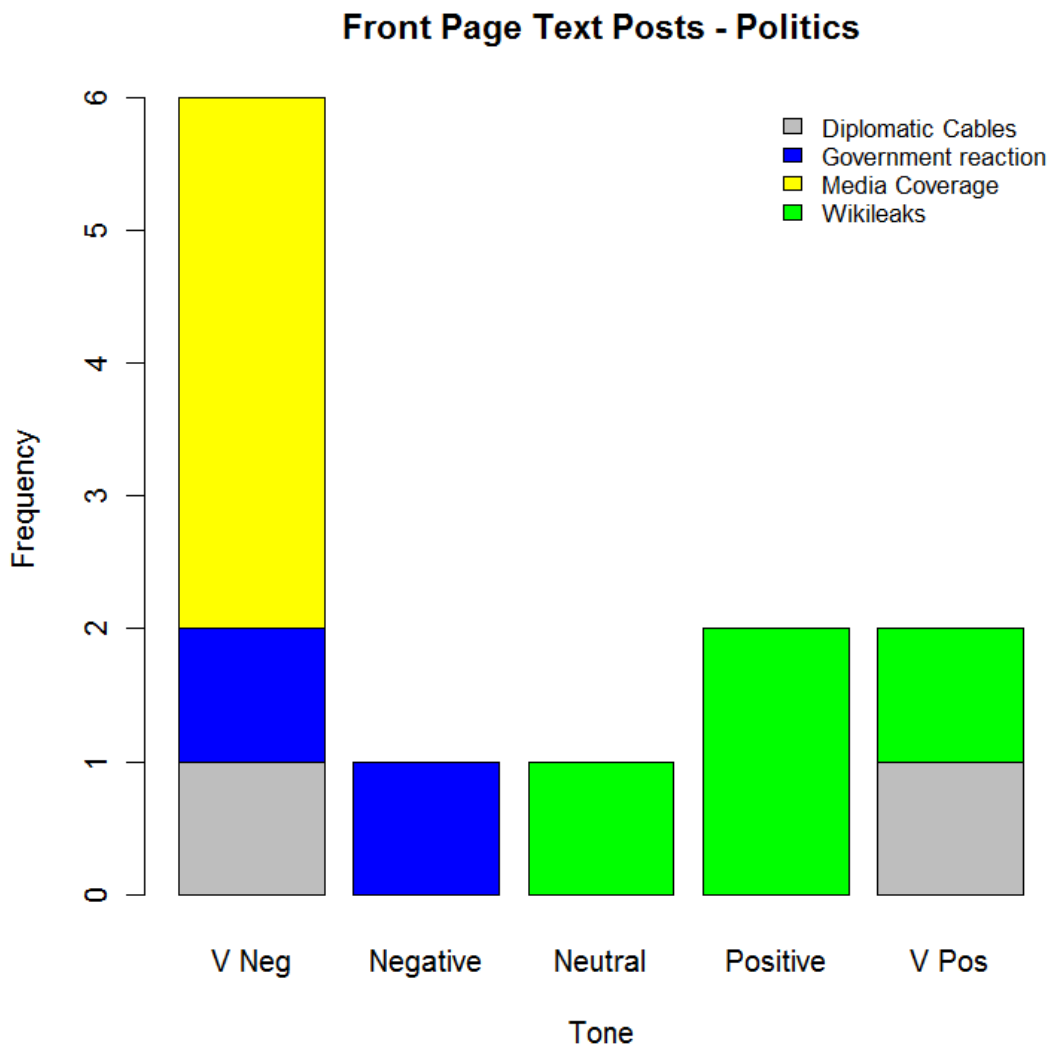


Figure 5: Showing the subjects and tones of the politics text posts which reached the Front page.

Figure 5 shows the subjects and tones of the twelve politics text posts which reached the Front page. Posts which are very critical of the mass media's coverage of the story seem to have been received particularly well through the voting system. Most of these posts that reached the Front

page fit with the general pro-Wikileaks tendency of reddit users; none of the text posts which espouse a negative opinion on Wikileaks or Julian Assange reached the Front page. There is one exception to this trend among these twelve posts, a post which was very critical of the release of the diplomatic cables. This was a long and well written post about the negative ramifications of the cables' release in terms of future diplomacy (redd.it/ed1ub). The presence of this post on the Front page suggests that discourse about the topic displayed on reddit's Front page was not completely one-sided. This post also highlights another trend in this data; text posts which are well written tend to receive more positive responses; poorly written posts are unlikely to attract up-votes regardless of the opinions they voice. It is likely that a measure of writing style or quality would prove useful in further analyses of text posts on reddit.

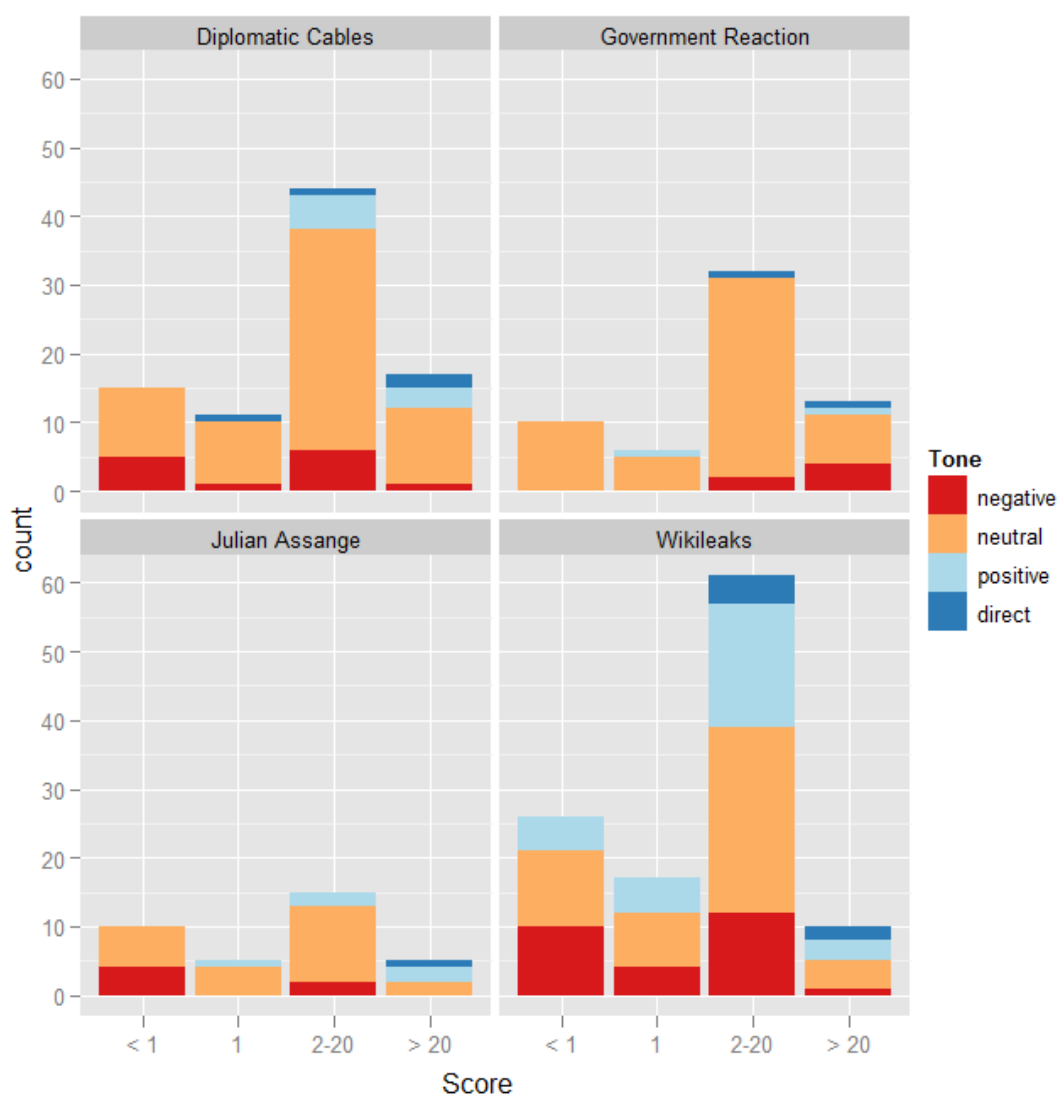


Figure 6: Showing the final scores of a sample of posts submitted to the politics subreddit - with each pane representing posts about a particular subject (only the four most common subjects are shown) and the bars being coloured to reflect the tone of these posts in relation to their subject

The final scores (converted to a four-level ordinal variable) of the 297 politics posts which have been classified are shown in figure 6. For this plot, tone has been collapsed to a 3-level ordinal variable and the 'direct' nominal category has also been retained. If reddit's users were deliberately

excluding posts based on their subject and tone one would expect to see a much clearer trend in this plot. For example, if **reddit** was suppressing negative opinions about the **Wikileaks** organisation then we would expect most of the posts about **Wikileaks** to have received a negative score - but in this data posts which espoused a negative tone in relation to **Wikileaks** were just as likely to achieve a score of between 2 and 20 as a negative score, and one of these posts falls into the highest score band.

One must also bear in mind that the comments pages for popular **reddit** posts receive many comments - and within the ranks of high-scoring comments one will often see a range of opinions (and in turn counter-points to these in 2nd-level comments). A small sample of 189 comments from the **Wikileaks** data-set were coded according to their relationship with their parent post/comment - and of these 70 (33%) were classed as disagreeing with their parent, 13 expressed support (with argument/reference), 8 expressed agreement, 4 provided evidence counter to its parent and 3 sought to develop the ideas of their parent.

Reddit's voting system may marginalize minority opinions to some degree but in the case of **Wikileaks** coverage these do not seem to have been deliberately excluded from prominent locations. **Reddit**'s voting system does not seem to preclude the possibility of this happening; it would therefore appear that **reddit**'s users collectively do not wish to entirely exclude opinions they disagree with. **Reddit**'s page of etiquette guidelines ('reddiquette') states that users should not 'Downvote opinions just because you disagree with them'. Perhaps **reddit**'s users follow this guideline more than they give each other credit for - posts and comments which bemoan the **reddit** 'hive mind' are common, and often cite the exclusion of minority opinions as one of the community's failings.

In relation to the **Wikileaks** story there were at least two popular posts where the author made reference to the 'hive mind' and explained why they disagreed with it (redd.it/eg7l4 and redd.it/emSYM). The fact that this type of post can be up-voted to the Front page is further evidence against the dominance of a 'hive mind' on **reddit**; or at the very least an indication that the 'hive mind' values criticism which explicitly addresses it.

3 **Reddit and the Stop Online Piracy Act**

This section details a case study of **reddit**'s 'coverage' of the Stop Online Piracy Act (or SOPA); a piece of legislation which was being discussed by the United States House of Congress in late 2011 and early 2012. The Stop Online Piracy Act included several measures which, ultimately, proved distasteful to many Internet users and technology companies/organisations. Among its more controversial aspects SOPA would have partitioned the web into two categories, domestic and foreign websites; and would also have allowed for sites which are accused of facilitating copyright infringement to be censored in various ways (e.g. removed from DNS routing systems, removed from search engine results, cut off by payment providers). The legislation which came to be known as SOPA (having been formerly referred to as the E-PARASITE Act) had a similar counterpart in the United States Senate; called Protect Intellectual Property (or Protect IP or PIPA). A detailed analysis of this legislation is beyond the scope of this case study - which instead will focus on **reddit**'s 'coverage' of this story and consider the various 'Internet Campaigns' which occurred around these issues, and the role which **reddit** played in these campaigns (BBC, 2011).

The time period which this case study will consider runs from October 27th (when the first post about SOPA was observed on the **reddit** Front page) until February 3rd (a somewhat arbitrarily chosen date after SOPA itself was shelved and **reddit**'s focus began to shift away from Internet-regulating legislation). The focus here is on **reddit**'s default Front page, only considering those posts which have been observed on the first leaf (i.e. with a rank of 1-25) of the default Front page. For the most part the case study relies on observations of the default Front page which are recorded at 30-minute intervals. However, from January 3rd until January 18th the data-collection server was offline and this gap in Front page records has been filled through reference to a 3rd-party website which maintains a record of daily high-scoring posts on **reddit** (www.redditarhive.com).

The records of **reddit**'s Front page were first filtered to create a smaller data-set including only those posts which had a relevant key-word in their title. The key words selected are as follows:

- E-PARASITE (another name for SOPA used earlier on in the study period)
- SOPA
- Stop Online Piracy
- PIPA
- Protect IP
- GoDaddy (to include posts regarding a boycott of the GoDaddy domain name registration company - see section 3.4.1)
- Rob Zerban, Paul Ryan & Lamar Smith (to include posts regarding certain politicians who were referenced repeatedly in relation to this story - see section 3.5)
- Blackout (to include posts regarding a blackout of websites in protest of SOPA/PIPA - see section 3.6.2)
- ACTA (to include posts regarding the international Anti-Counterfeiting Trade Agreement - see section 3.7)

The initial set of keywords have been expanded to include posts regarding stories which are directly related to SOPA coverage on **reddit**. For example, GoDaddy (a large company which provides domain name registration and website hosting services) has been included as a keyword because redditors were instrumental in organising a boycott of this company over its support of SOPA - there were subsequently many posts about the GoDaddy boycott and not all of these made explicit reference to the reason behind the boycott (SOPA support). See section 3.4.1.

Similarly, several US politicians rose to prominence on **reddit** through their support of or opposition to SOPA and were then the subject of posts which did not reference SOPA explicitly (see section 3.5). Also, while coverage of SOPA and PIPA is the main focus of this study, towards the end of the study period **reddit**'s attention branched out to include a range of other 'Internet regulation/censorship' topics, hence the inclusion of ACTA as a key word - see section 3.7.

After the removal of false-positive matches there were 259 posts which matched one of the keywords that were observed at least once on **reddit**'s Front page during the study period. Figure 7 shows the number of these posts which appeared on the default Front page on each day of the observation period. This figure suggests that coverage of the story saw a surge in the second half

of November 2011, followed by a lull in early December and then a high number of SOPA-related posts on the Front page each day for the remainder of the observation period.

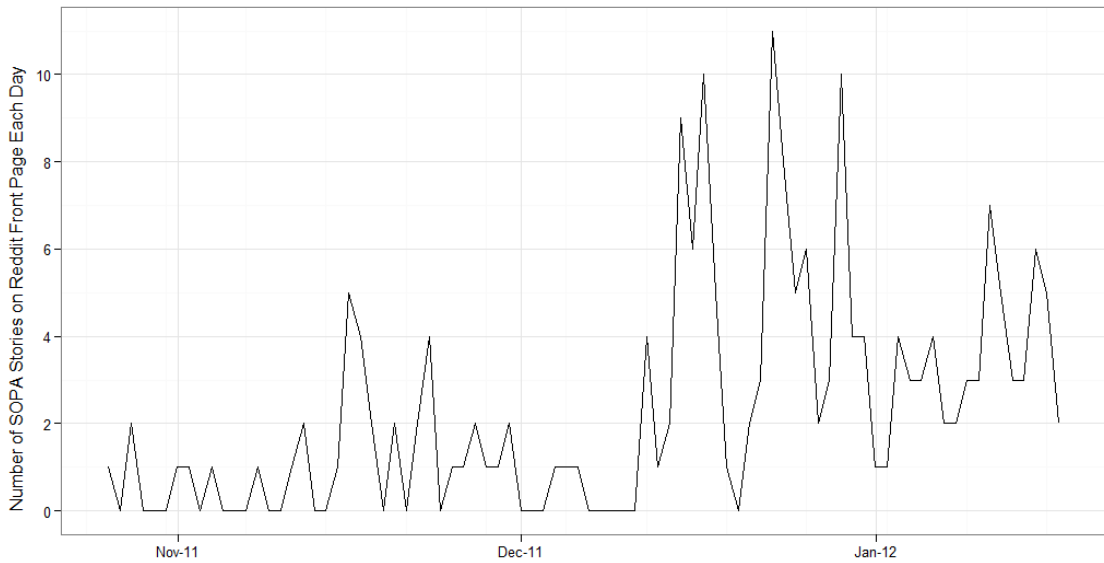


Figure 7: Showing the number of posts about this story appearing on reddit’s default Front page per day

The study proceeded by scrutinising each of these posts (and their comments page) in chronological order - categorising these with regard to the nature, subject and tone of the post in relation to its subject, and also classifying the source which the post linked to. In describing reddit’s coverage of the story I will broadly follow the sequence of events as they unfolded while discussing posts of a particular type or following a particular theme within self-contained sub-sections.

3.1 Media coverage and public awareness of SOPA

It is important to first describe some key differences between this story and the previous ‘Wikileaks’ case study. The Wikileaks story saw considerable coverage by the mainstream broadcast and print news media, and reddit’s level of coverage broadly paralleled that of the mainstream media (while providing a different slant on the story). As a result, the Wikileaks story was widely known to the public irrespective of reddit’s coverage.

In contrast, the US mainstream news media provided relatively little coverage of SOPA and this coverage came relatively late in the timeline we will consider. The first major US newspaper to formally address SOPA and voice its opposition was the *Los Angeles Times* on 25th November (Editorial, 2011a), quickly followed by the *New York Times* on 26th November (Editorial, 2011b). Before this the only reference to SOPA or PIPA in newspapers came from occasional mentions by columnists (Masnick, 2011a).

There is also a disparity here between print and broadcast news media, with newspapers and magazines providing much more coverage of this story than television news networks. There is a conspicuous lack of coverage of this story on the major US TV news networks (Dimiero, 2012a,b); with many of these networks being owned by large media companies who supported SOPA. In the

case of the Wikileaks story **reddit** served to provide an alternative narrative to the mainstream media (with an emphasis on getting involved and helping Wikileaks). In the case of SOPA **reddit** had an additional role to fill, that of raising awareness of the fact that this legislation existed.

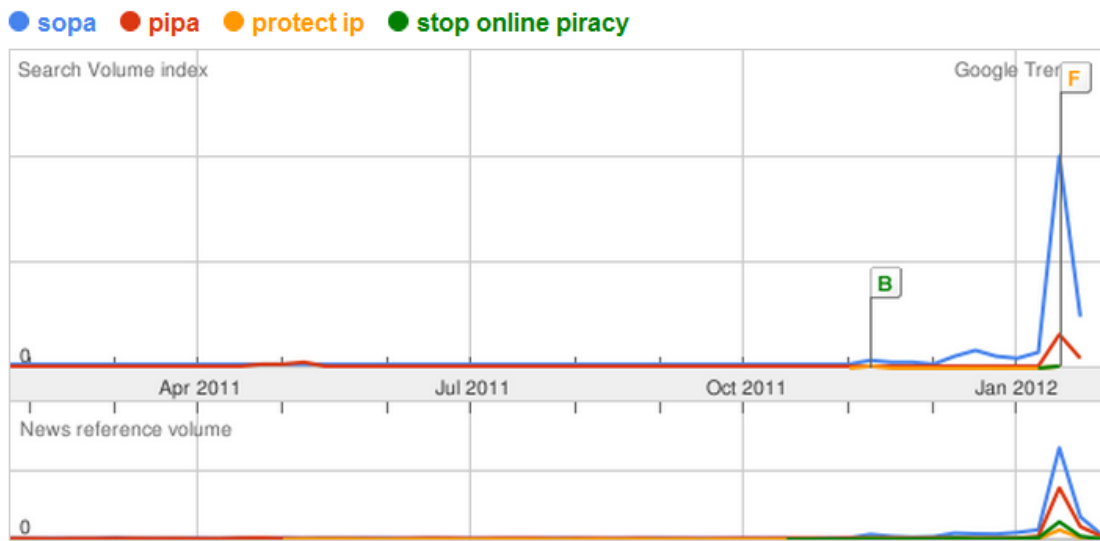


Figure 8: Prevalence of key words on google, retrieved from ‘Google Trends’

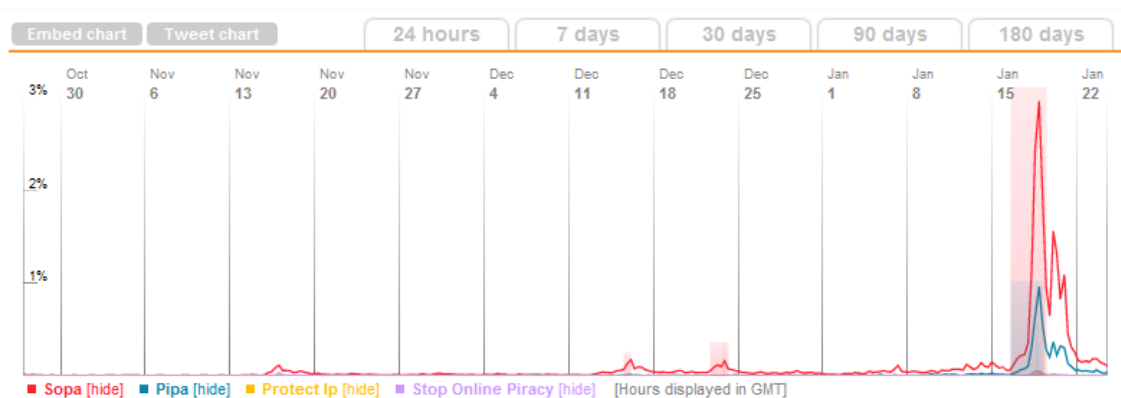


Figure 9: Prevalence of key words on Twitter - percentage of tweets which included them

Figures 7, 8 and 9 suggest that **reddit**’s coverage of this story begins well before the story becomes the subject of widespread public awareness/interest. Figure 8 shows that searches for SOPA-related terms (top pane) and references to these terms in the news media (bottom pane) were rare in November, more common in December, and saw a large increase in January with a spike on January 18th when many websites (**reddit** included) ‘blacked out’ in protest of SOPA (see section 3.6.2). Mentions of these terms on **Twitter** follow a similar pattern, with small flurries of activity in mid-November and December followed by a spike at around the 18th of January. This suggests that the blackout was an effective means of raising awareness of SOPA - with **Wikipedia** choosing to black out and **Google** placing links to SOPA information on its front page probably having a much larger impact than **reddit** itself blacking out. We will re-visit the blackout specifically in section 3.6.2 below.

3.1.1 How important was reddit in raising awareness of SOPA?

While **reddit**'s role in raising awareness of SOPA is of particular interest it is very difficult to address this question directly. The above graphs suggest that SOPA was a common topic on **reddit** much earlier than it was a common Google search or **Twitter** hashtag - it follows that SOPA was widely known among the **reddit** community before it was widely known among the general public.

One cannot however state with confidence that **reddit** was a major factor in raising public awareness of SOPA. There were undoubtedly many **reddit** users who first heard about SOPA through **reddit**. These individuals may then have spread that information further by communicating with their own networks of friends through Social Media, face to face interaction, email, or on their own website or blog. It would be very difficult to track the spread of information in this fashion, and even if relevant data could be obtained it is unlikely that users would always reference **reddit** as their source or the place where they learned about SOPA. Even in a situation where an individual forwards a link to SOPA information which they found through **reddit** they are perhaps more likely to link directly to the article or piece which was linked to by the **reddit** post (and therefore their communication would make no reference to **reddit**).

In place of this kind of analysis I offer some numbers that give an idea of the scale of activity on **reddit** in this time period. A post on the **reddit** blog (Reddit-Blog, 2012) in January 2012 provides some traffic statistics for December 2011. **Reddit** had around 35 million unique visitors (by IP address) in this month and served 2 billion page views. The problems of equating 'unique visitors' to individual people have been discussed in previous chapters. In this instance it is perhaps better to look at 'visits', a measure of instances where an individual has browsed **reddit** for a single 'session'. A figure of 159 million 'visits' is quoted for December 2011 - with mean visit duration of 16 minutes in which an average of 13 pages were viewed. If these visits were spread evenly throughout the month this would equate to around 5.1 million visits each day. One can assume with some confidence that most of these users will have viewed the **reddit** Front page, but for users who were signed into an account this Front page would be populated by posts from the subreddits they subscribe to.

One can also consider recorded activity levels for the 259 Front page posts which matched key terms for this case study. These posts received a combined total of 161,222 comments - an average of 622.5 comments per Front page post. These posts also had a combined score of 493,537 upvotes less downvotes.

It is not possible to determine how many **reddit** users actually clicked through to read posts and articles about SOPA which appeared on the Front page - many users who saw the default Front page may have bypassed SOPA-related posts in favour of the more humorous or entertaining posts which dominate **reddit**'s Front page. A post on the **Techdirt** blog (a blog linked to by 16 of the Front page SOPA posts on **reddit**) may be helpful in this regard as it mentions **reddit** in its traffic review of 2011 (Yang, 2012). For the year of 2011 **reddit** 'referred' 2.1 million users to the **Techdirt** blog (when someone follows a link from one website to another this is recorded as a referral) - a 277% increase as compared to the previous year. Eight of the SOPA-related posts which appeared on **reddit**'s Front page and linked to **Techdirt** appeared in 2011, and three of these feature in the top 10 **Techdirt** articles by traffic for 2011.

This highlights a second characteristic of **reddit** with regard to raising awareness of SOPA. **Reddit**

was definitely not the first website where SOPA was brought to light and discussed (i.e. the first post about SOPA on `reddit`'s Front page links to the `Techdirt` blog). There were likely many other technology-oriented blogs and forums, and some activist organisations (e.g. the Electronic Frontier Foundation), which were discussing SOPA before it appeared on `reddit`'s Front page. Within the social component of the Hybrid Media System (Chadwick, 2013), `reddit` likely performed the role of spreading this awareness (which had been confined to smaller domain-specific communities) to a larger audience. `Reddit`'s users are thought to be quite technologically savvy, indeed many of the early posts about SOPA appeared on the Front page through the 'technology' subreddit. In time awareness of SOPA within the `reddit` community spread from users who are explicitly interested in technology to the `reddit` user-base more generally (see section 3.8) - and these individuals may have then spread awareness beyond `reddit` to their own circles of friends/contacts. This is one method by which `reddit` may have 'raised awareness' of SOPA - and it helps us to situate `reddit` in the hybrid media system as an 'amplifier' which can direct a considerable volume of human attention to items produced by older media elites and newer media upstarts alike - and which simultaneously facilitates a large-scale 'democratically mediated' discussion around these artefacts.

The second method by which `reddit` may have raised awareness of SOPA involves other media outlets reporting on events unfolding through `reddit`. For example, the boycott of GoDaddy (see section 3.4.1) which originated on `reddit` was reported on by a number of recognisable news outlets which have a much larger audience than `reddit`, e.g. BBC (2011). Similarly, 'the blackout' (see section 3.6.2) did a lot to raise awareness of SOPA and `reddit` was involved in this from an early stage.

Without comprehensive study of the hybrid media system (Chadwick, 2013) more broadly we cannot determine whether `reddit` was truly instrumental in 'breaking' this story - but it is safe to assume that `reddit` had introduced the legislation to many users through a number of posts on its Front page before this was 'a story' for the conventional news media. It is certainly a strong indication that `reddit` does not always have its agenda set for it by older media elites.

3.2 Early Posts about SOPA - October 27th to November 25th

This section considers the earliest SOPA-related posts to appear on `reddit`'s Front page, up until November 25th when the *Los Angeles Times* published an editorial in opposition to SOPA. In this four week period there were 30 posts about SOPA which appeared on `reddit`'s Front page.

3.2.1 `Reddit`'s first five Front page posts about SOPA

The first post to appear on `reddit`'s Front page (redd.it/1q2b1) did so on October 27th and linked to the '`techdirt.com`' technology-oriented blog. The blog post which was linked to referred to the legislation by its full title of 'Enforcing and Protecting American Rights Against Sites Intent on Theft and Exploitation Act' but noted that it may also be referred to by the shorter moniker of the 'Stopping Online Piracy Act'. This blog post described SOPA as an attempt to create a 'great firewall of America', and noted opposition to the legislation from the tech industry, legal experts, investors and entrepreneurs. The blog post being linked to also provided the full text of the legislation.

This post was submitted to the /r/technology subreddit; it was observed at rank 9 on the Front page and had around 400 comments when it ceased appearing on the Front page. By the standard of posts which would appear later in the study period this one was moderately successful. We can think of this post as serving to inform **reddit** users about SOPA's existence. Later in the study period posts would shift towards trying to spread awareness/opposition to SOPA *beyond reddit*, but before this could happen it was first necessary for **reddit** to inform its own users.

This post also appears to have set the tone for **reddit**'s coverage; of the 259 posts considered here 91 were submitted to the technology subreddit (more than any other subreddit) and 16 linked to the **Techdirt** blog (more than any other individual content-providing website by a considerable margin). Popular comments on this post also echo sentiments which would become common in relation to posts about SOPA - voicing opinions about the legislation being frightening, opening the door to Internet censorship and the result of corporate lobbying/donations.

Two more posts regarding SOPA appeared on **reddit**'s Front page the following day, one of these was a post submitted to the videos subreddit which linked to an amateur **Youtube** video on the subject. The second post (redd.it/lrux7) linked to another article about SOPA but its title read "For those upset at the E-PARASITE (aka Blacklist Bill aka PROTECT-IP), Ron Wyden (D-OR) is holding up the bill. Let's show him we support his action. Write him, donate, do what you can. his website is <http://www.standtallforamerica.com/>". This post was indicative of one of the themes of **reddit**'s coverage which would emerge later in the observation period - namely the identification of pro and anti-SOPA politicians and subsequent criticism or praise of these individuals (see section 3.5).

On 1st November the fourth post about this story appeared on **reddit**'s Front page (redd.it/lvr2x), this post being a link to a **WhiteHouse.gov** petition which was created the day before (probably by the same user who submitted the post to **reddit**). This post was submitted to the technology subreddit and appeared on the default **reddit** Front page for 13 hours, reaching a maximum position of 3rd on the Front page. The petition being linked to received around 52,000 signatures, but the popular **reddit** comments on this post are skeptical about the value of a **WhiteHouse.gov** petition or critical of the language used in this particular petition. There are also several comments which urge **reddit** users to contact their representatives directly as opposed to signing the petition. This post is the first which appeared on **reddit**'s Front page to call for some form of action from **reddit** users on this subject; a type of post which would become common later in the observation period (discussed in section 3.6).

On 2nd November the fifth post about SOPA appeared on **reddit**'s Front page (redd.it/lvr2x); this post concerned the submitting user's correspondence with their Member of Congress on the subject. The 'original poster' (OP to use **reddit**'s terminology) created an image of the reply they received from their Member of Congress. On this post's comments page the top comment is from a user who claims to be a 'former Capitol Hill staffer', this user provides detailed advice on how to pursue the matter further and more effectively. There are several further comments from other Capitol Hill staffers, and also a number of comments in which other users post the text of the correspondence they received from their representatives.

After reviewing just the first five posts about SOPA on **reddit**'s Front page we can already see some trends which are likely implicated in **reddit**'s effectiveness as a platform for mobilising collective action on the matter. First there are posts providing information about the legislation (information

which comes from ‘amateur’ sources and not the conventional media) with detailed discussions on their comments pages. Then there is a post which calls for action (signing a petition) - this post is seen by enough people to garner more than 50k signatures (the threshold required to elicit a response from the White House). On this post’s comments page there is further discussion, this time around the topic of how **reddit** users might productively work against the legislation (with many comments suggesting contact with representatives). The next day there is a post from a user who has taken the advised action and contacted their representative - the fact that this post received enough up-votes to place it on the Front page can be read as positive reinforcement for this course of action.

This point in particular marks a departure from how the story could or would have developed through the mass media. Suppose (1) a mainstream news outlet covered the story and (2) adopted a negative perspective on the legislation and (3) went on to urge their readers/viewers to take action. At this point the reader/viewer is on their own, whether they take the course of action advocated by the news organisation is up to them, they have no way to confer with other readers/viewers to find out if others are also taking this course of action. On **reddit** this post about an individual’s efforts at taking action *is part of reddit’s coverage of the story*, it received the same level of recognition and was ‘broadcast’ in the same way as earlier posts about the topic. Furthermore, these users were able to hold a productive discussion of the action they were taking on the post’s comments page, with many other users also reporting similar interchanges with their representatives. These factors likely served to increase **reddit** users’ willingness to become actively involved in the story. Displayed on the Front page we have evidence of the recognition and support received from the community by one ordinary **reddit** user because they took the time to write an email to their representative.

The conventional news media do occasionally initiate campaigns for various causes - but in these cases the campaign is lead by the organisation’s journalists or editorial staff, with readers/viewers’ role being confined to taking whatever action is requested by the organisation (usually signing a petition). Recently there have been cases where the news media have integrated these campaigns with Social Media (Vaccari, 2012) - thus circumventing the problem whereby readers are isolated from each other and do not know whether other readers are participating. However, the role of readers in these campaigns is still confined to one of ‘backing up’ the newspaper’s position. The situation is one where the news organisation can mobilise its readers to show support for its position and Social Media is employed to enhance this ability. On **reddit** campaigns of collective action have *been initiated and lead* by ordinary users, this cannot occur for a newspaper’s campaign because readers have no capacity to have their views published within the newspaper (with the possible exception of letters to the editor, but these are only published at the editor’s discretion).

Finally, we see one of **reddit**’s strengths come to the fore with this post, the strength of numbers. While there are millions of users browsing the **reddit** Front page on any given day there is a strong chance that some of these users hold some expertise on whatever stories are featured there. In this case former Capitol Hill staffers saw the post and contributed to the discussion with expertise on how users could increase the effectiveness of their efforts. Through the use of the voting system these valuable comments were promoted to the top of the comments page where they would be seen by many people - in the process providing some measure of recognition and encouragement for the expert user who provided them. This is a common occurrence on **reddit**, there are frequently comments on a post which demonstrate a high degree of knowledge of the subject. The implementation

of up/down voting for comments allows these high-value comments to be displayed prominently, without up/down voting for comments they would effectively be lost among the deluge of other comments. There are subreddits which rely on these characteristics of `reddit` to function. For example `/r/askscience` works because there are enough scientists from various disciplines reading the subreddit such that there is usually at least one user who can provide a good answer (or as good an answer as the scientific literature on the topic allows for) to questions which are often difficult to answer. The voting system works for this purpose as long as the other users reading the comments have enough familiarity with the subject that they can recognise high quality comments when they see them and up-vote accordingly.

In these early posts and their comments one can witness `reddit` developing its collective position on this emerging story, ‘figuring out’ which logics and tactics it will deploy to which ends, and even ‘scouting’ external entities which would later become an integral part of the *ad hoc* Hybrid Media assemblage (Chadwick, 2013) that evolved around `reddit`. Later in the observation period the nature of posts and their comments appearing on the Front page shifts such that questions about the legislation or `reddit`’s coverage become more involved and reflect an emerging general consensus on the key points.

3.2.2 `Reddit`’s Front page coverage from 4th November until 25th November

Returning to the analysis of posts which appeared on `reddit`’s Front page until November 25th - the remaining 25 posts largely fall along one of several themes. There are eight further posts with information and criticism of SOPA from a variety of sources. Some of these posts link to online news providers (e.g. `redd.it/lrux7`), some link to blogs (e.g. `redd.it/mipae`), others link to the websites of activist organisations (e.g. the Electronic Frontier Foundation, `redd.it/m4byf` and `redd.it/m9r1p`).

On 4th November there is a post which links to an article about Google’s opposition to SOPA (`redd.it/m0bii`). Between November 15th-17th there are a further four posts which concern opposition to SOPA from various technology companies (`mcnjm`, `me21k`, `meg8w`, `mer7w`). These include a post on November 16th in which one of `reddit`’s admins states that they are hoping to testify before congress in opposition to SOPA, and asks the `reddit` community for ideas on what they should say. Identifying corporations who oppose SOPA (and later some corporations who supported SOPA) became a common theme throughout `reddit`’s coverage of this story, and these posts will be considered in greater detail in section 3.4.

There are also posts which concern political support for and opposition to the legislation. The first of these posts appears on November 16th (`reddi.t/mdqnf`) and highlights Ron Paul’s opposition to the bill particularly; a similar post two days later also mentions Ron Paul specifically (`redd.it/mgg28`). Previous observations have suggested that there is a contingent of libertarian Ron Paul supporters on `reddit`, and other users have made reference to a bias in favour of Ron Paul on `reddit`. The third post to identify politicians opposing SOPA appeared on the Front page on November 22nd (`redd.it/ml0ii`) and concerned Senator Ron Wyden. This post can also be thought of as a call to act, it linked to a website created by Ron Wyden’s camp where he spelled out his opposition to SOPA and voiced a plan to filibuster the bill should it reach the house floor. The website contained a petition of sorts, users could sign this petition and Ron Wyden would read aloud the list of signatories during his filibuster.

On November 23rd and 24th there are two posts which identify politicians who support SOPA. The first of these concerns Senator Al Franken (redd.it/mmsg5). The post's title mistakenly identifies him as a co-sponsor of SOPA, several top comments point out that he is actually a sponsor of the Senate equivalent bill PIPA or Protect IP. This post is interesting because **reddit** had previously held some favour towards Al Franken (redd.it/aiu2i, redd.it/clfev, redd.it/cmuj8) and Franken had participated in an 'Ask Me Anything' interview on **reddit** (redd.it/g0hir). The posts about Franken's sponsorship of PIPA and the comments thereon indicate a sense of betrayal among **reddit**'s users. The second post to identify a pro-SOPA politician singles out Lamar Smith (a US congressman for a district in Texas) as the 'founder' of SOPA. Section 3.5 below considers this theme of **reddit** posts which identify political supporters and opponents of SOPA more thoroughly.

The remaining posts related to this story which appeared on **reddit**'s Front page before November 25th concern taking action against the legislation. On November 17th a follow-up post concerning the earlier Whitehouse petition post (redd.it/lvr2x) appears on the Front page (redd.it/mf6qm), in this post the OP thanks **reddit** for generating 30,000 signatures for their petition. The next day another post appears promoting another Whitehouse petition (redd.it/mgw7f). This time the top scoring comments are highly critical of the petition, criticising the author's grammar and also the fact that he has asked for things which are not within the Whitehouse's power to grant. This petition failed to reach the threshold of 50k signatures, but did appear on **reddit**'s Front page for a number of hours. This post serves as an example of a dissonance between post and comment voting/scores on **reddit** which is often observed (see section ??). The post achieved a score of 2,590 but all of the top comments are highly critical of the petition. If the same population of users that commented and voted on comments were voting on the post, one would expect that it would have been quickly down-voted off the Front page or would never have appeared in such a prominent location in the first place - but as section ?? showed **reddit** does not always have the capacity to remove 'poor' posts from the Front page once they have been shown to be 'poor'.

A further example of this dissonance can be seen in a post (redd.it/mfwkl) which appeared on the Front page on November 17th. In this post a **reddit** user has taken a screenshot of the 'Access Denied' message they were presented with when they tried to view Wikipedia's article on SOPA from their school and posted this with the title "And so it begins, my school has conveniently blocked Wikipedia's article about SOPA... this is just ridiculous". On the comments page many high-scoring comments voice skepticism about this being part of a government conspiracy and suggest that it may have been automatically blocked because the URL contained the word 'piracy'. It appears that this post was quickly down-voted from the Front page after its appearance there.

The remaining posts to appear on the **reddit** Front page during this period voice support for collective action against SOPA. On 20th November a post (redd.it/mizfo) links to an article praising the Tumblr community for offering a service which would 'train' its users to speak to their representative about SOPA and then connected them on such a call. This could be thought of as **reddit** paying attention to and promoting the efforts of another social media elite 'actor' - with later developments indicating that **reddit**'s users may have learned from this observation of a Social Media 'neighbour'. On November 17th there is a post citing international support for the anti-SOPA activism of Americans (redd.it/mfuiy).

The final post in this time period which has not yet been considered is an unusual one. On November 24th this post (redd.it/mn9pv) linked to a *Forbes* article with the title "Wary Of SOPA, Reddit Users Aim To Build A New, Censorship-Free Internet". This article concerned a subreddit

(/r/darknetplan) which was established to facilitate work on a decentralised network of peers. While this plan is geared towards producing a network which would be resistant to censorship, it pre-dates SOPA by some time and the direct link to SOPA seems to have been created by the article's author. This post does however serve as an example of a type of post one often sees on **reddit**. When a recognisable media outlet produces an article or other piece about **reddit** these tend to be submitted on **reddit** and to do reasonably well through the voting system. It seems that **reddit** users like to make press articles about their community visible, even when these articles are based on flawed or erroneous assumptions.²

To conclude this section we will consider **reddit**'s reaction when some traditional news organisations (The *LA* and *New York Times*) began to cover SOPA and PIPA. As stated earlier the *LA* and *New York Times* published editorials opposing the legislation on November 25th and 26th (Editorial (2011a), Editorial (2011b)). Perhaps surprisingly, there were no posts linking to these articles which appeared on **reddit**'s Front page. This is a departure from what was observed during the Wikileaks case study - where articles published by well-known news outlets were among the most highly up-voted. A post linking to the *New York Times* article was submitted on November 27th (redd.it/mqtly) but it received just a single down-vote. Perhaps the post's title ("Going after the pirates") was to blame for its failure, that title certainly does not capture the essence of the article. **Reddit** does not allow the same URL to be submitted more than once to a subreddit and this poorly titled post may have blocked subsequent attempts to submit a direct link to the editorial. The fact that the *New York* and *LA Times* published anti-SOPA editorials was the subject of a post which linked to the **Techdirt** blog and did appear on the Front page on November 28th (redd.it/mrzie). At this stage this was the 3rd post linking to **Techdirt.com** about SOPA which appeared on the Front page, including the first post about SOPA to appear on **reddit**'s Front page.

It is possible that by the time large recognisable news outlets like the *New York Times* started to address SOPA, **reddit** had already settled on a way of covering the story (with links to blog posts, activist organisations, articles by online-only publications, and plenty of ideas and reports directly from **reddit** users). The hybrid media assemblage which **reddit** was central to was already in evidence and may have already begun to solidify at this stage.

It is worth noting that 22 of the 30 posts concerning SOPA which appeared on **reddit**'s Front page up until 25th November were submitted to the /r/technology subreddit.

3.3 Information about SOPA

Throughout the observation period **reddit**'s Front page displayed many posts with information on SOPA and PIPA, too many to describe each one individually. These posts all share a negative outlook on SOPA and usually offer a critique of the legislation. The sources of these posts are varied, ranging from a single sentence summary written by a **reddit** user (redd.it/nbepe) to a 23-page critique written by a Harvard law professor (redd.it/na3z8), with many links to blog posts and some articles from the conventional news media.

²This is another example of a trend which has become less prominent on **reddit** over time. There are two possible causes for this - 1) the number of articles written about **reddit** and published by recognisable news organisations has increased substantially, making it impractical to feature all of these on the Front page and reducing the 'novelty value' of articles written about **reddit**. 2) As **reddit**'s user-base has grown it has become more fragmented (see Chapter 8), raising the possibility that many users no longer see news *about* **Reddit** as relevant to them.

3.3.1 Reddit's coverage of a rapidly developing story

This case study also allows us to look at **reddit**'s coverage of a story which changes rapidly, and the publication of erroneous information - a potential misinformation 'cyber-cascade' (Sunstein, 2002). On December 16th the Congress House Judiciary committee held a meeting to review SOPA, discuss amendments and vote on whether the bill would be passed to Congress proper for a vote. This was to be the last day on which congress worked before breaking for holidays, and therefore when the committee decided to postpone their vote until the 'next available date' it was assumed that this meant a postponement until 2012. Two posts appeared on **reddit**'s Front page announcing this news. One was submitted to the technology subreddit (redd.it/nfk28) and the other to the politics subreddit (redd.it/nfj28) and they were first observed on the Front page at 2130 and 2200 GMT respectively. This news was greeted positively by **reddit**, with one of the posts even prefixing its title with 'VICTORY!'.

However, by 23:00 there were comments on both of these posts stating that the vote had not in fact been postponed until 2012 but that a special session had been arranged for the following Wednesday. In the context of **reddit** at the time, where there was much talk about collective action against the bill, this was an important update. A situation where **reddit**'s Front page is telling people they have until 2012 to campaign against the bill when it is potentially moving forward in less than a week would be damaging to **reddit**'s capacity to work against the bill. Within three hours of this update emerging there was a post on **reddit**'s Front page through the technology subreddit stating 'SOPA has NOT been postponed to 2012!' and linking to a **Techdirt** article with details of what the current state of affairs was (redd.it/nfrfu). Within the next six hours posts with the same title and linking to the same **Techdirt** article also appeared on **reddit**'s default Front page through the politics (redd.it/nfxhj) and WTF (redd.it/ng1wp) subreddits.

Taking **reddit**'s Distributed Moderation system into account (i.e. to appear on the Front page a post must acquire enough upvotes to outscore its rivals) this represents quite a timely response to quickly changing information about the story. Word first spread through the comments pages of posts which were already on the Front page. A text post submitted to the **/r/sopa** subreddit (redd.it/nff7k) had its body of text edited to reflect the new information, and in fact directed readers to the post with updated information on the politics subreddit.

It is **reddit**'s community of users who were responsible for using the voting system to disseminate updated information quickly. **Reddit**'s software actually hindered this process somewhat; it is not possible to edit the title of any post on **reddit**, and for posts which link to a URL it is not possible to change this URL. The users who made posts about a postponement until 2012 were presumably made aware of the change in the situation quite quickly if they were reading the comments on their posts, but were powerless to change the post itself to reflect the new information. Users had to work collectively to downvote the misleading posts and upvote the newer posts with accurate information.

This episode speaks to the concern voiced by Sunstein (2002) and others about 'cyber-cascades' of mis-information - wherein false information is released and spreads rapidly but news of its falsehood does not achieve the same penetration in a timely manner. Information which is false/flawed/outdated does sometimes appear on **reddit**'s Front page, but this case shows that users can collectively 'shut down' the dissemination of an item once it has been shown to be wrong and 'print a retraction' by Front paging an item which corrects the mistake, and all in a timely manner.

3.4 Corporate Allies and Enemies

One of the themes of **reddit**'s coverage of SOPA is the identification of corporations which opposed or supported SOPA. Between the start of the study period and December 5th there were eight posts featured on **reddit**'s Front page whose main point was to identify corporations who had voiced opposition to SOPA. SOPA opponents identified in this way include Google (redd.it/m0bii), Facebook (redd.it/me21k), Microsoft (redd.it/mmokt) and **reddit** itself (redd.it/meg8w). During this time there is also one post appearing on the Front page which links to an article stating that NBC had threatened their partners into signing a SOPA 'grassroots support' document (redd.it/mtmib).

On December 13th the tone of these posts shifted from merely identifying SOPA opponents and supporters to discussions of action which could be taken with or against these corporations. The main thrust of these discussions is that SOPA opponents should be encouraged to 'black out' their website to raise awareness of SOPA (e.g. redd.it/ng2cz), while SOPA supporters should be threatened with boycotts in an effort to change their stance. This change in focus from identification to action coincides with a surge in the number of SOPA stories appearing on **reddit**'s Front page.

3.4.1 The GoDaddy boycott

The first post concerning a boycott to appear on **reddit**'s Front page did so on December 21st (redd.it/nl9e0). This was a text post made to the AskReddit subreddit, initially this post contained a link to a list of companies in the Business Software Alliance, a group which supported SOPA. This post was the centre of a large-scale discussion incorporating more than 2,500 comments. In the course of this discussion it was established that many of the companies in the Business Software Alliance actually did not support SOPA, and the Original Poster edited the text of their post nine times to first correct this error and then add links to other more accurate lists of SOPA supporters.

The next day a post appeared on the Front page in which a **reddit** user stated that they were transferring their own small business's domain names away from GoDaddy over the company's support of SOPA (redd.it/nmnie). They suggested that other **reddit** users do likewise, nominating December 29th as 'move your domain away from GoDaddy day'. GoDaddy is one of the largest and most well known domain name registration and web hosting companies. People use GoDaddy to buy (or 'register') domain names (web addresses) and there is a yearly fee for retaining ownership of a domain. This post was asking users to transfer their domain names to an alternative domain name registrar; as a result GoDaddy would lose the yearly income from these domain names and this business would go to one of their competitors.

Once this post appeared on the **reddit** Front page it received considerable attention and ultimately more than 3,000 comments. Many popular comments were from other **reddit** users stating that they would be moving their own domain names away from GoDaddy. Some of these users claimed to own or administer hundreds or thousands of domains. There are also comments from users who claim to be former GoDaddy employees, one advises **reddit** users on how to identify domain name registrars which are owned by GoDaddy while another talks about suspect business practices at GoDaddy.

As commonly occurs with text posts, this post's OP edited the text of their post with updates. In this case some of GoDaddy's competitors offered special discount codes for users who wished to transfer their domain away from GoDaddy and these codes were edited into the text of the post.

The OP also edited in links to articles which were written about this developing story (Masnick, 2011b).

Over the next two days (December 23rd and 24th) there were no fewer than 13 posts on **reddit**'s Front page about the GoDaddy boycott. There follows a brief description of posts about the GoDaddy boycott in the order in which they were observed on the Front page.

- redd.it/nmsiu - a post to the technology subreddit which links directly to the post which sparked the boycott (redd.it/nmnie) - the earlier post was submitted to [/r/politics](http://r/politics), this post serves to bring it to the attention of [/r/technology](http://r/technology) readers.
- redd.it/nn4j5 - this post links to an article published by the **Ars Technica** website about the boycott and its origins on **reddit**.
- redd.it/nnc8r - an article about the **Cheezburger network** moving its 1,000 domains from GoDaddy.
- redd.it/nntxp - titled "GoDaddy's Response to the Boycott: "Go Daddy has received some emails that appear to stem from the boycott prompt, but we have not seen any impact to our business." Reddit, Lets make them feel the impact and move your domains! Spread the word!" This post concerns GoDaddy's initial response to the boycott, a response which seems to have only increased the enthusiasm of **reddit** users for the boycott, see also Masnick (2011b).
- redd.it/nmv9l and redd.it/nnuwt - these posts link to the WHOIS page for **Wikipedia**, showing that GoDaddy is their domain name registrar, with the implication that **Wikipedia** should leave GoDaddy.
- redd.it/nmynm - the WHOIS page for **Imgur**, **reddit**'s favoured image hosting website, again showing that GoDaddy is their domain name registrar with the idea that they should transfer their domains away from GoDaddy.
- redd.it/no6pr - an article on **Ars Technica** proclaiming "Victory! Boycott forces GoDaddy to drop its support for SOPA", popular comments all state that their boycott should/will still go ahead.
- redd.it/nokde - a text post urging users to ignore GoDaddy's 'flip-flop' and proceed with the boycott.
- redd.it/no7rr and redd.it/np5cp - posts linking to the **Twitter** stream of Jimmy Wales (**Wikipedia** co-founder) stating that **Wikipedia** would transfer their domains from GoDaddy.
- redd.it/no1ux - a post asking for advice on how to transfer domains from GoDaddy and who to transfer them to.
- redd.it/nohs8 - "GoDaddy mass migration day STILL ON for December 29th - do NOT stop now!"
- redd.it/npair - "GoDaddy has NOT withdrawn its official congressional support for SOPA", the text of this post contains an interview statement from the GoDaddy CEO saying that they had not withdrawn their official support for SOPA.

Over the next five days (December 25th - December 30th) there were a further 11 posts about the GoDaddy boycott on **reddit**'s Front page.

- redd.it/npj2q - an article about GoDaddy losing customers (21,000 domains the previous day) over SOPA support.
- redd.it/npmav - another article about the effectiveness of the boycott, this time quoting a loss of 72,000 domains over the previous week.
- redd.it/nq4g2 - a post about Google using GoDaddy as their domain name registrar partner (with the idea being that Google change provider)
- redd.it/nrgij and redd.it/nr7xc - two posts linking to an article which says that GoDaddy were involved in drafting the SOPA bill and are also granted an exemption should it be implemented.
- redd.it/nrptu - a GoDaddy employee does an Ask Me Anything interview on **reddit**.
- redd.it/nrd49 - a post about GoDaddy obstructing people from transferring their domains away.
- redd.it/ntlzq - **Imgur** to join GoDaddy boycott.
- redd.it/nujea - a post about the GoDaddy CEO, stating that they started out selling bible software and contrasting this with the raunchy advertisements produced by GoDaddy.
- redd.it/nuimq - a post reminding people that it is now December 29th, the appointed day to transfer domains from GoDaddy, the post links to a guide to doing so.
- redd.it/nvdf4 and redd.it/nvg18 - these posts link to an article detailing a press release from GoDaddy in which they state that they now actively oppose SOPA.

In just one week a post to **reddit** about one user's decision to transfer their domain names away from GoDaddy sparked a boycott which appears to have forced this large corporation to change its stance on SOPA. Reviewing the posts about this which appeared on **reddit**'s Front page (and there were also many posts about this which did not reach the Front page) offers some insight into how this came to pass. On the original post's comments page it quickly becomes clear that there is support for a boycott among **reddit** users, and that some users have control of a large enough number of domains to make an impact on GoDaddy's business. Very quickly a post appears at the top of the technology subreddit drawing /r/technology readers attention to what's happening on /r/politics, spreading the word to a greater portion of **reddit**'s userbase.

At this point (23rd December) something pivotal happens. External websites (**Techdirt** and **Ars Technica**) publish articles about what's happening on **reddit**; links to these articles are then disseminated widely through **reddit**. This feedback tells **reddit** users that what they are doing is being noticed, and presumably adds to their enthusiasm to make the boycott happen. At this stage there are also posts linking to articles or announcements about recognisable names (**Cheezburger network**) joining **reddit**'s boycott; and posts in which the **reddit** community reach out to other entities that they see as being on their side (**Wikipedia**, **Imgur**, **Google**) to ask them to also join the boycott. There are further posts announcing and celebrating the fact that some of these external entities did join the boycott. Then we have GoDaddy releasing statements addressing the boycott, further evidence for the **reddit** community that what they are doing is having a noticeable impact.

GoDaddy then releases a statement in which they back away from their support of SOPA. If **reddit** users were operating in isolation then presumably some portion of would-be boycotters would have taken this as a victory and an end to the boycott. Instead we have a number of posts on the

reddit Front page condemning this half-hearted ‘flip-flop’ and urging redditors to continue the boycott. We then have articles which put a number on the effectiveness of the boycott (21,000 domains lost in a day, 72,000 in a week), again reinforcing the notion that the boycott is happening and the results are being felt by GoDaddy.

Mixed in among these we also have posts and comments where **reddit** users offer advice on how to go about transferring domain names from GoDaddy, and who these domain names might be transferred to. There are also posts and comments which criticise GoDaddy, based on investigations of the CEO’s past or some immoral business practices employed by GoDaddy.

On December 29th there is a post on the Front page reminding people that ‘today is the day to transfer domains away from GoDaddy’. This is another indication of **reddit** working as a collective entity. A post by an ordinary **reddit** user puts forward an idea (boycotting GoDaddy) and picks an arbitrary date for its execution. The **reddit** community adopt this idea as a plan that they will attempt to execute. When the appointed date arrives another ordinary **reddit** user makes a post to remind people and the **reddit** community collectively up-vote this to the Front page.

A short time later GoDaddy released another statement in which they announce that they are now opposed to SOPA. After this there are very few posts appearing on **reddit**’s Front page about the GoDaddy boycott.

3.4.2 Boycott fever

While the boycott of GoDaddy was frequently the subject Front page posts a number of posts also appeared on the Front page which advocated or discussed boycotting as a more general strategy. Between December 24th-27th (during the week-long peak of ‘GoDaddy boycott’ posts) there were six posts appearing on the Front page which discussed or advocated further boycotts.

The first of these posts was submitted to /r/AskReddit and suggested a boycott of movie theatres (redd.it/nokhw), with the reason being that Hollywood was one of SOPA’s biggest supporters. There is a lack of enthusiasm for this boycott among the popular comments, with one insightful comment suggesting that Hollywood is too large a target and that the success of the GoDaddy boycott was due to **reddit** having ‘connections’ in their domain. Another comment by a projectionist in an independant cinema argues that companies like theirs would suffer most despite not being SOPA supporters. On the same day a similar post was submitted to /r/politics and also reached the Front page (redd.it/nob8i). This post was titled “Next SOPA boycott (we’ll do one at a time) “Until Time Warner drops all financial support for SOPA voting congressmen we will buy no music nor any film ticket from their subsidiaries - We’ll just choose any another label” ”. Again many of the popular comments for this post suggest that it would not work because Hollywood is too large and **reddit** cannot reach a large enough segment of their market.

The next day saw a post to /r/AskReddit appearing on the Front page asking redditors what they would do if Conde Nast (**reddit**’s parent company) supported SOPA (redd.it/npob1). Popular comments on this post were mostly humorous in nature or concerned the difficulty in giving up **reddit**.

There are also two posts appearing on the Front page at this time which question the focus on GoDaddy as the only target of a boycott (redd.it/nq7cy and redd.it/nqumv). The popular comments on these posts re-iterate the point that GoDaddy was a good target for **reddit** because

of the large overlap between their customers and people who `reddit` can reach (with `reddit` users assumed to be more technologically savvy than the general population). The second of these posts suggested a boycott of EA Games over their support of SOPA. Another post on December 26th suggests a boycott of Nintendo (redd.it/nr2m3).

These posts are interesting for two reasons. The first of these concerns the expression of dissenting opinions (Sunstein, 2002). If we consider only posts about the GoDaddy boycott this idea seems to have emerged largely from a single post and very quickly received widespread support from `reddit` users. The posts considered here reveal that not all of `reddit`'s users jumped on the 'GoDaddy boycott' bandwagon, there are posts which question the focus on a single target (redd.it/nqumv in particular is quite critical in tone - "How can `reddit` take itself seriously if we only boycott websites that we don't use, or don't have good replacements for (like GoDaddy). EA also supports SOPA. Stop playing BF3 and let's boycott it."). These posts which question the strategy of only boycotting GoDaddy appeared on the Front page alongside posts which were very supportive of the GoDaddy boycott. This can be taken as a further indication that it is possible for opinions which disagree with the majority to be broadcast through the Front page. `Reddit` users, through their use of the voting system, collectively decide to broadcast opinions on the Front page which go against the perceived majority opinion.

The second point of interest here concerns the importance of comments. Although these posts reached the Front page their comments pages hosted discussions which tended to argue against the suggestion made by the post itself. Many popular comments on these posts explain why it is prudent to focus on GoDaddy or criticise the suggested target of the post. It is probably no coincidence that, despite appearing on the Front page, these posts failed to establish the momentum on `reddit` which was critical to the success of the GoDaddy boycott. This trend could also be viewed as further evidence that voting on posts tends to be different in nature (perhaps more shallow) to voting on comments.

Following the failure of these posts to launch new boycotts, posts in this vein revert back to merely identifying corporations who support SOPA (e.g. redd.it/nsfma) without explicitly calling for a boycott.

3.5 Political Allies and Enemies

We have seen that the identification of corporations who supported or opposed SOPA was a strong theme to `reddit`'s coverage of the story. Another strong theme to the coverage concerned the identification of politicians who supported or opposed SOPA, and later ways to take action against/for these politicians.

In the early stages of this story, that is November 2011, there are five posts which identify politicians who support (redd.it/mmsg5 - Al Franken, redd.it/mnafo - Lamar Smith) or oppose (redd.it/mdqnf - Ron Paul, redd.it/mgg28 - Nancy Pelosi and Ron Paul, redd.it/ml0ii - Ron Wyden) SOPA.

The first post to suggest taking action in relation to politicians appears on the Front page on 15th December (redd.it/ntfzw). The suggestion put forward here is that a list of politicians who vote in favour of SOPA should be created and maintained, then the next time these politicians are up for re-election `reddit` users would not support them. On the next day there is a post in which a `reddit` user states they are willing to run against Lamar Smith in the next election (redd.it/nehr6).

SOPA supporters	SOPA Opponents
Lamar Smith (Texas Congressman - Republican - SOPA sponsor) Al Franken (Minnesota Senator - Democrat - PIPA co-sponsor)	Sheriff Richard Mack (Opponent in Republican Primary)
Lindsey Graham (South Carolina Senator - Republican) Paul Ryan (Wisconsin Congressman - Republican)	Ron Paul (Texas Congressman - Republican) Ron Wyden (Oregon Senator - Democrat)
	Rob Zerban (Ryan's opponent in upcoming election)

Table 1: Showing politicians who supported and opposed SOPA - individuals on the same row are direct competitors

This post elicits over 1,000 comments, with many popular comments offering support or advice. However, over the course of the discussion it is discovered that the potential candidate is one day too late to submit the paperwork required for them to stand.

Following this there is a lull in posts concerning politicians until December 28th when a surge in posts of this nature begins. The first post in this surge (redd.it/ntfzw) is titled “Let’s pick ONE Senator of voted for NDAA/SOPA and destroy him like we’re doing for GoDaddy. Relentlessly investigate and find skeletons in his closet, money bomb his opponents, etc.” (NDAA is another piece of legislation which was receiving a lot of negative coverage from [/r/politics](http://r/politics)). The success of this post in reaching the Front page and receiving over 1,500 comments is likely due in part to a feeling of empowerment within the **reddit** community originating with the concurrent GoDaddy boycott. In these comments users set out their proposed targets and detail their reasoning, or offer advice/help with making the effort a success.

3.5.1 Operations ‘Graham Cracker’ and ‘Pull Ryan’

The top scoring comment nominates Senator Lindsay Graham as the target and names the initiative “Operation Graham Cracker”. Within a few hours a professional web developer replies to say that they have bought the domain www.operationgrahamcracker.com and intend to produce a website to aid coordination, and have already started a **Facebook** page. Another post is submitted announcing ‘Operation Graham Cracker’ (redd.it/ntpl7) and directing to a newly formed subreddit (reddit.com/r/grahamcracker) which more than 1,700 users subscribe to. This is a pattern which has been observed many times on **reddit** when some new idea for collective action is put forward and appears popular (e.g. [/r/LeakSpin](http://r/LeakSpin) and [/r/WikileaksAnalysis](http://r/WikileaksAnalysis) from the **Wikileaks** case study); a website and subreddit is usually created within hours and often some method of communication external to **reddit** is established (e.g. IRC chat-rooms, **Facebook** pages).

These initiatives often fizzle out after a short period of time, and Operation Graham Cracker is no exception, although the manner of its demise is unusual. In this case the **reddit** community switched to a different target (Paul Ryan) very quickly. The process whereby the target changed is worthy of scrutiny. On the [/r/grahamcracker](http://r/grahamcracker) subreddit a number of posts were submitted which first express concerns about the choice of target (redd.it/ntr3k) then suggest other targets (redd.it/ntpl7, redd.it/ntulb). A poll is held (redd.it/ntve0) using **reddit**’s comment voting system (top level comments are names of candidates, users vote to state their preferred candidate) and Paul Ryan wins by some margin (592 points as compared to second place Lamar Smith on 54 points - figures observed several months later). A post is created on [/r/grahamcracker](http://r/grahamcracker) announcing the change of target (redd.it/nu5th) and this post receives up-votes from a large proportion of interested users (the subreddit had around 1,700 subscribers and this post has a score of 1,392). This concerted up-voting leaves the post re-directing to the new campaign (operation ‘Pull Ryan’)

at the very top of the Graham Cracker subreddit for months afterwards, when the community uprooted and re-located to a new subreddit they left a signpost behind for anyone that subsequently finds their way unto the Graham Cracker subreddit.

The salient characteristic of this endeavour is its speed. The post which suggested picking a political target was submitted at 0937 GMT on December 28th, this post received more than 1,500 comments and later in the day another post which announced ‘Operation Graham Cracker’ also received more than 1,000 comments. Within 14 hours of this original post’s submission **reddit** had picked a target, created a website and subreddit to facilitate further organisation, discussed alternative targets, held a poll to select an alternative target, and then created a subreddit and web page to facilitate the new campaign (Operation Pull Ryan). While the speed at which all of this unfolded is impressive it is perhaps also problematic and greater care may have been beneficial. The reasons cited for a switch from Lindsay Graham as the target were that he was too well entrenched in his seat and that he was not up for re-election until 2014. These objections were raised in comments to the post which started all of this, but it appears that by the time these comments appeared in prominent locations a group of users had already set the wheels of ‘Operation Graham Cracker’ in motion.

This activity could also be described as chaotic, but perhaps this is to be expected given the openness of the process. **Reddit** allows anyone to submit or vote on any post or comment they wish, and the website is designed to produce a ranked list of posts which changes from minute to minute. **Reddit** has not been designed for the purposes its voting system is being used for in this instance, namely deciding on the target of a political campaign, discussing and deciding upon a strategy and then facilitating the execution of the agreed-upon strategy. This is further illustrated by a post which appeared on the Front page on December 29th in addendum to the posts about picking a political target of the previous day. This post (redd.it/nuk78) argues in favour of picking two targets (one Republican and one Democrat) instead of one, and receives 890 comments (some of which argue against the proposal). This post also spawns its own subreddit for further discussion ([/r/1red1bluekick2](http://r/1red1bluekick2)) but in this case the endeavour appears to run out of momentum quite quickly.

‘Operation Pull Ryan’ persisted beyond the point where Paul Ryan announced that he was not supporting SOPA. Much of the activity related to this happened on the [/r/OperationPullRyan](http://r/OperationPullRyan) subreddit and will not be considered here, instead we will consider the effect this campaign had through the **reddit** Front page. One beneficiary of ‘Operation Pull Ryan’ was Paul Ryan’s opponent in the upcoming election, Rob Zerban. Within one day of the announcement of ‘Operation Pull Ryan’ there are several posts appearing on **reddit**’s Front page which favour Rob Zerban. The first of these (redd.it/ntxr8) is a post by a **reddit** user who had contacted Rob Zerban about SOPA. This post consists of a screenshoted email reply from Rob Zerban stating that he did not like SOPA.

Within hours Rob Zerban himself (or at least someone from his campaign) enters the fray, creating an Ask Me Anything (AMA) post in response to ‘calls and emails from redditors’. This AMA post (redd.it/nu501) is quite successful, seeing more than 2,000 comments and with Rob Zerban voicing many responses which are in line with popular opinion on **reddit**. It appears on the default Front page and an [/r/bestof](http://r/bestof) post linking to the AMA post also appears on the Front page (this [/r/bestof](http://r/bestof) post highlights the fact that Rob Zerban’s account thanked every person who volunteered through direct replies to their comments). While the responses from redditors on the AMA post are generally positive, comments on the [/r/bestof](http://r/bestof) post are more critical. Some of these dismiss

the thanking of individual users as an example of electioneering and suggest that this part of the AMA was probably conducted by an unpaid intern. Some users criticise his responses as being vague and non-committal, others celebrate his willingness to come and speak to **reddit** users on their own territory.

The next two days see another two ‘thank you’ posts from Rob Zerban’s **reddit** account appearing on the Front page. The first of these (redd.it/nwez5) thanks **reddit** for their support in the form of \$5,000 in donations, the ‘great press’ his AMA generated, and thousands of emails offering support and signing up to volunteer. The second of these posts (redd.it/nxlgc) updates the figure to \$15,000. The top comment on this second post suggests a possible line of attack that Zerban might consider employing against Paul Ryan.

While this is unfolding, a post linking to a *The Nation* article about the possibility of Paul Ryan being defeated (redd.it/nttdl) is also up-voted to the Front page. The next day a post appears on the Front page which links to a *The Atlantic Wire* article about ‘Operation Pull Ryan’ (redd.it/nv6zr). This article states that **reddit** forced Paul Ryan to ‘play defence on SOPA’, but also notes that it is not clear that Paul Ryan had ever actually identified himself as being a supporter of SOPA.

This sequence of events draws to a close (in terms of posts appearing on the Front page) ten days later when Rob Zerban’s account creates a post titled “Reddit successfully pressures Rep. Paul Ryan (R-WI) to back off support of SOPA.” (redd.it/o9gq7). Some popular comments on this post congratulate or endorse Rob Zerban, while others dismiss the post as an attempt by Zerban to ingratiate himself with the **reddit** community, questioning whether Paul Ryan was ever actually a SOPA supporter or whether **reddit** had anything to do with his latest statement.

This story is interesting from the perspective of a politician engaging with Social Media (and social news in particular). Although this is not the first time that an American politician had conducted an AMA interview on **reddit**, it is the first instance I have observed of sustained **reddit** activity on behalf of the politician. This case also differs from previous instances in that Rob Zerban was relatively unknown to **reddit** before ‘Operation Pull Ryan’ began but seems to have quickly earned **reddit**’s good graces (in the form of donations, volunteering and a positive voting response to future submissions on **reddit**). In previous cases where a political figure has conducted an AMA interview they tended to be well known (and usually liked) by **reddit** before conducting the interview.

There are a number of facets of Rob Zerban’s interactions with **reddit** which suggest a familiarity with **reddit** on the part of himself or (perhaps more likely) a member of his campaign staff. In his first post (the post on which he conducted the AMA, redd.it/nu501) he demonstrates a familiarity with some **reddit**-specific norms. For example, in the first sentence of this post (“Hello **reddit**. I’ve been getting calls and emails from redditors today and have been encouraged to participate in an AMA session.”) he addresses **reddit** users collectively with ‘Hello **reddit**’ and uses ‘redditors’ as the plural. Zerban also demonstrates a willingness to engage with **reddit** beyond the AMA. One comment on his AMA post expresses dismay that RobZerban.com is registered with GoDaddy, the next day Zerban makes a post to the ‘Operation Pull Ryan’ subreddit containing an open letter to GoDaddy in which he explains that he will be transferring his domain due to their support of SOPA.

On the whole it appears that Rob Zerban’s approach to **reddit** has been quite successful. He takes the opportunity granted by a highly visible post to direct redditors towards his website, **Facebook**

and **Twitter** accounts - avenues through which they might have a more sustained interaction with his campaign, perhaps as a supporter. This is a common occurrence, AMA posts by recognizable individuals frequently serve as a non-too-thinly veiled marketing ploy and take the opportunity to direct **reddit** users elsewhere (for an example which takes this too far and backfires see the Woody Harrelson AMA, where questions were only answered if an endorsement of 'Rampart' could be incorporated - redd.it/p9a1v). However, Zerban also demonstrates a willingness to meet **reddit** part-way, by conforming to **reddit**-specific norms and responding to suggestions with positive action. Without these gestures **reddit** users may have felt that the AMA interview was a one-off event that served simply as part of Zerban's Social Media strategy. As things unfolded Zerban seems to have made a positive impression on **reddit**, as attested to by a positive voting response to his subsequent submissions and a steady stream of donations which lasted for several days at least.

The positive response Rob Zerban received through **reddit** may have helped to establish social news websites as a part of the newly emerging Social Media arena around politics. In fact, between the time when Rob Zerban's AMA post was submitted (December 28th) until the end of the observation period (February 2nd) there are another two AMA-style posts from politicians which appeared on **reddit**'s Front page (redd.it/oicwg and redd.it/opgol).

Some time later (August 2012) Barack Obama also participated in an AMA interview (redd.it/z1c9z) as part of his campaign for re-election.

3.5.2 Lambasting Lamar Smith

Of all the posts about SOPA which concerned specified politicians and appeared on **reddit**'s Front page, Lamar Smith is mentioned by name in the titles of fourteen (all of these having a negative disposition towards him), much more than for any other individual. What is it about Lamar Smith which raised the ire of **reddit** to this degree?

Lamar Smith is a US Congressman representing a district in Texas, he is also the principle author of SOPA and this is the attribute which first brought him to **reddit**'s attention in a post which appeared on the Front page on November 24th (redd.it/mnafo). The fact that Smith was the author and driving force behind SOPA is no doubt implicated in the lambasting he received on **reddit**. However, posts concerning Smith specifically tended to occur later in the observation period. Between the time when Smith was identified as the author of SOPA (on November 24th) and January 2nd there was just one other post which mentioned him by name appearing on the Front page (redd.it/nehr6).

On January 3rd, posts concerning Lamar Smith began to appear on the Front page much more frequently. The first two of these posts link to articles which quote Smith making comments which are dismissive of the mounting public opposition to SOPA (redd.it/o19qi on January 3rd - "Lamar Smith Out Of Touch With The Internet: Still Thinks It's Just Google That Opposes SOPA"; redd.it/o326l on January 4th - "Smith Says **reddit** SOPA Protestors are 'Not Legitimate or Large in Number' "). The following four days see a further two posts about Lamar Smith in a similar vein appearing on the Front page (redd.it/o5bi9 - "Rep. Lamar Smith Decides Lying About, Insulting And Dismissing Opposition To SOPA Is A Winning Strategy", and redd.it/o5bi9 - "SOPA sponsor Rep. Lamar Smith to SOPA opponents: You dont matter"). Popular comments on each of these

four posts range from the critical to the vitriolic, and seem to establish Smith as a legitimate target for `reddit`.

The next post about Lamar Smith (appearing on the Front page January 12th) links to a *Vice* article which reveals that Smith's website violates a photographer's copyright (redd.it/oe17z). The same message appears on the Front page one week later (redd.it/omffp) with the title "Scumbag SOPA Author", this time a `reddit` user had re-worked the content of the *Vice* article into a single image, this post's top comment directs redditors to the original *Vice* article.

The remaining posts about Lamar Smith appeared after SOPA was officially shelved on January 20th, suggesting that `reddit`'s anger towards Smith persisted beyond SOPA. One of these posts links to a picture of Lamar Smith which has been doctored (presumably by a `reddit` user) with a super-imposed 'head crab' (monster from the popular computer game *Half-Life*), the implication being that Smith is a zombified puppet of the entertainment industries.

The next post concerning Smith appears on the Front page on January 27th and attempts to start a campaign to thwart his re-election (redd.it/oyd16 - "Lamar Smith, the scumbag behind SOPA, is up for re-election this year. Let's make sure his opponent wins!"). In this case the proposed strategy is to support his opponent, Sheriff Richard Mack, an alternative Republican candidate who is described as '[not] exactly the kind of candidate that `reddit` would normally support' but the lesser of two evils. This idea appears to have some support in the comments, and a new subreddit is created ([/r/SheriffMack4Congress/](http://r/SheriffMack4Congress/)) for the cause. As part of this effort Sheriff Mack was invited to conduct an AMA interview on `reddit`, and when he consented this post was up-voted to the Front page (redd.it/pap79) on February 4th, one day after the observation period for this case study. The AMA appears to have been quite successful with over 1,500 comments, and in the process Sheriff Mack and `reddit` appear to have discovered some common ground. As of May 2012 the [SheriffMack4Congress](http://r/SheriffMack4Congress/) subreddit is still active with 428 subscribers.

On February 1st another post appears on the Front page which references Lamar Smith (redd.it/p67jz), this time calling attention to a new piece of legislation (the 'Protecting Children from Internet Pornographers Act') which Smith is associated with. This post will be considered further in section 3.7 about coverage after SOPA was shelved.

The final post about Lamar Smith appearing on the Front page within the observation period called for an Operation geared towards his impeachment (redd.it/p8i1n). The top comment directs users towards the Sheriff Mack for Congress subreddit/campaign. Other popular comments point out that seeking impeachment is not a wise approach as it requires that a felony has been committed, and suggest instead that efforts to work against his re-election might be more fruitful.

Reviewing the timing and nature of posts on the Front page concerning Lamar Smith reveals a strong similarity with the GoDaddy boycott posts. In both instances some of the early posts at the beginning of a flurry of activity linked to *articles about the subject making comments which are dismissive of a campaign that `reddit` is involved in*. If we consider `reddit` as a single social entity these occurrences suggest that it may be possible to provoke this entity, with the result being a subsequent tendency for negative posts about the provoking party to appear on the Front page.

In the case of Lamar Smith the series of events likely unfolded as follows:

- `reddit` users are engaged in a campaign against SOPA
- SOPA author Lamar Smith makes comments about this campaign which dismiss it as a vocal

minority

- An article is written about these comments
- A link to the article is submitted to **reddit**, as it concerns a ‘hot topic’ it is up-voted to the Front page
- Many **reddit** users see the article about these comments
- These redditors are then more likely to submit or upvote posts which are critical of Lamar Smith - with the result that more of this type of post will appear on the Front page

If this series of events is accurate it suggests that when posts about Lamar Smith dismissing the Internet campaign against SOPA appeared on the Front page - redditors (or some portion thereof) may have taken this as a personal slight against themselves. If it really is possible to ‘piss off **reddit**’ in this manner by making comments about a campaign that **reddit** users are involved in, this suggests that being ‘a redditor’ may be an important part of these individuals’ identity (Tajfel, 2010).

If we conceive of **reddit** as an unconnected mass of disorganised individuals who happen to use the same Distributed Moderation based website, it is difficult to account for patterns such as the one described here. This is taken as further evidence that to understand what’s happening on and through **reddit** we need to conceive of **reddit** as a unitary social entity in some cases.

In Lamar Smith’s case **reddit** also demonstrates a surprising level of persistence. In the months following the observation period posts which made reference to Lamar Smith appeared occasionally on **reddit**’s Front page. There was an AMA post by another would-be competitor in March (redd.it/rkyav) and a post about ‘Don’t mess with the Internet!’ billboards being put up in Smith’s district. On May 28th a post appeared on **reddit**’s Front page which served to remind redditors in Texas that the Reupican primary (or “vote to oust SOPA posterboy Lamar Smith”) was the following day. The text of this post contained links to major posts and events which **reddit** was involved in - links to the AMA posts with two of Smith’s opponents and links relating to the billboard and TV advertisement which **reddit**’s ‘Test PAC’ paid for (see section 3.7).

3.6 Taking action

This section considers collective action posts on **reddit** in relation to SOPA. Previous sections have discussed some of the ways in which **reddit** users took or attempted to take action (GoDaddy boycott, campaigns for/against politicians), this section will consider some of the other ways in which **reddit** attempted to oppose SOPA. Early posts which called on **reddit** users to act most often advocated forms of low-intensity activism (or ‘slacktivism’ as this is sometimes termed) like signing a petition or sending a letter/email to their representatives. As the story progressed calls for collective action become more creative, with the GoDaddy boycott and the blackout being two of the most notable endeavours.

3.6.1 Petitions

In total there were eight posts appearing on **reddit**’s Front page which called on users to ‘sign’ petitions expressing opposition to SOPA. Signing a petition requires minimal effort and **reddit**’s

capacity to broadcast a link to hundreds of thousands of individuals quickly means that it is often involved in generating many signatures for petitions which resonate with **reddit**'s users. When **reddit** begins to rally around some cause often the first posts calling for users to act involve petitions, and the SOPA case is no exception. Four of the posts which linked to petitions appeared on the Front page in November while the other four appeared there in December. Three of these petitions were hosted on **WhiteHouse.gov** while the other five were created by various activist organisations.

While the comments on 'petition posts' often bemoan the ineffectiveness of petitions as a method of action these posts still regularly appear on the Front page and generate many signatures. These petition posts may serve as a way to establish that **reddit** users are in agreement on a cause and willing to act. The effort required to sign a petition is minimal so perhaps this is a good starting point for a campaign of collective action. Users who agree with the cause can sign the petition in a matter of seconds, if the petition does not pick up momentum these users have lost very little. While 50,000 signatures on a **WhiteHouse.gov** petition are not going to bring about a change in policy they may have more significance *within the reddit community*. A successful petition demonstrates that the **reddit** community is behind a cause in principle and in numbers, and this may be a useful base from which to attempt more ambitious and effortful forms of action.

3.6.2 The Blackout

On January 18th many high-profile websites 'blacked out' in a protest over SOPA - **reddit** and **Wikipedia** effectively shut their sites down while Google positioned prominent links to SOPA information on their front page (for US users). This was the highest profile event in the 'Internet campaign' against SOPA and **reddit** was one of the first entities to commit to a blackout and set a date. The decision to take **reddit** offline in protest was ultimately made by **reddit**'s administrators, but for several weeks before they made this decision there were high-profile posts in which ordinary users put forward and discussed the possibility of a blackout.

In total there were seventeen posts about a blackout which appeared on **reddit**'s Front page before the blackout actually took place, and several afterwards concerning its effectiveness. Posts about a blackout can be grouped into two temporal intervals.

The first post on **reddit**'s Front page to mention a blackout appeared there on 13th December and linked to an article about **Wikipedia** co-founder Jimmy Wales considering a **Wikipedia** blackout (redd.it/na2fm). Two days later on the 15th of December there were a further three posts about a blackout appearing on the Front page. The first of these called for online pornography websites to shut down for six hours that night in protest over SOPA (redd.it/nd67r), some of the popular comments on this post suggest that a Google blackout would be more effective or link to the previous article about **Wikipedia** considering a blackout. Next to hit the Front page is a post which again links to the article about a possible **Wikipedia** blackout but this time with the title "Why not black out **reddit** in protest of SOPA? ..." (redd.it/nddq7). It is noteworthy here that the top comment on this post suggests that blacking out **reddit** would be 'preaching to the choir'. This comment is replied to by a **reddit** administrator who agrees and says that **reddit** can be useful as a hub of anti-SOPA activism, this comment also states that a link to the SOPA subreddit has been added to the Front page. In this manner **reddit**'s administrators seem to be nudging users towards SOPA activism. Also on December 15th a post appears on the Front page

in which one user says that they have taken their own company's website offline in protest over SOPA (redd.it/ndz56).

Following this there is a lull in posts about a Blackout which lasts until January 3rd, during this gap the GoDaddy boycott took place and it appears that **reddit**'s focus shifted from blackouts to boycotts. The post on January 3rd links to an article about Google, Amazon, Facebook and Twitter considering a blackout.

Talk of a blackout sees a resurgence on January 7th when there were two posts on the Front page about this topic. The first of these links to an article in *Time* about the significance of a possible blackout by Google, Facebook and Twitter (redd.it/o6g4k). Later that day there is another post by an 'ordinary' **reddit** user concerning a blackout of **reddit** (redd.it/o6ymp), this time asking how **reddit** users would feel if **reddit** blacked out for a day. This time popular comments are more supportive of the idea, provided links to SOPA information are visible during the blackout. The next day a well-known moderator makes a post stating that the moderators of major subreddits are discussing the possibility of blacking out their subreddits for a day and asking **reddit** users how they would feel about it. This post saw very high levels of activity, more than 4,000 comments. Again popular comments are supportive of the idea as long as links to information about SOPA are provided prominently during the blackout. This post is interesting because it suggests that had **reddit**'s administrators not decided to blackout the whole website moderators may have attempted to achieve something similar independantly.

On January 10th **reddit**'s administrators made a blog post announcing that **reddit** would be taken offline on January 18th in protest over SOPA (redd.it/obg8v). Popular comments are supportive and hopeful that other entities (Google, Wikipedia, Facebook) will also blackout on the same day. Shortly after this blog post hits the Front page there are posts linking to articles about **reddit**'s decision to blackout (redd.it/oc06f, redd.it/oc5g). This is another example of the feedback loop whereby something that happens on **reddit** is echoed back through external reporting.

On January 11th a post reaches the Front page which asks redditors to "Tell Facebook to go dark on January 18 to spread awareness of SOPA/PROTECT IP" and links to the Facebook contact page (redd.it/ocqxi). Popular comments on this post contain suggested templates that people might use when they contact Facebook. On January 15th, a similar post appears this time concerning Google, this post does not initially call on redditors to contact google but the suggestion that they should send messages to Google on Twitter is edited into the original post in response to the discussion on the post's comments page.

In addition to these posts calling on external entities to join a blackout, there are posts celebrating when some of these entities announce their own blackout. On January 12th one such post concerns the *Cheezeburger network* (redd.it/oeaxa). On January 16th there are two posts about Wikipedia's announcement that they will join a blackout on January 18th (redd.it/ojh20 and redd.it/ojnkk). On the day of the blackout itself there are a further two posts (appearing before **reddit** was taken offline) pointing out that Google has placed a SOPA awareness doodle on its Main page (redd.it/olznp and redd.it/olzo5).

On the day after the blackout (January 19th) there are four posts appearing on **reddit**'s Front page about political support for the legislation collapsing (redd.it/omc0e, redd.it/omclw, redd.it/on6q8 and redd.it/oo64j). The mood in the popular comments on these posts is that **reddit** has been involved in achieving something important, but that this is just the beginning of a longer struggle

to protect freedoms which exist on the Internet. On the next day SOPA is officially withdrawn (redd.it/op5su) but again popular comments do not adopt a tone of self-congratulation but instead urge vigilance in the long term as the objectionable ideas in SOPA are likely to re-emerge in other bills.

3.7 Maintaining momentum

On the day when SOPA was officially withdrawn (January 20th) there are two posts appearing on the Front page which urge **reddit** users to now focus on new Internet regulating legislation (redd.it/op9z0 - “Threatening New Bill - Worse Than SOPA/PIPA (Make This Our Next Target **reddit**” and redd.it/opc2u - “H.R.1981, the real bill by lamar smith that will cripple the internet regardless of our efforts. SOPA and PIPA were a smoke screen.”). There appears to be a sense at this point that **reddit** has some momentum in its crusade to protect Internet freedoms and that to keep this momentum alive new targets are needed.

The next day sees the first post which attempts to channel this momentum towards ACTA (the Anti-Counterfeiting Trade Agreement). This post (redd.it/oplxh) is titled “Americans, we helped you and spread awareness about SOPA. Now it’s time to help us. Europe has their own SOPA, called ACTA.”. In what would become a common occurrence, this post likens ACTA to SOPA whereas the similarities between the two are minimal, and some popular comments point this out. This is another sign that these posts constitute an effort to maintain momentum, SOPA is the hot topic that **reddit** has been rallying around and it is repeatedly invoked to draw attention to other pieces of legislation that in reality bear very little similarity to SOPA.

In the 13 days between 21st January and the end of the observation period there were 20 posts pertaining to ACTA which were observed on **reddit**’s Front page, it appears that ACTA was chosen as the ‘next target’ for **reddit**. One of these posts (redd.it/oqdxw) emphasises **reddit**’s international nature (“European Redditors: What is ACTA, and what can U.S. Redditors do about it?”).

In addition to the identification of new targets there are two posts which offer thoughts on the long-term implications of the ‘Internet campaign’ against SOPA. The first of these (redd.it/orj14) is a text post about “why SOPA might be the best thing ever...” suggesting that “The younger, online generation just found out that if they pay attention to politics, participate, and speak up about issues they disagree with, they can actually impact legislation.”. The second (redd.it/p4iod) links to an article about January 18th being the largest digital protest ever.

Throughout this period there are numerous popular comments and posts bemoaning the fact that legislators will continue to push the ideas in SOPA in future legislation, often accompanied by the conclusion that the legislators will win by out-lasting ‘the Internet’s’ capacity to protest vociferously. Some of the ideas voiced in response to this are that people need to be more pro-active in calling for legislation which will protect the Internet, and that **reddit** needs to have a way to marshal its apparent political will and enthusiasm on a longer-term and more organised basis.

On January 19th a post (redd.it/onb6f) appears on **reddit**’s Front page announcing the formation of a **reddit** Political Action Committee (or PAC). One week later this PAC is featured on the Front page again (redd.it/oz8le) announcing the launch of its own website (www.testpacpleaseignore.org) and subreddit ([/r/rpac](http://r/rpac)). The name of the PAC (Test Pac, Please Ignore) is a reference to the

highest-scoring post on `reddit` of all time (redd.it/92dd8). As of May 2012 the `/r/rpac` subreddit is still active with more than 5,000 subscribers, \$20,000 dollars have been raised for the PAC, and this is currently being spent on the PAC's (democratically determined) first goal - unseating Lamar Smith from congress.

3.8 SOPA coverage and subreddits

This section considers the subreddits which SOPA posts that reached the Front page were submitted to. `Reddit` is comprised of thousands of subreddits which operate independantly and are aggregated (selectively, based on a user's subscriptions) to produce the Front page.

Between October 27th and November 30th there were 37 posts about SOPA on the Front page, 26 of these posts were submitted to the technology subreddit. The `/r/technology` subreddit was the first default subreddit to show an interest in SOPA. This is somewhat expected as the technology subreddit often features posts about legislation related to technology - and SOPA most certainly falls into this category. During this time the `/r/politics` subreddit, another subreddit which one might have expected to 'cover' SOPA, was devoting a lot of attention to the National Defence Authorization Act for 2012 - specifically its provisions for the detention of American citizens.

subreddit	October/November	December	January/February
total	37	100	122
technology	26	38	33
politics	5	34	30
worldnews	1	2	14
AskReddit	2	10	11
IAmA	0	3	5
gaming	1	4	6
movies	0	0	1
music	0	0	1
videos	1	0	1
pics	0	1	1
funny	0	3	4
AdviceAnimals	0	1	7
WTF	0	1	4
todayilearned	0	2	1
bestof	0	1	1
blog	1	0	2

Table 2: The number of posts per month appearing on the default Front page from individual subreddits

In December SOPA coverage penetrated a much broader range of subreddits, with almost as many posts coming from `/r/politics` as `/r/technology`. There is considerable overlap between the Front page posts coming from these subreddits, with at least 18 incidents observed where a very similar post (often linking to exactly the same article) appeared on the Front page through both of these subreddits on the same day. This suggests a similarity in the opinions of users who vote on these subreddits and possibly a large overlap in users themselves. However it also suggests that redditors

conceive of subreddits as separate entities, the fact that a post has appeared on the Front page through /r/technology does not appear to be reason to downvote it when it is encountered on /r/politics. In one observed incident a post reached the Front page through /r/technology with the specific intention of highlighting a previous post to /r/politics (the post which instigated the GoDaddy boycott).

Posts reaching the Front page through the AskReddit subreddit (2 in November, 10 in December, 11 in January) also merit a mention here. These are posts where **reddit** users have asked each other about their opinions on SOPA, about the effectiveness of some course of action or about how to take action effectively. These posts are significant for two reasons. Firstly, they serve as places which are explicitly devoted to discussion and they are often used to directly gauge redditors' response to a suggestion. Secondly, unlike the politics and technology subreddits, /r/AskReddit is not dedicated to content which is political, serious or important in nature. It seems likely that there is less overlap between the readers of AskReddit and politics/technology than there is between those two subreddits. AskReddit may therefore have served as a place where **reddit** users who are not usually interested in this kind of content would have been exposed to messages about SOPA. A similar argument could be made about the gaming subreddit.

3.8.1 The role of humour

Of the 259 Front page posts considered as part of this case study 19 have been classified as humorous in nature. Humorous posts about SOPA tend to either speculate on courses of action which could be taken if SOPA passed or (later) satirise individuals who are perceived as SOPA supporters.

These posts begin appearing on the Front page on December 15th, co-inciding with a surge in **reddit**'s coverage of SOPA. The appearance of these posts on the Front page through subreddits like /r/funny and /r/AdviceAnimals likely marks the point where awareness of SOPA had reached **reddit**'s user-base as a whole. At this stage there had been many posts about SOPA appearing on the Front page through /r/technology and /r/politics. We can speculate that some users who were aware of SOPA began to make humorous posts and submit these to humour-oriented subreddits, and that there were enough subscribers to these subreddits who were aware of SOPA and could appreciate the humour to upvote the posts to the Front page. When these posts appeared on the Front page through these humour-oriented subreddits we can assume that 'SOPA awareness' had penetrated the majority of **reddit**'s user-base. If we conceive of default subreddits as being 'serious' or 'humorous' in nature then /r/politics and /r/adviceanimals would probably lie on opposite ends of this spectrum, and most users who subscribe to any of the default subreddits likely subscribe to a subreddit which at this stage had hosted SOPA-related content in a prominent location.

Many of these humorous posts were image posts that were hosted on **Imgur.com**. This provides us with some extra information on the number of people who viewed SOPA-related content through **reddit** - as **Imgur.com** displays view counts for images hosted there. The humorous SOPA-related posts hosted on **Imgur** which had reached **reddit**'s Front page were viewed between 250,000 and 700,000 times each (view counts observed May 2012).

3.9 SOPA Summary

If we consider **reddit**'s coverage of the SOPA story in comparison to the way the conventional news media covers stories there are similarities and differences. Early posts about SOPA on **reddit**, and posts which are informative in nature, are most similar to the type of coverage one would expect to observe in the conventional media. For example, the first post about SOPA to appear on the **reddit** Front page linked to a **Techdirt** article about the legislation. This article provides a comprehensive and straightforward introduction to the legislation but it is also overwhelmingly critical in tone, whereas articles published by the conventional news media tend to be more neutral in tone. This article also embeds the full text of the legislation within the same page, again a departure from the conventional news media.

If we consider the SOPA case study along with the earlier **Wikileaks** case study this suggests that when **reddit** begins to cover a story it will do so by linking to comprehensive external articles. If such articles are available in recognisable news outlets (as was the case in the **Wikileaks** study) these will be linked to by Front page **reddit** posts. The SOPA case study suggests that **reddit** can decide to cover a story which is *not* being covered by the conventional news media - and in this case Front page posts will link to wherever information about the story is available. This is important because it indicates that **reddit** is capable of setting its own agenda and is not limited to providing an alternative perspective on stories which are popularised by the conventional news media. This distinguishes it from the collective action organisation *38 degrees* as described by Chadwick (2013). In the case of SOPA **reddit** demonstrated persistence in its intent to cover this story for a period of 3 weeks before any elite older media entities showed an interest in picking it up, and there is a case to be made that **reddit** was instrumental in 'breaking' this story.

Reddit frequently used **Techdirt** as a source of information for this story, whereas it was not linked to by coverage of the **Wikileaks** story. In the former case this kind of foundational information was provided through links to the conventional news media, but with SOPA these sources were not available during the early phases of the coverage. This can be read as **reddit**'s users collectively realising the need for solid information about the story and recognising **techdirt** as a reliable provider for this. In a broader sense it is part of an emerging social media 'assemblage' (Chadwick, 2013) around coverage of this story, with a particularly strong interplay between **reddit** and the **Techdirt** blog - **reddit** provided attention for **Techdirt** and perhaps **Techdirt** reciprocated to some degree by continuing to cover the SOPA story which was drawing in so much traffic from **reddit**.

The SOPA case study also re-affirms the importance of comments pages in **reddit**'s coverage. Through these democratically ranked comments **reddit** users can hold a large-scale discussion of a post's contents - often criticising the post or bringing additional information to bear. It is quite common to see comments from a user who has some expertise in the relevant area, and for these comments to be highly upvoted. This is in some senses a similarity to the conventional news media, who will often invite an expert to give comment on a particular story. The difference is that a conventional news organisation will invite (and presumably pay) their chosen expert to contribute. On **reddit** these experts come from within the ranks of **reddit**'s users, they choose to make their comment of their own volition and it is up to the users who vote on comments to decide whether these comments warrant prominent positions.

During this case study there was also a post on **reddit**'s Front page which can be interpreted

as **reddit** ‘having a correspondent on location’ - a capacity which is more often associated with conventional media coverage . In this post ([redd.it/ne9zn](https://www.reddit.com/ne9zn)), titled “I am at the SOPA House Judiciary Committee hearing. AMA”, a user who was present at the House Judiciary Committee provided updates and answered questions from other users. This capacity results from the combination of a large and growing user base and a voting system which is based on contribution quality. As **reddit**’s user base continues to grow so does the likelihood that some of the **reddit**’s users will be in a position to provide expert commentary or coverage - the voting system allows these contributions to be recognised and made visible even when they come from a **reddit** user who does not have an established history on **reddit**. The result is that **reddit** can provide expert comment or on-the-spot reporting on a convenience basis for free. These are services which the conventional news media pay to provide, and one might assume that they are aspects of news coverage which *require* the organisational capacity of a conventional, hierarchical, news company. This case study has shown that **reddit** can provide an analogous service through crowd-sourcing and ‘citizen journalists’.

This case study also allows us to consider **reddit**’s response to a rapidly developing story. In comparing **reddit** to the conventional news media one would expect the conventional media to have an advantage here. When there is a development in a story which is being covered the journalist who has been assigned to cover the story need only consult their editor before publishing an update. On **reddit** there are no journalists who have been assigned to particular stories, and the role of an editor is being performed by thousands of uncoordinated individuals. Bearing this in mind, **reddit** demonstrated a surprising capacity to quickly ‘publish’ updates on a rapidly developing story. This episode offers hope that **reddit** has the capacity to correct mis-information cascades (Sunstein, 2002) in a timely manner.

We have thus far considered **reddit**’s information-oriented coverage, where similarities and analogies to the conventional news media are rife. However there is another side to **reddit**’s coverage of this story - posts which are action-oriented. This is where **reddit**’s coverage diverges from that of the conventional news media. The conventional news media, as a rule, do not serve as a platform on which grassroots collective action can emerge and become established. The conventional news media is operated on a one-to-many basis; professionals produce ‘the news’ and readers consume it, there is very little room for feedback from the readers and for readers to talk amongst themselves (although recently this is changing with the introduction of comments sections to the online offerings of many news producers) (Keen, 2007).

On **reddit** a post about one user’s letter to their representative or decision to boycott a company is ‘processed’ in the same manner as a post linking to expert analysis - with placement on the Front page being the highest degree of visibility any post can achieve. Any **reddit** user with an idea or something to report has in principle the same chance of reaching the Front page as a professional who writes articles about a subject - this equality may be one of the characteristics which leads to **reddit** serving as a platform for collective action.

There are feedback loops of attention on **reddit** which are also heavily implicated in its capacity to foster collective action. When a post concerning some idea for collective action appears on **reddit**’s Front page it has already passed the first hurdle towards becoming a reality - **reddit**’s voting users have approved it. Observations suggest that appearing on the Front page indicates only a shallow level of approval, perhaps an agreement with the sentiment behind the idea expressed in the post’s title. Nonetheless, when a post appears on the Front page it is being put before a

large audience of **reddit** users and it will then generate a large-scale discussion. Some ideas falter at this stage, with the most popular comments criticising the effectiveness of the proposed action. When the outcome of the discussion is positive there will be high-scoring comments endorsing it and others offering suggestions on how to increase its effectiveness. This also highlights the fact that **reddit** is a fundamentally public entity - the social machinations which determined the character of **reddit**'s involvement in the story have all taken place in public and can therefore be consulted and referenced by users to understand *why* **reddit** is behaving in a certain way.

Where a post about some proposed form of action is successful at this stage it will have first been shown to many users on the Front page - if these users view its comments page they will be presented with supporting arguments which have been endorsed by the **reddit** community (i.e. comments with large scores). At this stage there are many **reddit** users who are both familiar with and supportive of the idea. Subsequent posts which concern the idea are more likely to perform well through the voting system (as many voters will have already seen the idea and been persuaded of its merits) - this knowledge and attitude 'cascades' through the user-base through repeated exposures on the Front page.

If the proposed collective action acquires momentum and people begin to take action this may result in an external entity publishing an article about the action taking place through **reddit**. When such an article is published it often appears on the **reddit** Front page. The appearance of this kind of article on the **reddit** Front page likely reinforces the sense among **reddit** users that the action they have embarked upon is being noticed and having an effect. This would in turn increase the chances that subsequent posts about the collective action will be upvoted to the Front page.

When an idea for collective action takes root on **reddit** it does so in a manner which is both fast and chaotic. The salient example from this case study is 'Operation Graham Cracker'. A user submitted a post calling for the targeting of one pro-SOPA politician. Within 14 hours of this post's submission **reddit** had picked a target, created a website and subreddit to facilitate further organisation, discussed alternative targets, held a poll to select an alternative target, and then created a subreddit and web page to facilitate the new campaign. This speed and chaos is due to **reddit**'s anarchic streak and lack of defined leaders. When an idea for action begins to take off on **reddit** it will need a website and spaces in which people can communicate about it. There will usually be many people who see the idea and have enthusiasm for it and also the skills/time to produce something to aid with the idea's implementation (i.e. a website, an IRC chat-room). There is no recognised leader in the endeavour to consult, therefore the first person to take action in providing for some need becomes the de facto provider of that service. This anarchy allows redditors to get something going very quickly but it can also result in users undertaking work which is pointless (e.g. a **reddit** user now owns `operationgrahamcracker.com`, a domain for a political campaign which was dropped within hours of its conception).

The speed with which collective action proposals evolved and with which the a mis-information cascade was corrected also serve to highlight the importance of 'high temporal resolution' in data for this kind of research - a commonality for any research which deals with the contemporary Hybrid Media System (Elmer, 2013; Chadwick, 2013). Where once it was sufficient to know the day/edition of an article or the time slot for a news bulletin it is now necessary to have a timestamp which is as accurate as possible - a further indication of the more frantic pace at which media now operates. This fact emerges quite quickly once one begins to embark upon research of this nature

- and the availability of data which allowed for the story to be tracked in such temporal detail offers some vindication for the data collection regime designed and implemented more than a year before the SOPA case study's inception.

The decision to collect data on a continuing basis has also been provident here. Without this approach the case study would only have been possible if I had realised SOPA coverage was worthy of study before posts about it began to appear on **reddit**, and even then there would be ambiguity about whether I had captured the first posts about it to appear on the Front page or whether it had appeared there before without my knowledge. There is no resource which allows one to re-construct the contents of **reddit**'s Front page at a given moment in time, aside from the data collected for this research. ³

If we consider the collective action in this case study in comparison to campaigns organised by an organisation like *38 degrees* or *MoveOn* there are a lot of similarities in the types of 'action' which are requested of users, drawn mostly from a well established set of collective action repertoires (Bimber et al., 2012) - all three platforms have successfully executed 'campaigns' involving signing petitions, contacting representatives, donating money to purchase an advertisement, attending a protest, etc. There are also similarities in the strategic approaches of these campaigns - with trying to gain conventional media attention for a perspective, and targeting the decision-makers directly, being two common approaches. A further similarity is the speed with which collective action proposals can be put forward and executed (Chadwick, 2013, p.191).

The major disparities between **reddit** and *38 degrees/MoveOn* are in how these strategies are developed and executed - chiefly the absence of pre-determined leaders on **reddit**. On **reddit** the voting system is the key mediator between participants who are fundamentally equal, and it is through this mediation that every aspect of the collective action endeavour is determined and reported. *38 degrees* does not follow the 'peer production' model whereby all users are essentially equal - but rather has a clearly defined leadership who set the agenda and decide which actions are placed on the website.

“The leaders acknowledge that the decision to call those on its e-mail list 'members' was a deliberate attempt to encourage a sense of shared identity in the absence of organizational mechanisms...” (Chadwick, 2013, p. 189)

The relationship between *38degrees* leaders and members is an unusual one and could be described as analogous to a politician and their electorate or a marketer and their market. Leaders pay very close attention to the discourse of their members and also poll members directly to aid in the determination of which actions to attempt, and members 'vote' to determine the actions that will be 'selected' by indicating their intent to participate. Leaders 'test' ideas by emailing them to small samples of the member list - using early (non-)responses to determine whether a nascent action should be abandoned, and even sending out multiple versions of the email which frame the issue in different ways or altering the format of presentation to fine-tune the action's presentation. (Chadwick, 2013)

Collective action endeavours on **reddit** showed considerable similarity to those orchestrated by *38 degrees* - one can even see how the process of finding a workable plan of action played out on **reddit**, with plans that had a mixed response in comments being 'abandoned', and the 'doubling

³There are however services which allow one to get a rough idea of which posts were popular on a given day, and these have been used to fill gaps when my data collection server was down.

down' on approaches which bear fruit (chiefly boycotts in this case). It is perhaps remarkable that 'higher-order', almost strategic, 'decision-making' like this can emerge naturally through the voting-mediated interaction of a large number of equal participants - without recourse to the explicit opinion-monitoring and campaign testing/refinement carried out by *38 degrees*' leaders. *MoveOn* campaigns have been described as "not organising without organisations but organising with different organisations" (Karpf, 2012). In **reddit**'s case much of the 'organisation' is supplied server-side, omnipotent yet invisible aside from the voting arrows which accompany every item of content - and users exist in free-floating pseudonymity.

The fact that **reddit** is fulfilling the dual roles of 'news broadcaster' and 'collective action platform' concurrently may also be a significant advantage for the collective action endeavours which originate there - akin to having an 'in-house' magazine with a large readership. The capacity **reddit** has to 'set its own agenda' in terms of 'news' content likely extends to collective action, and therefore it may not be restricted to action on topics which are currently 'in the news' (the 'Rally to Restore Sanity and/or Fear' is another good example of this) as *38 degrees* restricts itself.

To re-visit the framing of 'Common Pool Resources' (Ostrom, 1990) - **reddit** has during both case studies demonstrated the capacity to deploy its CPR (attention) to a specific end (by promoting a particular perspective on **Wikileaks** and serving as a 'counter-measure' for actions against it, then in raising awareness of SOPA and organising collective action against it). In the SOPA case **reddit** went beyond consuming its own CPR and actively sought to expand this resource by deliberately attempting to garner attention from outside its own domain - both the GoDaddy boycott and the blackout were successful in doing this and generated a considerable level of coverage from both older and newer media elites.

The final point to take from this case study is that it offers further evidence that to fully understand **reddit** it is sometimes necessary to conceive of it as a collective social entity. In one sense this is a similarity between **reddit** and a conventional news organisation. A newspaper will often be associated with a particular stance on an issue, person or political party and the case studies recounted here demonstrate that **reddit** also has these characteristics. The difference is that this sense of identity comes about in a fundamentally different way - on **reddit** this occurs in a bottom-up fashion but in a newspaper it is a top-down process (i.e. the newspaper's owner or high-level management determine the paper's stance while journalists adopt this decision as their own for the purpose of their writing). **Reddit**'s coverage may in fact have a more personal or humanistic tone; it appears that it is possible to 'piss off **reddit**' (GoDaddy and Lamar Smith both appear to have achieved this), and in another example **reddit**'s coverage of Al Franken in relation to SOPA belied a sense of betrayal - with many comments expressing disappointment that a politician who redditors thought was 'on their side' would back such a reprehensible piece of legislation.

This idea that it is sometimes necessary to conceive of **reddit** as a collective social entity is pursued further in section 5.

4 Does reddit's up/down voting system put the 'best' content in the most prominent locations? An experimental approach.

The principal task of a Social News voting system is to sort content such that the best items are ranked most highly and as a result are most widely seen. Where previous sections have considered the nature of posts that are highly ranked and the social impact of their appearance on the Front page - this section asks *how well* reddit performs in one of its most fundamental tasks.

While it is possible to track the performance of posts on a Social News website and observe their voting trajectories - to determine whether the 'best' posts are reaching the Front page some external measure of post quality is required. An experiment has been conducted which aimed to provide such a measure and address a number of other questions.

The basic principle behind this experiment was to take a small sample of posts which had been tracked on reddit and present these to participants who would then rate them - providing a measure of 'post quality' which could then be compared to the posts' voting performance when they were submitted to reddit. The analysis of post voting in Chapter 5 suggests that many posts to large subreddits are quickly 'discarded' because they do not progress to the Rising or Main pages, a 'collective decision' which is effectively being made by relatively small numbers of users - and Chapter 6 presented evidence that there are certain users who account for a disproportionate level of voting activity on these early stage pages. This experiment presents all of the sampled items to all of the participants, thereby 'levelling the playing field' in this respect. When all of these posts are presented to a large enough number of participants this should generate a more reliable measure of how reddit's population of users appraise these posts - this measure can then be compared to the posts' voting performance on reddit. If there is a strong correlation between post scores and the ratings generated by this experiment then reddit's voting system can be said to be performing well.

Reddit users are the ideal participants for such an experiment because it aims to determine whether the voting performance of each post on reddit matches the perception of post quality *among reddit's population of users*. If participants in this experiment were drawn from some other population then a discrepancy between post scores and experimental ratings could be due to a difference in opinions on what constitutes a 'good post' between the reddit population and whatever population participants were drawn from. For similar reasons, the experiment's instructions did not specify exactly what criteria participants should rate items on - instead asking that participants apply the same criteria they would when they vote on reddit posts.

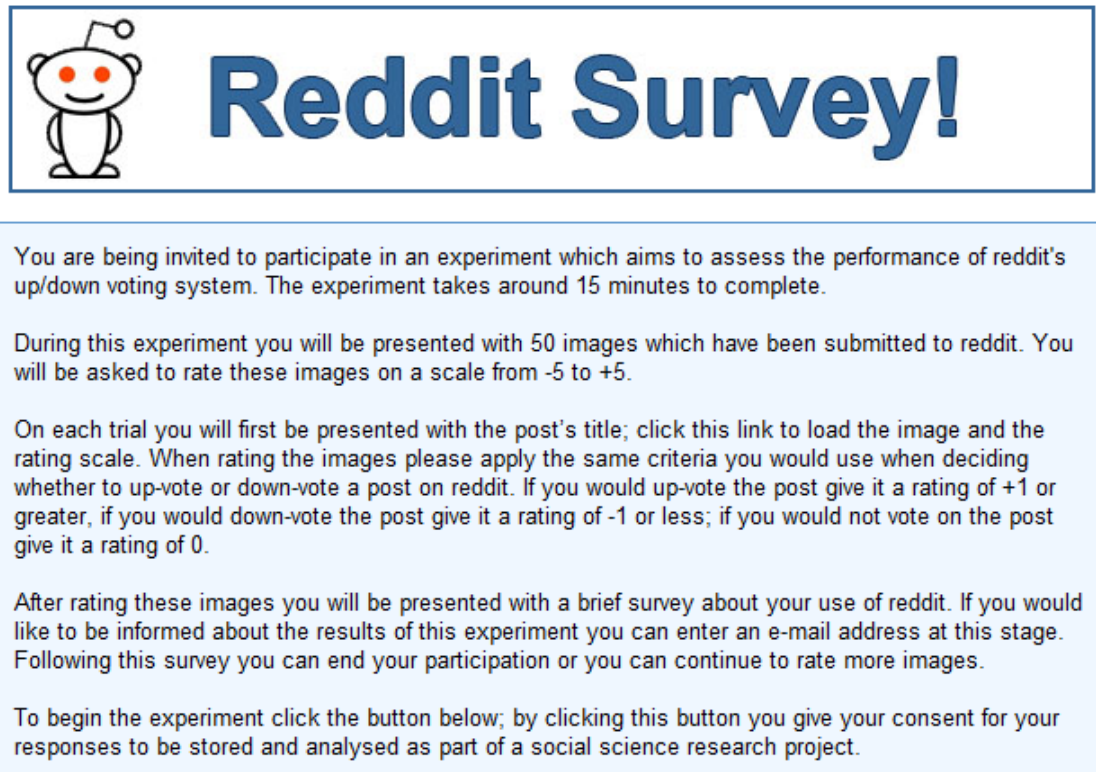
The 'pics' subreddit was chosen as the source for items to be rated in this experiment. It was felt that pictures could be rated much more quickly than other stimulus types (like articles or videos) - allowing for a greater number of items to be presented to each participant. Also, pictures were deemed less likely to suffer from being 'dated' than other possible stimulus types (e.g. a news article might be deemed worthy of attention on the day it was written, but of much less interest two weeks later).

250 image posts were randomly selected from the data recorded for the 'pics' subreddit in January 2011. 50 images for each of five post types were selected, these post types being based on the

voting response received by the posts as follows:

- Posts which reached the default Front page (leaf 1).
- Posts which reached the Main page (leaf 1) for the pics subreddit.
- Posts which received a positive score but did not reach the subreddit's Main page.
- Posts which received no votes.
- Posts which received a negative score.

The instructions screen for the experiment has been included in figure 10.



Reddit Survey!

You are being invited to participate in an experiment which aims to assess the performance of reddit's up/down voting system. The experiment takes around 15 minutes to complete.

During this experiment you will be presented with 50 images which have been submitted to reddit. You will be asked to rate these images on a scale from -5 to +5.

On each trial you will first be presented with the post's title; click this link to load the image and the rating scale. When rating the images please apply the same criteria you would use when deciding whether to up-vote or down-vote a post on reddit. If you would up-vote the post give it a rating of +1 or greater, if you would down-vote the post give it a rating of -1 or less; if you would not vote on the post give it a rating of 0.

After rating these images you will be presented with a brief survey about your use of reddit. If you would like to be informed about the results of this experiment you can enter an e-mail address at this stage. Following this survey you can end your participation or you can continue to rate more images.

To begin the experiment click the button below; by clicking this button you give your consent for your responses to be stored and analysed as part of a social science research project.

Start

Figure 10: Showing the instructions screen for the content-rating experiment.

The procedure for an experimental trial was as follows. First the post's title appears, the participant clicks on the title to load the image it links to, and this image appears with a rating scale; the participant makes their rating and the next trial begins. The decision was taken to display the post's title before the image being linked to because some of these posts have a kind of joke-punchline structure; where the image being linked to is effectively the punchline of a joke. Items were presented to each participant in a randomised order. Figures 11 and 12 show a sample trial from the experiment.

Each participant in the experiment was shown the same 50 items (10 of each type) from a core set of 50, and asked to rate these on a scale from -5 to +5. Participants were instructed to give a negative rating if they would down-vote the post, a rating of 0 if they would not vote on it, and a positive rating if they would up-vote the post. The decision to employ an 11-point scale was taken



Progress:

Figure 11: Showing a sample item from the ‘false information’ condition of the experiment, the participant clicks the title to proceed.

because this allows for a measure of how strongly participants felt about each item. Given that the instructions specified that negative ratings were equivalent to down-votes and positive ratings equivalent to up-votes, it is also possible to collapse the rating scores so that they are more easily mapped onto **reddit**'s up/down voting system. With enough participants contrasting these two versions of the rating measure may yield interesting results. The experiment concluded with a set of survey questions concerning the participants demographics and their use of **reddit**. After this each participant could choose to continue rating /r/pics posts (with these posts being drawn from an expanded set of items distinct from the core set of 50).

The main difficulty in designing this experiment was a lack of control over how many participants could be recruited. The research project lacked funds for the payment of participants or advertising of the experiment, and therefore submitting a post to **reddit** which linked to the experiment was the only viable option for recruiting suitable participants. Having observed prior to this user-generated surveys which appeared on the Front page and received upwards of 20,000 responses (see section ??) - the decision was taken to design the experiment in such a way that it would benefit from having many participants. If the experiment was to appear in a prominent location once it was submitted to **reddit** this would happen only once - and therefore the experiment had to be designed from the outset in such a way that it would benefit from a large number of participants in the eventuality that this is what occurred.

A random sample of just 10 posts to represent each of the post types is sub-optimal, but it was felt that one could not expect each participant to rate more than 50 items. One solution was to allow participants to rate items from the expanded set of 200 items not in the core experiment once they had completed the core experiment. The experiment was also designed in such a way that the set of 50 core items could be switched to one of four other sets manually once the first set of core items had been rated by enough participants that additional data would be of no benefit.

The experiment would also have a further objective beyond establishing an ‘external’ measure of post quality - to investigate whether the perception of **reddit** users is influenced by the aggregate scores presented alongside a post on **reddit**. To this end three experimental conditions were



Figure 12: Showing a sample item from the experiment after the participant has clicked the title. Once the participant selects their rating and clicks 'vote' the next trial begins.

incorporated in a between-subjects design (an individual participant is allocated to a condition randomly and completes the whole experiment in this condition). The first of these is a baseline condition - no score information is provided. In the second condition the post is presented with its voting score as observed four hours after the post was submitted on **reddit** (items have been formatted so that they look like **reddit** posts and the score appears in the appropriate location). In the third condition the post is presented with false score information (the score information for posts was switched randomly between posts). The hypotheses related to these conditions were that:

- In the false information condition ratings would be different to the true information condition *in the direction of the 'mislead'* - where the presented score was lower than the item's actual score this is a 'negative mislead' and ratings are expected to be lower than in the true information condition, the converse is true for items which were presented with a score that was higher than their actual score. If this is the case it suggests that the judgments of **reddit** users may be influenced by the previous judgments of other users, encapsulated by the item's score. Another way to put this is that **reddit**'s users have learned that there is a relationship between **reddit** scores and item quality.
- There might be a temporal aspect to this effect whereby the effect weakens as the experiment proceeds. This is hypothesised because participants in the 'false information' condition may realise at some point that the scores being presented in the experiment had no utility or meaning. If this occurred it would allow us to consider how quickly **reddit**'s users can 'un-learn' the relationship between post scores and item quality when the relationship ceases to

exist.

In May 2011 a post was submitted to `reddit` which invited `reddit` users to participate in the experiment and linked to the experiment's start page on the researcher's own web server. The post was submitted to the `/r/pics` subreddit to achieve the closest possible match between the population the experiment's participants would be drawn from and the population who had voted on the items' posts when they were originally submitted to `reddit` (both populations are `/r/pics` subscribers). Other subreddits may have been more suitable to submit an experiment to (e.g. `/r/reddit.com`, `/r/TheoryOfReddit`), but individuals who saw the experiment through a different subreddit would include some proportion of users who did not subscribe to `/r/pics` and had no interest in the type of content `/r/pics` caters to - and would therefore be unsuitable participants.

Unfortunately the post which was submitted to `reddit` did not fare very well, only achieving a modest score of around 10 and appearing briefly on the Rising page but not the Main page. Over the course of the weeks which followed the post was re-submitted twice but on no occasion did the post reach the number of potential participants that was hoped for. On each occasion the previous post had to be deleted because one cannot submit a post to a specific subreddit if a post linking to that URL has already been submitted. The experiment was initially conceived of at a time when posts which sought to understand `reddit` in some way were not uncommon on the Front page (e.g. the user-generated surveys in section ?? - but by the time it could be designed and implemented in software this trend had disappeared from the Front page. Chadwick (2013) remarks upon the importance of timing in the Hybrid Media System, and in this case sub-optimal timing has worked against the possibility of the experiment being broadcast on `reddit`'s Front page.

In total only 65 participants completed the whole experiment; 33 in the baseline condition, 17 in the true information condition and 15 in the false information condition. The experiment had been configured to randomly assign 50% of participants to the baseline condition and 25% to each of the experimental conditions because in the eventuality of a low number of participants it was felt that having a large enough number of participants completing the baseline condition should take priority.

A total number of 65 participants is much lower than was hoped for and means that there is too little data to pursue all of the planned avenues of enquiry.

4.1 Do ratings obtained through the experiment reflect the performance of the items on reddit?

First the core question which the experiment sought to answer was addressed - is there a relationship between the items' voting performance as observed on `reddit` (recorded as one of five categorical levels) and the ratings obtained through this experiment? Here only the 33 participants who completed the baseline condition where the items were displayed without score information are considered. Given the low number of participants and ambiguity about what the ratings meant (beyond their being negative, neutral or positive), it was deemed preferable to treat these ratings as 'up/down scores'. The use of an 11-point scale to record ratings is related to the second aspect of the experiment, which was designed to look for a subtle influence on perception (more likely to be detected with a more sensitive measurement).

As this part of the experiment compares ratings of the items in the experiment to their voting

performance on `reddit` it is preferable to transform the ratings such that they more closely match `reddit`'s voting system. The 11-point ratings were first converted to a 3-level ordinal variable with all negative ratings becoming -1 and all positive ratings becoming +1. For each item the 'up-votes' were summed and the 'down-votes' subtracted to produce a score. As there were 33 participants in the baseline condition of the experiment a post can have a maximum score of 33 (and minimum of -33).

This part of the experiment deals with the baseline (no score information presented) between-subjects condition of the experiment only. The only relevant independent variable here is the type of item presented and this has five levels (with 10 items from each level being presented). Order of presentation may also have influenced ratings (possibly through a fatigue effect) but this has been randomised between participants and therefore will not have a systematic effect on aggregated ratings.

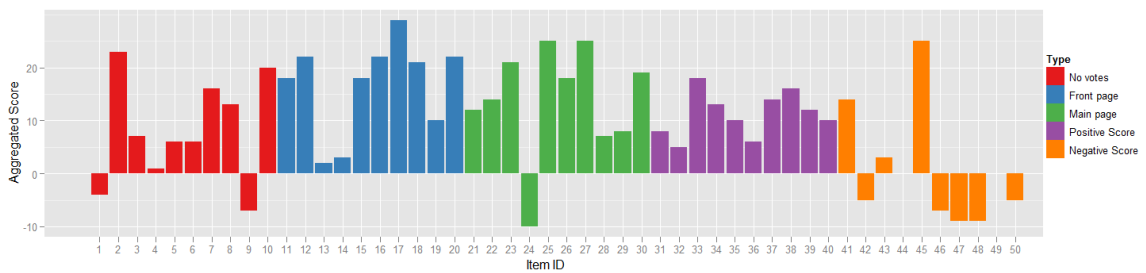


Figure 13: Showing Scores generated by the experiment (positive ratings less negative ratings) for the set of 50 core items. Each item has been coloured to reflect its type - determined by the voting response it received when submitted to `/r/pics`

Figure 13 shows the 'up-down' scores for the core set of 50 items. There does appear to be a trend whereby the experimental scores are related to the item's type (as defined by its performance on `reddit`), but for each type of post there are obvious exceptions to this trend. Posts which appeared on the Front or Main pages tended to receive the highest scores in the experiment, but there were two low-scoring Front page posts and one Main page post that received a negative score in the experiment. Of the ten posts which had a negative score on `reddit` five received a negative score in the experiment and two more had a score of zero - but one of the other posts from this category was among the highest-scoring items in the experiment. Similarly, some of the posts which received no votes on `reddit` received high scores in the experiment.

On the whole, figure 13 indicates that there is a relationship between how posts performed on `reddit` and how the same items performed in this experiment - but suggests that there is also a random component whereby good posts (as rated by participants in the experiment) can be ignored or down-voted and mediocre posts can appear in high-visibility locations. A linear model assuming a normal distribution was fitted to the items' 'up/down' scores with type as the explanatory variable, details of this model are presented in table 3. Posts which had a negative score have been chosen as the reference category, and while the coefficient for this category is not significantly different from zero the coefficients for all other levels are significantly different to this reference group. Furthermore, the coefficients for these levels follow the expected pattern: Front page > Main page > Positive Score > No Votes > Negative Score.

There is evidence here that `reddit`'s voting system as used by `/r/pics` subscribers is performing the task which it has been set, albeit not 'perfectly'. It is however not clear what standard the

	Coefficient	Std. Error	p-value
Intercept (Negative Score reference group)	0.07	1.3	0.95
Front page	9.03	1.85	< 0.001
Main page	7.87	1.85	< 0.001
Positive Score	6.3	1.85	< 0.001
No Votes	5.73	1.85	< 0.01

Table 3: A linear model of Up/Down score in the experiment with post type as the explanatory variable - posts with a negative score are the reference category

performance of **reddit**'s voting system should be held to. Every month thousands of posts are submitted to this subreddit and an unorganised group of hundreds or thousands of individuals vote to filter and rank these posts - this part of the experiment shows that the collective judgments arrived at through the voting system stand up when a random sample of these items are presented to individuals from the population of /r/pics users several weeks later. Should this be regarded as a triumph - or should the fact that some 'good' items (that were highly rated by participants in the experiment) did not progress far when they were submitted to **reddit** be counted as a serious flaw? The answer will depend on how well one *thinks* **reddit**'s voting system performs, because there are no equivalent studies on other websites that **reddit**'s performance might be compared to.

If one takes the analyses presented in Chapter 5 into account (particularly the low voting rates on early stage pages and the strong filtering effect for a large subreddit like /r/pics), **reddit**'s performance in this experiment is probably about as good as could be expected. If there was a strong monotonic difference in experimental ratings by post type, or if there was no evidence of a relationship between scores in the experiment and posts' performance on **reddit** - then we would be in a stronger position to state that **reddit**'s voting system works well or does not work at all.

One must also be careful not to place too much weight on the results of this experiment - the low number of posts of each type to be rated is a problem. There is a second issue also, Chapter 6 showed that users who vote on early-stage pages are in some ways different to the general user population and *may* hold more influence in the ranking process. The post advertising this experiment only appeared on the New and Rising pages of /r/pics, so all of the participants are likely to be users who are themselves active on early stage pages. If we assume that these users *do* have more influence in the ranking process then it is *possible* they are more likely to reproduce similar rankings in the experiment than users who are active elsewhere - but for this to occur there would need to be a systematic difference in opinions between the two groups of users. For /r/pics content it is difficult to imagine what this difference might be or how it would come about (perhaps 'expert' voters might tend to be younger or older?) - for a subreddit like /r/politics this seems like a more feasible possibility (e.g. users of a particular political persuasion might 'patrol' the New and Rising pages and down-vote content which goes against their own attitudes).

4.2 Does the score which an item was presented with influence users' perception of its quality?

With regard to the experiment's secondary aims the low volume of data is a more serious concern - only 17 and 15 participants respectively completed the two experimental conditions ('true in-

formation’ and ‘false information’). The effect of experimental condition on ratings was expected to be relatively small, and so a much larger number of participants would have been required to reliably determine if it was present. Here the 11-point scale is useful because the anticipated effect is likely to be weak, it is not necessarily expected that the presence of score information will change someone’s opinion on a post from ‘bad’ to ‘good’ but perhaps more likely from ‘bad’ to ‘terrible’ or from ‘good’ to ‘great’.

In analysing this part of the experiment only data from the two experimental conditions (‘true information’ and ‘false information’) is considered. The mean rating of an item in the ‘true information’ condition is taken as representing its ‘true rating’. Responses from the ‘false information’ condition are then compared to this ‘true rating’ to determine if a) these are different to the ‘true rating’ and b) whether the difference is in the direction of the ‘mislead’ effect. Where an item was presented, in the ‘false information’ condition, with a score that was greater than its post actually achieved on `reddit` (recorded four hours after submission) - this is a ‘positive mislead’. When the presented score is lower than the post’s score as observed on `reddit` after four hours, this is a ‘negative mislead’. This part of the experiment does not consider an item’s ‘type’, instead controlling for the fact that items were of variable quality by comparing ratings to the mean for that item from the ‘true information’ condition.

To address the question of whether presented score information influenced participants perception of quality a data-set consisting of 750 rows was analysed, each row representing a response from one of the participants in the ‘false information’ condition. The dependant variable is ‘distance’ - this was calculated by subtracting the mean rating for an item (taken from the ‘true information’ condition) from the rating which the participant gave this item. The distance variable therefore represents whether an individual participant appraised the item as better (positive distance measure) or worse (negative distance measure) than the average rating from the ‘true information’ condition. For example, a distance of 2 for a trial would mean that the participant rated the item 2 points higher than that same item had been rated on average by participants in the ‘true information’ condition. The independant variable is the direction of the ‘mislead’ (+1 where the presented false score was greater than the true score, -1 where the false score was less than the true score). It is expected that ‘mislead’ will modulate the direction of the distance scores, with a positive ‘mislead’ leading to positive distance measures and a negative ‘mislead’ leading to negative distance measures.

	Coefficient	Std. Error	p-value
Intercept	0.117	0.088	0.184
Mislead	0.235	0.089	< 0.01

Table 4: A linear model of ‘distance’ with ‘mislead’ as the explanatory variable - fitted to 750 responses from participants in the ‘false information’ condition.

A linear regression model assuming a normal distribution was fitted to this data-set (see Table 4). This model shows an effect of the ‘mislead’ variable which is significant at the 0.01 level. The intercept for this model relates to one item which was randomly assigned score information that matched its true score (and therefore has no ‘mislead’ associated with it). The coefficient for the ‘mislead’ variable suggests that ratings recorded in the ‘false information’ condition were different to the mean rating from the ‘true information’ condition by an average of 0.235 points *in the direction of the ‘mislead’ effect*. This provides some evidence that the scores presented alongside

`reddit` posts influence users' perception of their quality. However, one must bear in mind the low number of participants who completed the experiment.

A secondary hypothesis related to the presentation of false information was that the effect of the misleading scores would become weaker as the participant completed the experiment's 50 trials. Some of the item/score pairings are implausible (i.e. very poor images are presented as having high scores) and it was anticipated that during the experiment participants in the 'false information' condition would realise that the information was false or uninformative and subsequently disregard it. As presentation order was randomised for each participant, this anticipated effect would cause problems for any analysis of ratings for specific items or item types which are drawn from the participants who completed the 'false information' condition.

Instead the focus is on the presentation order variable. For each trial the previously created 'distance' variable was multiplied by the 'mislead' variable (+1 where the presented false score was greater than the true score, -1 where the false score was less than the true score) to produce a 'uni-directional distance' variable - which reflected whether the distance from the mean was in the direction of the mislead effect (positive values) or in the opposite direction (negative values).

The uni-directional distance variable was then plotted against presentation order with a smoother based on the normal distribution, the resulting graph is displayed in Figure 14. This Figure suggests a small effect in the expected direction which is stable until around the 30th item is presented and then begins to decline, having reversed slightly by the final trials of the experiment. The implication here is that `reddit`'s users could quite quickly 'un-learn' the association between scores and quality when it became apparent that the scores contained no useful information. The evidence for this effect is however weak, due to the small sample size the 95% confidence interval for the effect includes zero over most of the range of presentation order.

4.3 Experiment Summary

This experiment offers support for each of the hypotheses to varying degrees.

As expected, there is a relationship between ratings collected during the experiment and the performance of posts on `reddit`, and efforts have been made to quantify this relationship for experimental items. Two assertions from previous Chapters are also supported in this regard. 1) The difference in 'quality' (ratings in the experiment) between posts which appear on the Front page and the subreddit's Main page is much smaller than the difference in their `reddit` scores would suggest - this is taken as confirmation that it is `reddit`'s voting system which produces a highly skewed distribution of scores rather than any attributes of the items themselves. 2) There is a random component to this process whereby 'good' posts can receive low scores and 'bad' posts can appear in high-visibility locations.

The second component of the experiment showed that the scores presented alongside items influenced participants' perception of their quality. This suggests that `reddit` users have learned that there is an association between the scores of `reddit` posts and their quality. Analysis of presentation order revealed that this effect had dissipated by the end of the experiment.

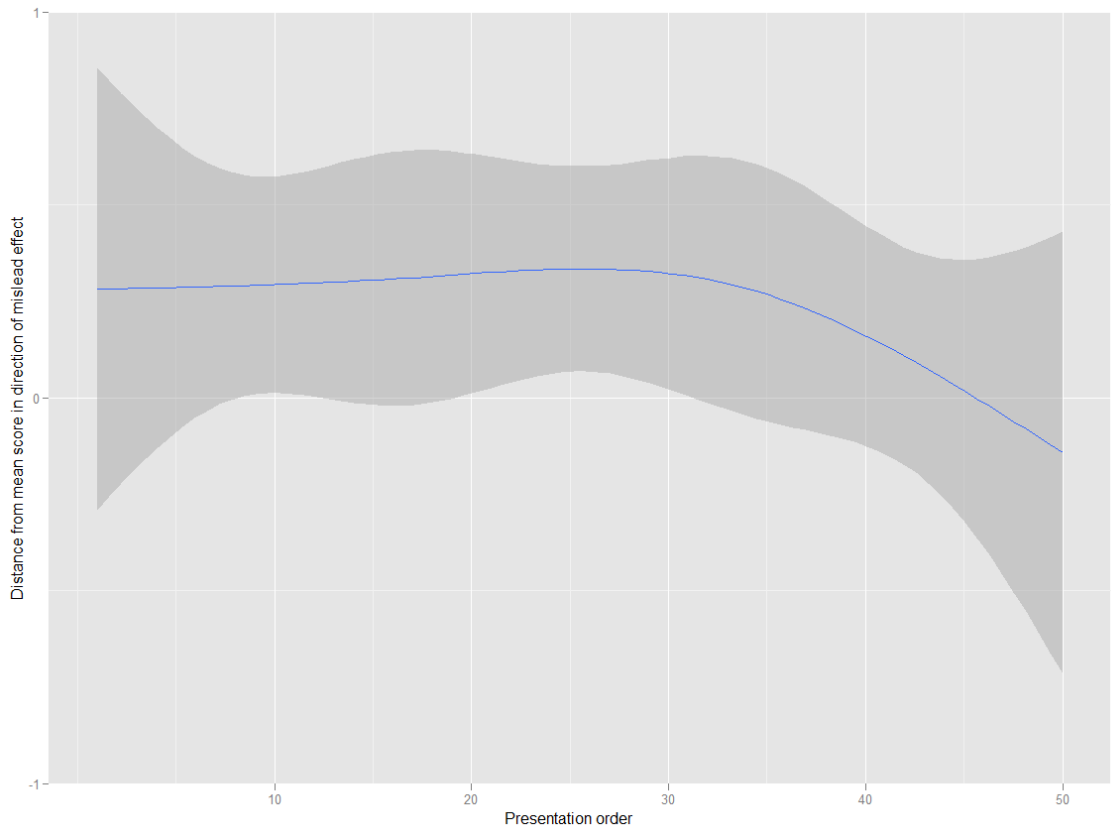


Figure 14: Showing the distance of ratings in the ‘false information’ condition from the mean in the ‘true information’ condition multiplied by the direction of the ‘mislead’ and displayed according to order of presentation.

5 ‘Hive Mind’ or ‘Collective Consciousness’?

As established in Chapter 5, reddit’s voting system involves a number of positive feedback loops. Firstly, positive votes for a post are associated with increased visibility and in turn further votes - leading to the emergence of a small number of highly visible posts. These posts are displayed on reddit’s Front page for the whole community to see, and serve as shining examples of the kind of content which is successful on reddit. If a user wished to submit content which the reddit community would appreciate, a potentially fruitful strategy would be to mimic the types of post which they see on the Front page. It would seem that many users adopt such a strategy; it is quite common for a subreddit to be flooded with new submissions which emulate a post that is currently performing well in that subreddit.

Redditors’ penchant for up-voting certain types of post is often discussed by users. The tendency for users to submit posts of a type which have previously been received well is known in the community as ‘circlejerking’ and a subreddit exists for the purpose of highlighting and satirising these trends (the ‘circlejerk’ subreddit). This, and the perception that posts which go against certain commonly held beliefs or mores are always down-voted, are two of the main characteristics of what reddit users often refer to as the ‘reddit hive mind’.

In section 2 I argued that the evidence from the Wikileaks case study goes against this second component of the ‘hive mind’ - namely that posts which disagree with the ‘hive mind’ are always

down-voted to oblivion. In this section I would like to introduce another term for this phenomenon which is more neutral than the overwhelmingly negative ‘hive mind’, and to look for some evidence that feedback loops which exist on **reddit** can influence the community’s development in a positive way (beyond that which has been presented in section 3 relating to collective action against SOPA). The term I would apply to this phenomenon is ‘Collective Consciousness’; originally used by Durkheim to refer to the shared beliefs and moral attitudes which operate as a unifying force within society. In the context of **reddit** I use this term to refer to complexity emerging from the collective behavior of hundreds of thousands of geographically disparate individuals as facilitated by **reddit**’s voting system.

Section 2 made reference to posts which I classified as ‘meta-reddit’; text posts where a **reddit** user highlights or criticises some aspect of **reddit**’s behaviour. In the context of the Wikileaks case study these are predominantly posts which criticise **reddit**’s coverage of the story - the most common criticisms being that there are too many prominent posts about the Wikileaks story, or that posts about the Wikileaks story are too one-sided and out of touch with the general population. Indeed it is quite common to see a number of posts on **reddit**’s Front page about a particular topic or following a particular trend, alongside a post criticising the current popularity of said topic/trend.

When such a post appears on **reddit**’s Front page it has effectively been endorsed by the community (through the voting system) and is broadcast to all of the community’s members who visit **reddit** while the post is visible on the Front page. Do these successful ‘meta’ posts influence the collective behaviour of the website’s users? If they do, then this would constitute evidence that the voting system allows the community to self-regulate at a high level - or that **reddit** plays host to a rapidly developing ‘collective consciousness’. If they do not, this suggests that the ‘hive mind’ suffers from cognitive dissonance or poor discipline/memory.

The nature of these ‘meta’ posts is such that it is usually difficult to gauge whether they have had an effect on **reddit**’s behaviour as a social entity. The following section presents one example of a ‘meta post’ suggestion which is more amenable to empirical scrutiny.

5.1 Don’t link to Fox News!

Reddit’s users often criticise mass media news outlets; and it is not uncommon for such criticisms to reach high-visibility areas of the website (see section 2). Fox News is regularly the subject of such criticism and posts will often link to the Fox News website for the purpose of highlighting a particular flaw or faux pas. On 14th April 2011 two ‘meta’ posts concerning Fox News (redd.it/gpwzp and redd.it/gpy9s, referred to in this section as ‘the meta posts’) were submitted to the politics subreddit and were up-voted to the top of this subreddit and the default Front page. Both of these posts were submitted in response to a post which was then at the top of the politics subreddit (redd.it/gplqq); and which linked directly to the Fox News website for the purpose of criticising its content. The message of these two ‘meta’ posts was similar; that **reddit** users should stop linking directly to Fox News because incoming traffic from **reddit** was actually helping Fox by increasing their usage metrics and advertising revenue. These posts received scores of 1,500 and 800 respectively, indicating that there were many **reddit** users who agreed with the point they made. These posts also appeared at the top of the politics subreddit and on the default Front page for a combined total of 19 hours, meaning that many users of **reddit** (who subscribe to the

politics subreddit) will have seen them during this time.

The comments on these ‘meta’ posts are quite mixed however. For post redd.it/gpwzp the highest-scoring comment by some margin suggests that people take screen captures and host these on [Imgur](https://imgur.com/) if they want to submit something related to Fox News, but other high-scoring comments are either off-topic or take exception to being told how they should use `reddit`. For post redd.it/gpy9s the top comment is from someone who works in ‘online ad sales’, saying that Fox News doesn’t make much money from `reddit` traffic, some other high-scoring comments adopt an argumentative tone towards the OP, which is perhaps to be expected as the post’s title addresses `reddit` users as ‘you fucking morons’.

The nature of this particular suggestion (‘stop linking to Fox News’) is such that it is possible to investigate whether it has influenced the behaviour of `reddit` users. There are two ways in which the users of `/r/politics` could respond to these suggestions. Firstly, individual users could stop submitting posts which link directly to Fox News, as was suggested by the meta posts. Secondly, users who vote on `/r/politics` could down-vote any submissions they see which link to Fox News, achieving the same end as suggested by the meta posts (`reddit` would no longer channel substantial traffic to Fox News if links to Fox did not appear in high-visibility locations). Of these two possibilities a more negative voting response seems the more likely outcome. An individual user could single-handedly counter-balance any decline in the submission rate of Fox posts - whereas it is through the voting system that the collective will of the users is expressed.

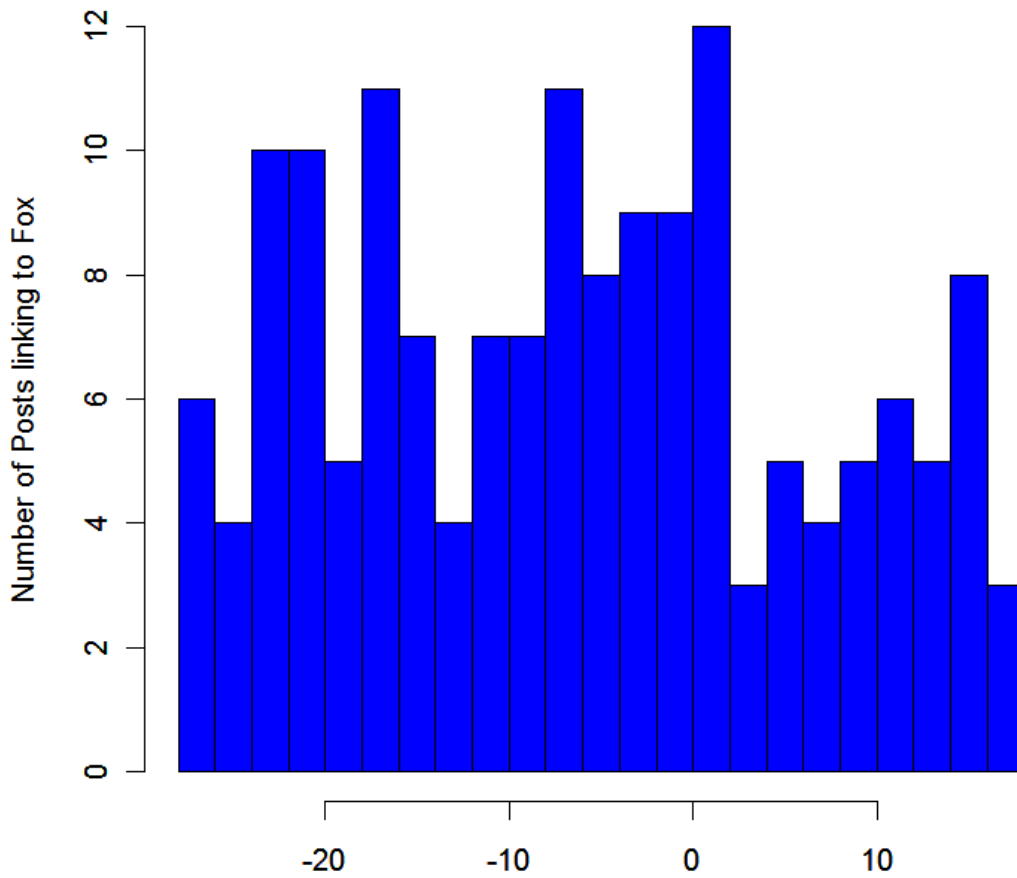
Did the users of `/r/politics` respond to the community-endorsed and broadcast suggestion that they should stop channeling traffic to Fox News websites? If so, in what manner did they respond?

The politics subreddit was being monitored for 27 days before the ‘meta’ posts were submitted and 16 days afterwards. Figure 15 shows the number of Fox posts submitted to the politics subreddit per day; it can be seen that there is a slight drop in the number of Fox links submitted per day shortly after the meta posts were submitted. However it is certainly not the case that `reddit` users stopped submitting links to Fox News in response to the meta posts urging them to do so. In total there were 159 posts which linked to Fox News (‘Fox Posts’) in the 27 days before the meta posts were submitted and 16 days afterwards. An average of 4 Fox posts were submitted per day before the ‘meta’ posts, dropping slightly to 3.2 per day afterwards. The immediate cessation of posts linking to Fox News which was called for did not occur.

Figure 16 shows the scores achieved by all of the posts submitted during the observation period. In the 27 days before the meta posts there were four posts which linked to Fox News and achieved a score of greater than 200; the highest score achieved by a Fox post after the ‘meta’ posts was 76. In the bottom pane of this figure one can see a trend whereby the scores of Fox posts declined slightly after the meta posts were created. When we consider that a score of 1 has special significance on `reddit` (representing a neutral score or no votes) and look at whether the scores of these posts increased or decreased from this starting point, this constitutes more compelling evidence that the meta posts have influenced voting behaviour. There appears to be a clear drop in the number of Fox posts which achieved a positive score after the meta posts appeared on the Front page.

A logistic regression was performed to determine whether a Fox post’s chances of receiving a positive score changed after the submission of the meta posts. The results obtained from this model are included in table 5. This model shows a significant effect of the meta posts on whether subsequent Fox posts would receive a positive score. Fox posts submitted after the meta posts had

Number of posts which link to Fox News submitted per day



Day of observation. 0 is the time at which the first meta post was submitted

Figure 15: A histogram showing the number /r/politics posts submitted per day which linked to a Fox News domain. The 'meta' posts were submitted on day 0.

61% lower odds of receiving a positive score.

It appears that these two 'meta' posts - which came from ordinary reddit users with no special status but which were endorsed by the community through the voting system and consequently broadcast to that community, have indeed influenced the collective behaviour of users on the politics subreddit.

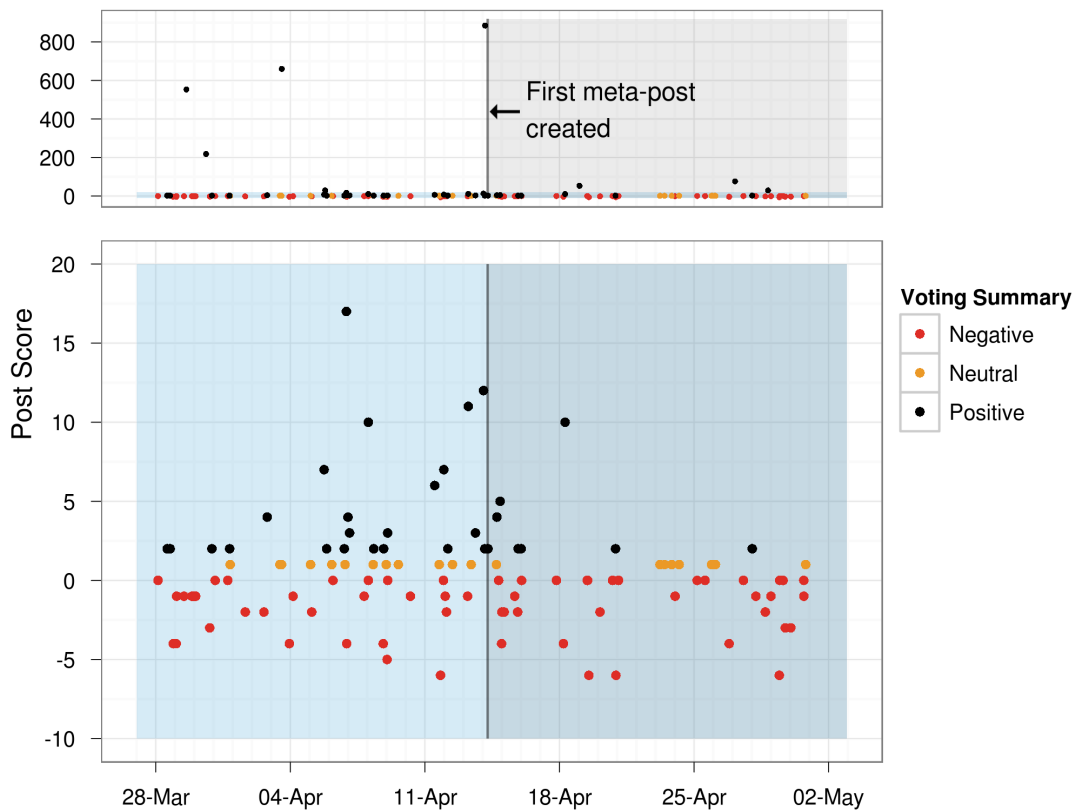


Figure 16: Showing the final scores of /r/politics posts which linked to a Fox News domain. The top pane shows the full range of scores, the bottom pane shows scores of between -10 and 20; most of the data lies within this range.

	Coefficient	Std. Error	p-value
Intercept	-0.4132	0.1966	< 0.05
Submitted after Meta posts	-0.9978	0.4038	< 0.05

Table 5: Showing a binary logistic regression on whether Fox posts would receive a positive score.

6 Chapter summary

Most of the posts submitted to `reddit` are seen by very few people, while a small minority can reach a large audience. `Reddit`'s Front page acts as a hub for the website's community of users. The posts which appear here go on to form the basis of discussions between users, and can be thought of as defining the website's identity (in the same manner that a newspaper can have an identity based on the articles it publishes). Section 4 showed that there is a relationship between a post's score on `reddit` and its 'quality' as rated by participants in an experiment, but that this relationship is less than 'perfect' and has considerable room for error. This experiment also suggested that `reddit` users' perception is influenced by the scores derived from the voting system, although the evidence for this is weak because of the low number of participants who completed experimental conditions.

The Front page showcases posts which have been endorsed by `reddit`'s users through the voting

system, and these posts may serve as an example for users who wish to submit content that the community will appreciate - thus one popular Front page post may inspire a deluge of copycat submissions. This is one aspect of what **reddit**'s users refer to as the 'hive mind', the other being the marginalisation of posts or comments which go against certain norms or values which are held by a majority of **reddit** users.

Analysis of **reddit**'s coverage of the Wikileaks story suggests that the marginalisation of minority opinions may not be as severe as **reddit**'s users often speculate. The website was found to have a strong 'pro-Wikileaks' bias, but many of the posts which reached the Front page were neutral in tone, and several posts criticising Wikileaks or the release of the cables also managed to reach the Front page. Thus **reddit** does not appear to be an 'echo chamber' but a venue where readers will be exposed to more than one perspective on an issue - an important finding in relation to the social implications of DM (Sunstein, 2002).

The Wikileaks case study also revealed a similarity in the level of coverage on **reddit** as compared to the mainstream news media - but some interesting differences in the nature of this coverage. **Reddit**'s users showed an eagerness to become actively involved in the story in addition to reporting it. This desire to participate manifested itself as posts which by their very presence helped the Wikileaks organisation (e.g. by helping people find their website at a new location), or which called on **reddit** users to engage in some form of collective action related to the story.

In the 'Wikileaks' case study **reddit**'s coverage was found to present an alternative narrative to the conventional news media, this coverage was in many cases explicitly pro-Wikileaks and incorporated attempts to further this cause. The SOPA case study highlighted a different aspect to **reddit**'s coverage, the capacity to raise awareness of a situation or 'break' a story, in addition to serving as a platform for the discussion and implementation of collective action.

Attention is a valuable resource (Huberman et al., 2004) - and there appears to be a growing awareness among **reddit** users that placement on **reddit**'s Front page is exactly such a valuable resource. As **reddit** has grown the nature of its interaction with the mainstream media has shifted; in its formative years this relationship was a one-way street but even before the Wikileaks and SOPA stories mainstream news outlets had begun to report on things which happened on or through **reddit** (e.g. (Townsend, 2010), (Rotham, 2010)).

One high-profile case where this occurred was the 'Rally to Restore Sanity'. On August 31st 2010 **reddit** user 'mrsammercer' submitted a post (redd.it/d7ntl) titled "I've had a vision and I can't shake it: Colbert needs to hold a satirical rally in DC." suggesting that Stephen Colbert (host of satirical news show 'The Colbert Report') should hold a rally as anathema to Glen Beck's 'Restoring Honour' rally which was at that point a major story on **reddit**. This post was up-voted to the Front page and (in a familiar sequence of events) a website and subreddit were quickly created to try and bring this idea to fruition. One of the proposals to encourage Stephen Colbert to host this rally was to donate money to a charity which he sat on the board of ('Donors Choose') - the resulting surge in donations when this proposal appeared on the Front page crashed the charity's donations system (Friedman, 2010). Stephen Colbert acknowledged the donation drive on his show and began to hint that such a rally was in the planning stages. The 'Rally to Resore Sanity and/or Fear', hosted by Jon Stewart and Stephen Colbert, happened in late October 2010 and attracted an estimated 215,000 people (Montopoli, 2010). It should be noted however that the Rally's organisers claim it was in the planning stages before the **reddit** post and donation drive.

Reddit's users certainly felt that they had been instrumental in bringing the rally about, and there may have been a resulting sense of confidence in users' collective 'power' through **reddit** which influenced coverage of the **Wikileaks** story that began shortly after. This kind of interplay between 'old' and 'new' media makes **reddit** a particularly interesting venue for the study of 'Convergence Culture' (Jenkins, 2006) - or the contemporary 'Hybrid Media System' (Chadwick, 2013).

Front page posts can act as a springboard for campaigns of collective action (for some further examples see redd.it/d7ntl and redd.it/hy24b) - or give a boost to some good-natured endeavour that has no marketing budget (e.g. redd.it/humy3, redd.it/elpko). The 'Humble Indie Bundle' (<http://redd.it/elpko>) is a good example of this. Several 'independently' developed computer games were packaged together and offered on a 'pay what you want' basis, with proceeds being divided between the developers and charities. When the bulk of this chapter was written there had been three humble indie bundles each earning over \$1 million, and **reddit** had been the primary source of referrals for each by 'a decent margin' (source: private communication). By 2012 there have been many more humble bundles and this method of selling seems to be firmly established. In this period the 'Kickstarter' website has also become well established as a method of 'crowd-funding' projects and a number of similar endeavours have been launched (e.g. Steam's 'Greenlight', 'IndieGoGo'). It is not known whether **reddit** helped to generate publicity for Kickstarter in its early days, but several **reddit** posts linking to specific projects were observed in high-profile locations.

The attention received by Front page posts, coupled with the longer-term tracking of a user's contributions through karma scores, may also encourage some users to engage in pro-social behaviour where they might otherwise not have. Reddit has a history of supporting good causes and acknowledging acts of altruism (Voltier Creative, 2010, 2011). Some of **reddit**'s users also seem to actively police the website, there have been many popular posts in which a user has brought potential abuse of **reddit**'s voting system to light (e.g. redd.it/glgy8, redd.it/gjt26). While **reddit**'s voting system and Front page focus may give rise to a 'hive mind' it also seems to encourage pro-social behaviour among some users.

This kind of 'policing' is also relevant to the framing of **reddit** as a mechanism for the cultivation of a Common Pool Resource (CPR) (Ostrom, 1990) - users who seek to consume attention in an unscrupulous manner are identified and potentially punished by the down-voting of their submissions. The case studies in this chapter have shown that **reddit**'s users can also collectively deploy their CPR to a number of distinct ends - and some of the mechanisms through which the website's infrastructure mediates this have been discussed.

However, in more recent times such pro-social and altruistic activities occurring through **reddit** seem to be on the decline, and more attention has been paid to **reddit**'s darker side. The next Chapter details an examination of how **reddit** has changed over the course of this research.

The Front page feedback loop may also allow **reddit** to govern its own development in an interesting fashion. **Reddit** users often make suggestions for improving the website, either through some modification of its software (e.g. redd.it/gnorc) or a change in the collective behaviour of its users (e.g. redd.it/fz3z1). When such suggestions appear in prominent locations they do so with the endorsement of users through the voting system and they are quickly accompanied by a comments page containing hundreds or thousands of comments - the scores of which offer a good insight into the community's feelings on the matter.

The ‘Don’t link to Fox News’ example suggests that **reddit**’s users may respond to such suggestions. If this is the case it is quite remarkable. A member of this large group (the politics subreddit had at the time around 570,000 subscribers, although some proportion of these are likely inactive) with no special standing raised a suggestion and within 24 hours this had been discussed and appears to have been ‘adopted’ (to the extent that it has affected users’ behaviour). All of this has been facilitated by the website’s software infrastructure, no individuals with special status (moderators or administrators) and no special oversight was required.⁴

However, it must be noted again that this aspect of **reddit** has changed considerably since the bulk of this chapter was written. Many of the suggestions for how **reddit** should be changed (both socially and technically) were at one stage submitted to the /r/reddit.com subreddit, but in October 2011 this subreddit was disbanded. Such suggestions now have their own specialised subreddits (e.g. /r/ideasforheadmins) where they will only be seen by users who have chosen to subscribe to these specialist subreddits. In addition, there seems to have been a shift towards ensuring that submissions to each subreddit are ‘on topic’, and a tendency towards a greater number of more specialised subreddits. The net result of these trends in combination is that ‘meta’ posts of this nature most likely have a much smaller potential audience than they once did. Furthermore, these developments may have had the effect of fragmenting **reddit**’s user-base and fracturing what was once a relatively strong sense of community identity. If users are increasingly moving into a wider range of more specialised subreddits this could represent a problem from the public discourse - and **reddit** could lose some of its capacity to present users with a range of competing perspectives and ‘information which they would not have sought out for themselves’, in the process losing valuable ‘shared experiences’ (Sunstein, 2002).

Sections ?? and ?? consider these aspects of **reddit**’s development in greater detail.

The studies in this Chapter also allow us to situate **reddit** within the contemporary Hybrid Media System (Chadwick, 2013) - where it deploys an interesting mixture of older and newer media logics. Broadly speaking, **reddit** has performed in the roles of broadcaster and platform for collective action - and the capacity to broadcast is likely instrumental in **reddit**’s capacity to set its own agenda for both news coverage and collective action - something which many bloggers and the *38 degrees* organisation do not even attempt (Chadwick, 2013). **Reddit**’s own ‘organisational structure’ is far removed from that of any other non-Social-News platform - and represents a step in the direction of “organisating without organisations” (Karpf, 2012).

⁴By 2013 moderators have generally become more ‘hands-on’, a trend discussed in Chapter 8. In this environment a community-endorsed suggestion may lead to moderators adopting it as an official rule and listing it in the subreddit’s ‘side-bar’. In this scenario the moderators have greater power - they are autonomous with regard to the selection of which rules they list and enforce.

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