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IJoC Net Neutrality

The Role of the Networked Public Sphere in the U.S. Net Neutrality Policy Debate

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This article examines the public debate over net neutrality in the United States in 2014. We compiled, mapped, and analyzed more than 15,600 stories published on net neutrality, augmented by data from Twitter, Bitly, and Google Trends. Using a mixed-methods approach that combines link analysis with qualitative content analysis, we describe the evolution of the debate over time and assess the role, reach, and influence of different media sources and advocacy groups. By three different measures, we find that the pro-net neutrality forces decisively won the online public debate and translated this into a successful social mobilization effort. We conclude that a diverse set of actors working in conjunction through the networked public sphere played a pivotal role in turning around the Federal Communications Commission policy on net neutrality.

Keywords: political discourse, social mobilization, networked public sphere, net neutrality

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On February 4, 2015, the chairman of the Federal Communications Commission (FCC) announced that he would circulate new net neutrality rules that would reclassify broadband providers as telecommunications carriers, placing Internet access policy firmly in the FCC's jurisdiction (Wheeler, 2015a). The full commission voted to adopt this proposal later in the month, marking a political victory that few had believed possible a year earlier.

In this article, we seek to understand the role that the networked public sphere played in the policy debate over net neutrality and in efforts to organize citizen action. The central questions of this study are whether pro–net neutrality proponents won the online public debate through communication and organizing via digital networks, and whether this policy shift reflects the power of networked mobilization—a new type of collective action that increasingly challenges more traditional political, media, and business interests in the public sphere.

We use digital media to track the evolution of the net neutrality debate from January 2014 through President Obama's November 2014 announcement of his direct support for reclassification. We find that online public sentiment and networked mobilization efforts were "overwhelmingly in support of a free and fair Internet"—support that the president explicitly evoked as justification for his unusual intervention in the FCC's decision (Obama, 2015, para. 3). It is difficult to measure the extent to which this public pressure on the FCC swayed the ultimate decision. Nonetheless, the FCC's May 15 plan aligned closely with the limited interventions that Democratic FCC chairs had attempted since President Obama's inauguration, constrained by the same political economy that had governed broadband regulation since 2000. The ultimate decision, following the period of networked mobilization, reflected a radical departure from that incumbent-friendly equilibrium. The sole new factor in the political economy since earlier failures was networked mobilization and an overwhelming victory of pro–net neutrality proponents in the online public sphere.

The Net Neutrality Debate

Net neutrality has been a major domain of political conflict for more than a decade. There has been extensive academic writing on the substantive issues surrounding net neutrality (see, e.g., van Schewick, 2012; Wu & Yoo, 2007). Less academic attention has been paid to the political dynamics. Hart (2011) covered the policy-making process and political debate from 2006 to 2010 and described the liberal–conservative partisan divide over the issue and commercial interest lobbying. Examining the same period, Crawford (2013) described the politics and role of interest groups in shaping net neutrality policy. Löblich (2015) studied the stances and strategies of civic society organizations with an emphasis on the divergent views of different organizations.

This research builds upon and aligns closely with several earlier studies. In their analysis of the net neutrality debate on Twitter in early 2014, Lee, Sang, and Xu (2015) found that the most frequently retweeted URLs represented a diverse range of actors but that the majority of those supported net neutrality. Using a combination of network and content analyses, Herman and Kim (2014) concluded that in late 2009 and early 2010, "the online version of the debate skews heavily toward the pro-net neutrality side" (p. 1). Moreover, they find that "less powerful" groups such as nonprofit organizations are more active online compared to telecommunications companies and trade groups. Kim, Chung, and Kim (2011) found that corporate interests had played a significant role in framing the debate during the five years starting in 2004, both to the public through mainstream media and to legislators via congressional hearings, and that the influence of advocacy groups was substantially less. In a study of broadcast, cable, and print media coverage of net neutrality in 2010, Stiegler and Sprumont (2012) found that just under half of the stories were neutral and that the rest of the stories had a particular stance on the issue, with slightly more positive than negative stories. They also found the stance of stories aligned with the left–right orientation of the source. Building upon this prior work, we studied the net neutrality debate during the regulatory processes of 2014 and the social mobilization efforts that sought to influence net neutrality policy.

Method and Data

The analysis and observations in this article are based on several sources of data and analytical approaches (Table 1). First, we draw on data collected and analyzed using the Media Cloud platform.[2] We identified 15,600 stories during the 11-month period and looked at the connections between media sources formed by more than 11,000 links between these stories.[3] We began by identifying all stories in the Media Cloud collection that included the terms "net neutrality" or "network neutrality."[4] We then employed an automated spider that followed the links, adding stories that matched the search term to the story set. We repeated this spidering process recursively 15 times until the spider found an insignificant number of new stories.

Second, we tracked the evolution of the debate on Twitter. We gathered data on tweet volume over the course of the debate using the Crimson Hexagon platform and tallied the number of times different media stories and resources were shared over Twitter during this time period based on data collected from Twitter's API. Third, we used the Bitly API to tally the number of times a Bitly URL linking to a story in our data set was clicked. This Bitly metric offers a useful proxy of interest and attention among a wider population of readers. Fourth, we collected data from Google Trends about the variation in search volume over time. These data provide a measure of the magnitude of general public interest in net neutrality over the course of the debate.

Finally, we hand-coded several hundred stories to ascertain which stories solely supported net neutrality, which solely opposed it, and which did neither. We conducted this hand coding on the top 30 stories in each of the following lists: stories with the most inlinks, stories with the most Twitter URL shares, and stories with the most Bitly clicks. We also coded 200 stories randomly selected from a list of the story links within the controversy. We believe that this influence-weighted sampling approach

[2] Additional details on this method and the Media Cloud platform can be found at http://mediacloud.org.

[3] The data used for this study are available at https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi%3A10.7910%2FDVN%2FRHXQ5M.

[4] More elaborate query terms were tried as well, but they introduced many stories not relevant to the debate without increasing the relevant stories.

generates a sample of stories that better represents the overall inclination of the debate than a purely random sample of stories.

Table 1. Data Sources and Analytical Approaches.

Media Cloud	Collection of 15,600 media stories and categorization by media type Network mapping Analysis of links between different media sources and stories
Twitter	Volume of tweets over time Most frequently shared links
Bitly	Stories that received the most clicks
Google Trends	Relative volume of net searches over time
Content analysis	Hand coding of media stories, most-shared URLs on Twitter, and most-clicked URLs via Bitly

Intercoder reliability was assessed using the results of three coders and Krippendorff's (2004) alpha. The overall score was .77. The variation among coders was much higher between stories that are pro–net neutrality and neutral (α = .71) than between anti–net neutrality and neutral (α = .89). Examining the discrepancies, we attribute this difference in pro versus anti coding to stories that report on the activities of pro–net neutrality activists but straddle the line between reporting events on the ground and taking a stance on the issue (for instance, describing Internet Slowdown Day while neither explicitly supporting it nor presenting opposing views). Substantively, this would not undermine the conclusion that the pro–net neutrality voices shaped the perceptions and framing, even of neutral reporting, though it may somewhat shade whether we see the pro–net neutrality voices as having obtained their influence directly through their own online communications or indirectly through reporting on networked mobilization.

From the set of Media Cloud stories, we generated link network maps by building a graph with media sources as nodes and hyperlinks between media sources as unweighted edges. The graphs were laid out using the Graphviz neato algorithm[5] and drawn by Gephi.[6]

[5] http://www.graphviz.org/
[6] https://gephi.github.io/

Tracking the link economy offers a detailed view of the interests and attention of active participants and an aggregated measure of the most influential sources and stories. The portion of this study that focuses on the linking patterns between media sources builds upon many previous studies (e.g., Adamic & Glance, 2005; Benkler, Roberts, Faris, Solow-Niederman, & Etling, 2015; Etling, Kelly, Faris, & Palfrey, 2010; Hargittai, Gallo, & Kane, 2008). The combination of content analysis and link-based metrics to identify influential sources in the debate follows in large part the methodological approach of Herman and Kim (2014) in their study of the net neutrality debate. To our knowledge, this is the first study to combine measures of open Web activity, Twitter, and measures of media exposure (from Bitly). We also emphasize the evolution of the public debate over time to capture temporal changes in activity and debate. The qualitative element in this study helps us to better understand and contextualize these changes. This study focuses on the public debate and does not attempt an analysis of private communications channels such as e-mail.

Overview of the Debate

Tracking and tabulating the inlinks to different stories and media sources offers a measure of the prominence and popularity of different voices and viewpoints among the cohort of authors that write about net neutrality. The more than 11,000 inlinks from this network are distributed across 4,622 stories representing 973 media sources.

Figure 1 shows that a diverse set of media sources played prominent roles in the net neutrality debate in 2014. The size of each node reflects the total number of inlinks to the media source, and colors denote different media types. YouTube, a user-generated media site, received the most inlinks. Those YouTube inlinks are distributed across more than 150 videos, each of which received at least one inlink. John Oliver's June 1 video was the most popular with nearly 200 inlinks. Twitter appears among the top five media sources with inlinks spread across many accounts.

Three mainstream media sites are in the top five: *The Washington Post*, the *Wall Street Journal,* and *The New York Times* (see Table 2), suggesting that a good portion of the upper end of the power law distribution followed the traditional media playbook. Two government sources were among the most linked-to sites (the White House and the FCC) along with a number of tech media organizations, including *GigaOm*, *Ars Technica*, and *The Verge*. These and other tech media outlets covered the story in depth for the duration of the debate.

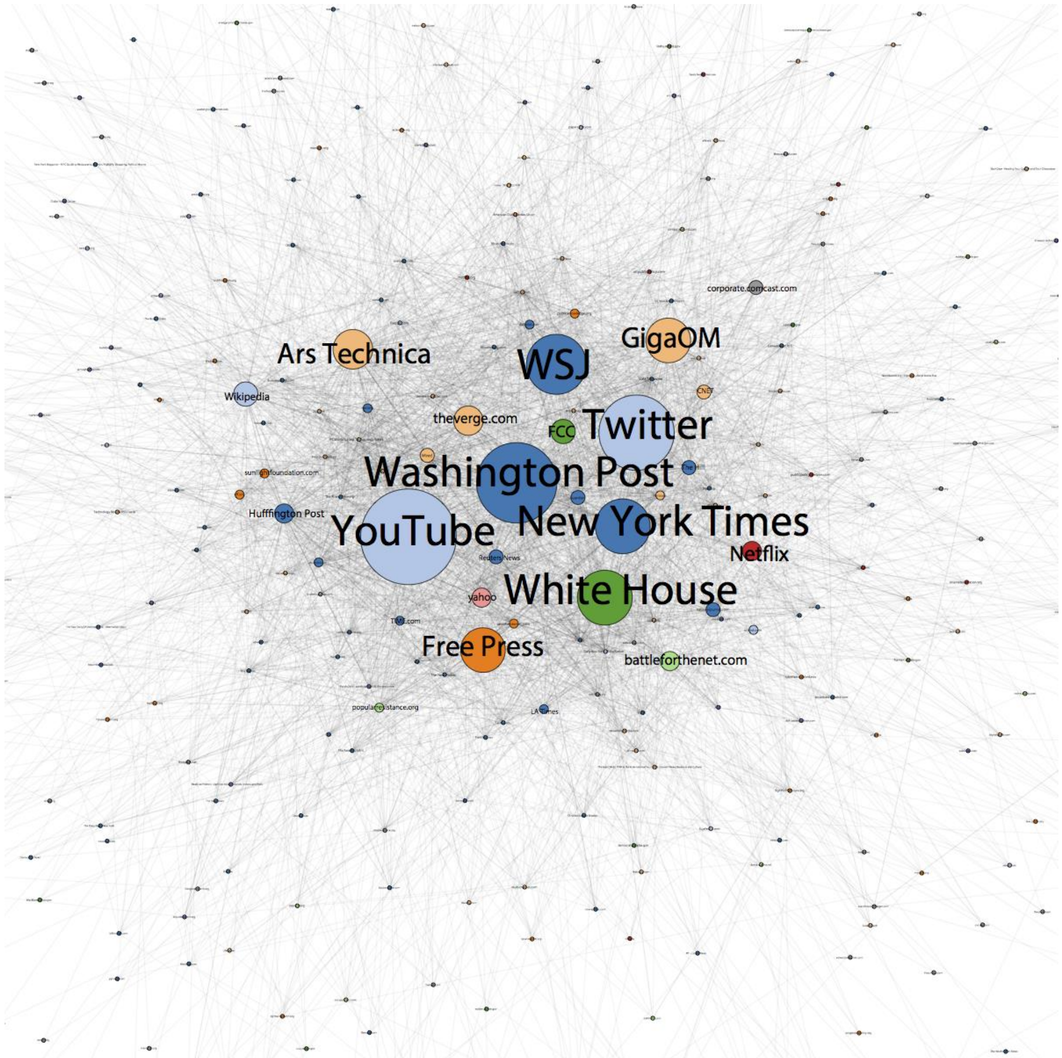

Figure 1. Map of media sources, January 1 to November 17, 2014.

Advocacy organizations not only provided coverage of the events but helped mobilize public support for net neutrality. Free Press, the Electronic Frontier Foundation (EFF), Public Knowledge, and net neutrality campaign sites—most notably Battle for the Net—are consistently among the most linked-to sites throughout the debate. Public statements by corporate actors were also featured in the debate: Netflix wrote in favor of net neutrality, while Comcast, AT&T, and Verizon offered strong opposition. But among the corporate opposition, only Comcast appears in the top 25 media sources. As we describe later, links to the major broadband providers are primarily from stories that are either critical or neutral of those companies rather than from supportive stories.

Table 2. Inlinks, Outlinks, and Stories by Media Source.

Media source	**Number of inlinks**	**Number of outlinks**	**Number of stories**
YouTube	536	8	165
The Washington Post	460	205	298
Twitter	373	—	213
Wall Street Journal	369	40	236
The New York Times	342	98	181
White House	336	7	27
Free Press	283	59	84
GigaOM	267	205	190
Ars Technica	254	122	154
The Verge	207	88	94
Federal Communications Commission	184	0	9
Wikipedia	168	194	24
Battle for the Net	146	5	2
Hufffington Post	145	307	257
Yahoo!	141	83	410
Netflix	138	1	2
The Guardian	130	102	89
Wired	129	75	74
The Hill	128	63	129
Reuters	117	2	153
Comcast	115	1	19
National Journal	114	52	63
CNET	111	44	81
Time	103	149	129
Re/code	103	149	129
Popular Resistance	101	124	46
Save the Internet	100	62	28

Note. Outlinks from Twitter were not collected.

The 2014 Net Neutrality Debate in Nine Acts

We describe the arc of digital media coverage of the net neutrality debate surrounding nine key events (Table 3). Six of these nine events are driven by government action: a court decision in January, FCC policy proceedings, and a major policy statement by the president. Both mainstream and nontraditional media play important roles in the coverage of these events. The other three events were distinctly different. The uptick in March was in response to a blog post by the CEO of Netflix. The spike in traffic in the first week of June was instigated by John Oliver's video. The upsurge in September was precipitated by the social mobilization efforts of Internet activists.

Table 3. Key Milestones in the Net Neutrality Debate in 2014.

January 14	Federal circuit court strikes down FCC's existing net neutrality rules.
February 18	White House responds to petition; FCC reports plans to rewrite net neutrality rules.
March 20	Netflix makes policy statement in support of net neutrality.
April 23	Coverage of forthcoming FCC rule making.
May 15	The notice of public rule making announcement by the FCC on May 15.
June 1	John Oliver video in support of net neutrality.
July 15	Deadline for submitting first-round public comments to FCC.
September 10	Internet Slowdown Day prior to September 15 deadline for FCC comments.
November 10	President Obama supports reclassification and strong net neutrality rules.

As shown in Figure 2, the relative distribution of stories in digital media and Twitter activity related to net neutrality are closely aligned over time. Obama's November 10, 2014, public statement in support of net neutrality garnered the most attention, followed by the FCC's May 15, 2014, release of draft net neutrality rules.

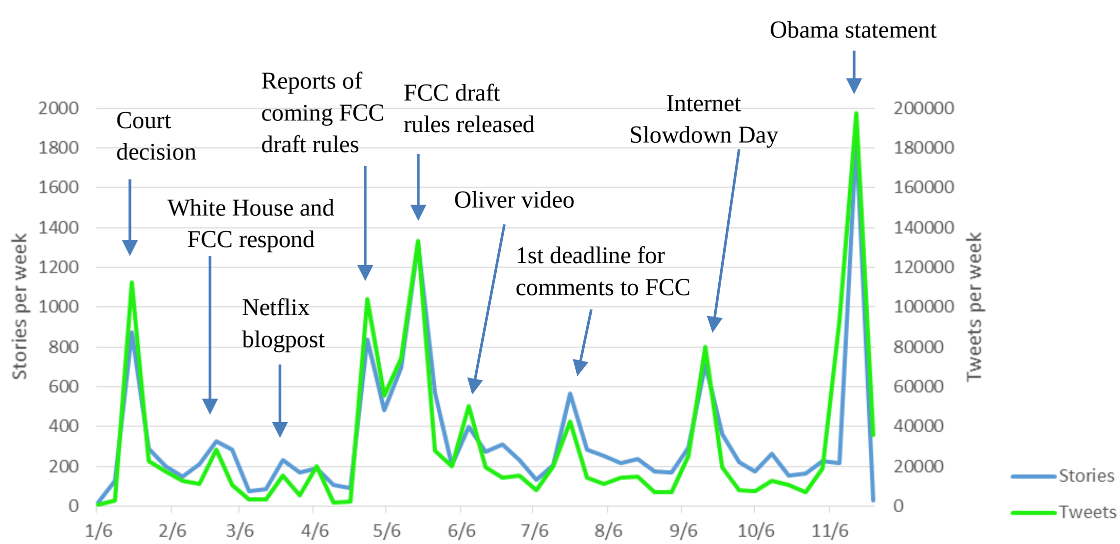

Figure 2. Volume of stories and tweets over time.

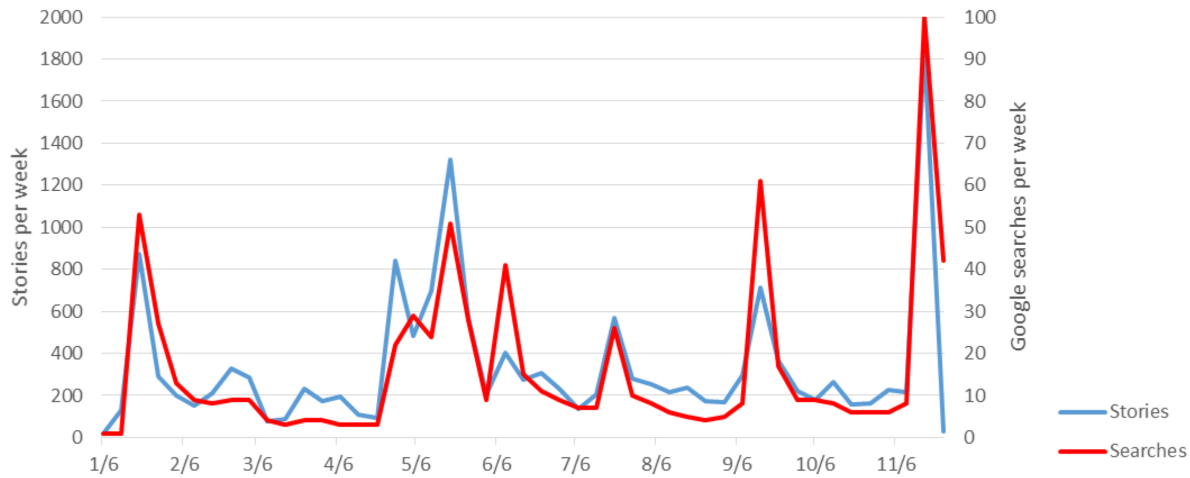

Figure 3. Volume of stories and Google searches over time.

The relative volume of Google searches over time also follows the profile of digital media stories, but with a few notable differences (see Figure 3). The reporting of events in February and March did not prompt a commensurate rise in Google searches. In April, Google searches rose sharply with the news of a forthcoming FCC ruling, but the relative search volume did not keep pace with the media coverage. The other two outliers are the disproportionate number of searches in June (coinciding with the John Oliver video) and the Internet Slowdown Day in September. This suggests that these two events elicited a different response from the wider public, at least among those who turned to Google to find online resources about net neutrality.

We begin tracking this debate in January 2014, when the D.C. Circuit Court struck down the FCC's 2010 net neutrality order (FCC, 2010). As observers sought to understand the implications of this ruling and possible next moves, the most cited online media sources included the FCC, Free Press, *The Washington Post*, and the *Wall Street Journal*, along with various tech media sources, many of which had been covering the topic for several years (see Table 4). Of more than 1,500 stories during the month of January, the most linked-to stories were the text of the court decision, a story by *GigaOm*, FCC chairman Tom Wheeler's response, and a blog post by venture capitalist Fred Wilson.

In February, the FCC announced that it would issue new net neutrality rules later in the spring. Among the most linked-to resources online was a petition on the We the People website that asked the president to direct the FCC to reclassify Internet service providers as common carriers. This petition received more than 100,000 signatures.

Table 4. Number of Inlinks per Month by Media Source.

	Jan.	**Feb.**	**March**	**April**	**May**	**June**	**July**	**Aug.**	**Sept.**	**Oct.**	**Nov.**
YouTube	16	11	3	14	**97**	**130**	**65**	**38**	**71**	**25**	**159**
The Washington Post	26	**43**	9	42	**114**	**25**	**29**	**34**	47	24	**115**
Wall Street Journal	27	15	2	**116**	85	14	7	4	18	**28**	99
The New York Times	18	16	8	**96**	**96**	20	3	8	18	15	93
Free Press	**50**	25	4	24	69	4	14	13	**57**	16	19
Twitter	15	11	5	27	51	**33**	**34**	6	46	18	212
GigaOM	27	17	**10**	34	39	1	8	8	20	**39**	71
The White House	3	**31**	1	19	30	2	1	3	9	7	**278**
Ars Technica	28	**33**	9	19	60	23	24	11	24	9	34
The Hill	17	9	2	6	24	4	8	8	14	8	27
FCC	**51**	25	3	40	51	2	14	2	16	5	9
The Verge	28	19	8	**49**	73	11	4	8	4	0	11
Battle for the Net	0	0	0	0	0	0	11	3	**131**	0	1
Wikipedia	25	18	7	15	43	11	15	11	13	8	38
Huffington Post	13	10	1	15	41	4	11	13	9	17	32
Save the Internet	1	7	2	17	24	5	6	**15**	21	7	6
Netflix	0	0	**74**	37	20	16	8	5	5	1	8
Yahoo!	2	1	3	1	1	18	5	9	19	9	86
Wired	**29**	14	1	15	21	13	6	3	19	0	16
EFF	10	3	1	7	17	3	10	4	7	6	36
CNET	16	12	1	18	34	12	1	2	3	2	15
The Guardian	12	4	**11**	13	31	7	4	3	24	1	21
Comcast	1	1	0	32	11	0	1	5	15	6	50
Public Knowledge	13	4	0	23	4	2	3	14	8	6	11
National Journal	3	6	1	14	13	4	16	9	16	18	17

Note. Bold type indicates the top three in each month.

The composition of the media landscape focused on net neutrality was markedly different in March. Netflix was the focal point of attention instigated by a blog post by the CEO of Netflix, Reed Hastings ("Internet Tolls and the Case for Strong Net Neutrality") and a response from AT&T ("Who Should Pay for Netflix"). The Netflix statement would become a point of reference for subsequent coverage and discussion.

The next spike in activity started when the *Wall Street Journal* reported on April 23, 2014, that the FCC planned to propose new net neutrality rules that would allow broadband providers and content providers to negotiate deals to prioritize traffic. This news was met with a barrage of condemnations from net neutrality advocates. While stories by the *Wall Street Journal* and *The New York Times* received the most inlinks in April, a range of other prominent sources shared attention, including tech media, government, companies, and advocacy organizations. This is the only phase of the debate when mainstream media sources occupy top positions in the link economy.

The compromise solution devised by Wheeler appeared to satisfy few. Internet activists, politicians, and companies issued statements, some urging the FCC to adopt stricter net neutrality rules and others arguing to abandon them altogether. A number of tech companies, including Amazon, Facebook, Google, Microsoft, Netflix, Twitter, and Yahoo! wrote a letter on May 7, 2014, to the FCC commissioners indicating that rules permitting paid prioritization would represent "a grave threat to the internet." On May 15, the FCC voted in favor of a preliminary proposal that kept broadband providers' regulatory classification unchanged and appeared to open the door to paid prioritization of traffic if shown to be "commercially reasonable." Although Wheeler contested this interpretation, his assertions were met with skepticism by many and led to attacks from both sides. Another surge in media coverage followed the publication of the draft proposal and the opening public comment period for the proposal. The FCC extended the first comment period to July 15, 2014, and opened a second comment period that extended to September 2014. The coverage by *The Washington Post* received the most inlinks in May, followed by YouTube. The most linked-to YouTube video in May was a message from Senator Al Franken denouncing the "pay to play" system and calling for citizen action to support stronger net neutrality regulation. This month also saw an increase in the prominence of tech media and advocacy groups pushing back against the FCC plan.

Advocacy efforts in support of net neutrality ramped up through May and June with protests at the FCC and coordinated efforts to call and write to the FCC. Another spike in coverage in the first week of June was driven in large part by links to a YouTube video of a segment by John Oliver in which he aims his caustic wit at the FCC and net neutrality opponents. This video was the most prominent media story in June (see Figure 4) and would become a prominent touch point for net neutrality advocates. It was the most popular link in the course of the debate. The Oliver video had been viewed more than 7 million times by January 2015, with the likes outnumbering the dislikes by a ratio of 100:1.

There was a surge in comments submitted to the FCC fed by the Oliver video calling the Internet "monsters" to directly write them. Well into the commenting period, the FCC reported that its website had problems handling the high volume of submissions. Several organizations that support net neutrality—including EFF, Free Press, Demand Progress, Engine, the Nation, and CredoAction—offered online forms to make it easy for people to submit comments to the FCC. Battle for the Net, which would rise in prominence over the next several months, made its first appearance in the link economy with the backing of "Team Internet." The most popular of the campaign sites opposed to net neutrality, Don't Break the Net, would not launch until September.

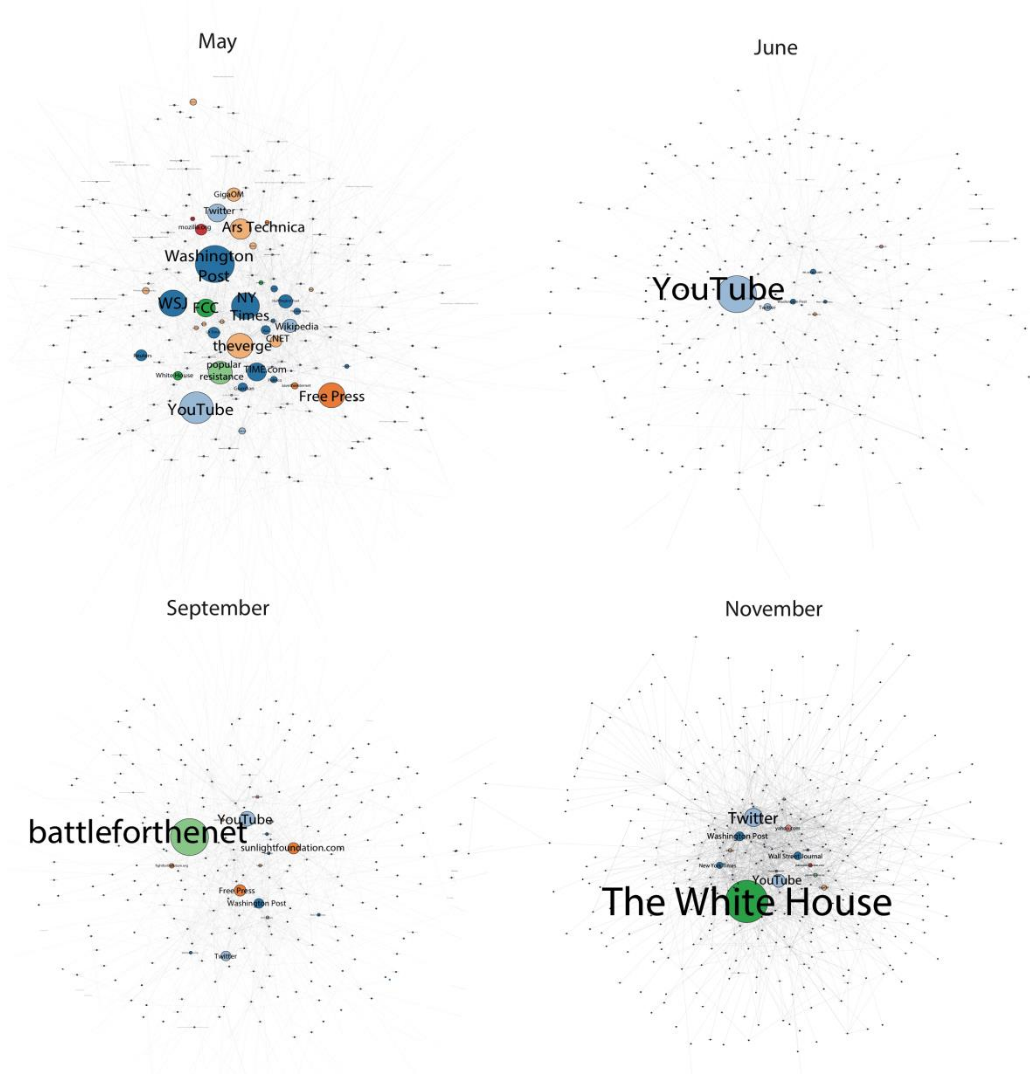

Figure 4. Monthly maps of media sources exhibit substantial changes in the link structure and prominence of sites from month to month in 2014.

John Oliver's call received much media attention and was undoubtedly responsible for a significant increase in activity in June. However, the response in mid-July was several times higher (Bray, 2014), bolstered by the efforts of advocacy organizations. Analysis by the Sunlight Foundation found that comments linked to five advocacy efforts (CredoAction, Battle for the Net, EFF, Daily Kos, and Avaaz) accounted for close to half of the 800,000 comments received in the first submission window (Lannon & Pendleton, 2014).

Advocacy efforts coalesced around September 10, 2014, protests dubbed the "Internet slowdown." Protest organizers recruited websites to display the "spinning wheel of death" on their sites to remind users of the frustration of waiting for websites to load. Participating websites also urged visitors to contact lawmakers and demand action on net neutrality. The organizers reported that more than 40,000 websites participated in the online protests. Although receiving relatively few inlinks before or after, Battle for the Net was the most linked-to site in September (see Figure 5).

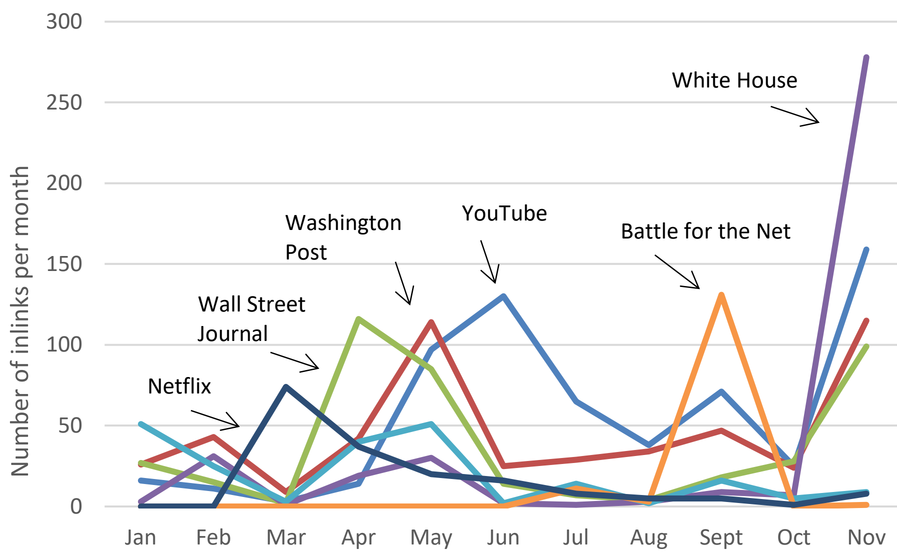

Figure 5. Inlinks per month—the most link-influential sources for each month.

In addition to drawing wide media coverage—exceeding 700 stories that week—the Internet slowdown protest activities appear to have inspired a large number of people to contact the FCC, Congress, and the White House. The organizers behind the site Battle for the Net alone counted over 2 million e-mails sent, more than 300,000 phone calls, and close to 800,000 additional comments to the FCC (Battle for the Net, 2014).

The success of the pro–net neutrality camp in driving comments in July led to a response from the anti–net neutrality camp. Unlike the first round, the second round of the commenting period included many responses opposing net neutrality. The Sunlight Foundation again analyzed the results and reported:

> In marked contrast to the first round, anti-net neutrality commenters mobilized in force for this round, and comprised the majority of overall comments submitted, at 60%. We attribute this shift almost entirely to the form-letter initiatives of a single organization,

> American Commitment, who are single-handedly responsible for 56.5% of the comments in this round. (Pendleton & Lannon, 2014, para. 4)

It also reported that the sentiment among the non–form letters was similar to that of the first round, with only about 1% of responses opposing net neutrality. Perhaps because the anti–net neutrality effort by American Commitment appears to have been an e-mail marketing campaign (Koebler, 2014), its footprint was almost completely absent from the link economy. The major response to e-mail marketing establishes that there are important back channels opaque to our study methods, as well as to earlier studies of the politics of net neutrality that relied on fewer communications channels. This fact commands caution in interpreting our results. Nonetheless, it is quite clear that these 2 million comments did not translate into significant influence in the public debate. Media reporting following the second comment round emphasized comments from the pro–net neutrality side and the sheer number of comments rather than the overall balance (see, e.g., Sasso, 2014; Wyatt, 2014). This framing, which omitted mention of the large number of anti–net neutrality comments, was also used by Obama (2015) and later by Wheeler: "FCC received more than 4 million comments on #OpenInternet during past year that helped shape proposal. It's time to act" (Wheeler, 2015b). Generating large numbers of citizen contacts without systematically winning the public interpretation of these contacts appears to have backfired and strengthened the pro–net neutrality camp's position.

On November 10, 2014, President Obama spoke out in favor of strong net neutrality rules and Title II reclassification of broadband, bringing about the largest surge in media attention during the year. More than 2,000 stories on net neutrality were part of the debate in this week, with a large proportion of the inlinks going to the official White House statement. After the White House announcement page (more than 200 inlinks), Ted Cruz's response via Twitter received the second most attention in November with 56 inlinks. Responses from Verizon and Comcast were also in the top 10, with 33 and 23 inlinks, respectively.

The Link Economy Backs Net Neutrality

Among the 15,600 stories that discussed net neutrality from January to November 2014, there are a wide range of opinions on the merits of net neutrality regulations. As Table 2 suggests, the link economy focused primarily on sources that either presented both sides of the debate or favored net neutrality. This trend holds true when we look at top stories in Table 5. Pro–net neutrality stories form the majority of the top stories, with John Oliver, President Obama, Netflix, and Battle for the Net comprising four of the top five. The top stories include those of advocacy organizations that are strong proponents of net neutrality—for example, Free Press, EFF, Fight for the Future, and Demand Progress. Among the top link recipients, the neutral stories are mostly from mainstream media with Wikipedia and the FCC also represented.

Table 5. Stories with the Most Inlinks, January to November 2014.

Last Week Tonight With John Oliver: Net Neutrality	YouTube	218
President Obama's Asking the FCC to Keep the Internet Open and Free	The White House	208
Internet Tolls and the Case for Strong Net Neutrality	Netflix blog	135
FCC to Propose New Net Neutrality Rules	*Wall Street Journal*	114
Battle for the Net	Battle for the Net	92
F.C.C., in a Shift, Backs Fast Lanes for Web Traffic	*The New York Times*	88
Net Neutrality	Wikipedia	81
What Can We Learn From 800,000 Public Comments on the FCC's Net Neutrality Plan?	Sunlight Foundation	62
Finding the Best Path Forward to Protect the Open Internet	FCC	61
Net Neutrality Is Obamacare for the Internet; the Internet Should Not Operate at the Speed of Government (Sen. Ted Cruz)	Twitter	58
Free Press	Free Press	54
This Is Why Your Internet Is Slow. And It'll Get Worse. Unless You Take 1 Min to Do This, Now.	Battle for the Net	54
FCC Net Neutrality Plan Calls for More Power Over Broadband	*Wall Street Journal*	52
Open Internet	FCC	46
The FCC Is Planning New Net Neutrality Rules. And They Could Enshrine Pay-for-Play	*The Washington Post*	39
Protecting Net Neutrality and the Open Internet	Mozilla Policy & Advocacy	38
Goodbye, Net Neutrality; Hello, Net Discrimination	*The New Yorker*	37
Net Neutrality	Save the Internet	35
We the People: Your Voice in Our Government	The White House	35
Verizon Statement on White House Title II Announcement	Verizon	33
The Open Internet	FCC	32
Who Should Pay for Netflix?	AT&T Public Policy Blog	31
Federal Appeals Court Strikes Down Net Neutrality Rules	*Washington Post*	30
DC Net Neutrality Ruling	Scribd	29
Ensuring an Open Internet Now and for the Future	FCC	28
VC Pitches in a Year or Two	A VC	28
Appeals Court Strikes Down FCC's Net Neutrality Rules	*Wall Street Journal*	28

What Is Net neutrality?	ACLU	27	
Court Strikes Down FCC's Net Neutrality Rules, Agency May Appeal	*GigaOM*	26	
Netflix Performance Has Been Dropping	*Ars Technica*	26	

Among the 1,825 inlinks in this set of top 30 stories, 961 are to pro–net neutrality stories, 742 to neutral stories, and 122 to stories opposing net neutrality. The ratio of pro-story links to anti-story links is about 8:1. The coding of the random set of 200 linked-to stories also shows that the highly skewed distribution extends across the link economy with a ratio of pro to anti stories of 7:1.

The most linked-to story opposing net neutrality is 10th on this list: the tweet from Senator Ted Cruz (2014): "Net Neutrality Is Obamacare for the Internet; the Internet Should Not Operate at the Speed of Government." However, it occupies this position only by virtue of the links it receives from reporting on the tweet or criticizing Cruz's position; only 4 of the 58 inlinks clearly support his tweet. Verizon appears in 20th place with 33 inlinks to a November 10 story in opposition to Obama's statement; only one of those inlinks comes from an article that takes a clear anti–net neutrality stance. A blog post from AT&T in March responding to the Netflix blog post by Reed Hastings also received 31 inlinks; none of the inlinks come from anti–net neutrality articles. Only at the very fringes of the link economy can one find evidence of like-minded organizations linking to opinions in opposition to net neutrality.

There are many strong voices in opposition to net neutrality from think tanks (e.g., Gattuso 2014), blogs (Seton, 2014), and media (Babcock, 2014; Shapiro, 2014). None of them receive more than a few inlinks. Don't Break the Net,[7] sponsored by Tech Freedom, appears to be the anti–net neutrality campaign with the most inlinks. Of the 15 inlinks it receives, only 2 come from supportive sources.[8] In the link economy, the only prominent platform for opponents of net neutrality is coverage of their views in traditional media.

Net Neutrality Links on Twitter

The most frequently shared sites on Twitter (see Table 6) offer many differences compared to the results presented earlier drawing on a broader digital media landscape (see Table 5). Battle for the Net is far and away the most frequently shared site on Twitter; links to this site were shared on Twitter more than the next 11 most-shared sites combined. Other popular sites shared frequently on Twitter include The Oatmeal, Netflix, John Oliver, President Obama, and a petition to the White House. Among the most-shared stories on Twitter, no stories oppose net neutrality, and only 4 of the top 25 are neutral. Only 3 of the positions are occupied by mainstream media sources.

[7] http://dontbreakthe.net/

[8] http://www.cato.org/blog/net-neutrality-or-destroying-internet-innovation-investment
http://www.forbes.com/sites/larrydownes/2014/09/12/vcdc-when-internet-neutrality-principles-conflict-with-engineering-everyone-loses/

Table 6. Links Shared on Twitter.

Title	**Media source**	**Number of Twitter shares**	**+/–**
This Is Why Your Internet Is Slow. And It'll Get Worse. Unless You Take 1 Min To Do This, Now.	Battle for the Net	131,869	
Battle For The Net	Battle for the Net	43,058	
Dear Senator Ted Cruz, I'm Going to Explain to You How Net Neutrality ACTUALLY works	The Oatmeal	31,920	
If You Hate This Symbol, Join Netflix and Defend #NetNeutrality on Sept. 10th	Netflix	23,724	
Last Week Tonight With John Oliver: Net Neutrality	YouTube	21,720	
President Obama's Asking The FCC To Keep The Internet Open And Free	White House	21,505	
White House Petition: Maintain True Net Neutrality	White House	13,046	
Net Neutrality News, Videos, Reviews and Gossip	*Gizmodo*	11,185	
The Open Internet: A Case for Net Neutrality	theopeninter.net	11,031	
F.C.C., in a Shift, Backs Fast Lanes for Web Traffic	*The New York Times*	10,997	
White House Petition: Restore Net Neutrality by Directing the FCC to Classify Internet Providers as "Common Carriers"	White House	8,999	
Net Neutrality News, Videos, Reviews and Gossip	Kotaku	7,885	
Everyone At The FCC Can Help Save Net Neutrality or Destroy It.	Call the FCC (EFF)	7,750	
Save the Internet | Join the Fight for Internet Freedom	Save the Internet	7,006	
Net Neutrality in the US: Now What?	YouTube: Vi Hart	5,875	
Net Neutrality: Join the Fight With Namecheap	NetNeutrality.com	4,816	
Verizon Using Recent Net Neutrality Victory To Wage War Against Netflix	Davesblog.com	4,720	
Obama Says FCC Should Reclassify Internet as a Utility	*The Verge*	4,371	
FCC Approves Plan to Consider Paid Priority on Internet	*The Washington Post*	4,359	
President Obama's Statement on Keeping the Internet Open and Free	YouTube	4,125	
Why Net Neutrality Matters (And What You Can Do To Help)	YouTube: College Humor	3,891	
You Have Until Midnight to Yell at the FCC About Net Neutrality…Sort Of	*Gizmodo*	3,866	
Last Chance to Save Net Neutrality	*BoingBoing*	3,649	
Internet Citizens: Defend Net Neutrality	You Tube: C.G.P. Grey	3,634	
Obama Calls for Strict Net Neutrality Policy	*The New York Times*	3,590	

The list shown in Table 6 is comprised largely of explicit calls to action in support of net neutrality. Compared to the broader digital media landscape, Twitter appears to be used disproportionately as a vehicle for social mobilization rather than as a citation platform.

Drawing on data from Bitly, we can estimate which stories in the debate receive the most clicks on shortened URLs that have been shared via social media. These data serve as a proxy for the social media attention across a broader online audience. The overwhelming majority of clicks reported by Bitly come from Twitter and Facebook.

We have to be cautious in interpreting this data because not all media sources use Bitly as a link shortener. For example, since YouTube does not use Bitly, clicks on YouTube videos are not represented. Another possible bias is sites that promote sharing of their articles on social media using Bitly (for example, *The New York Times* uses Bitly to run its nyti.ms shortening service). As shown in Table 7, *The Verge* is particularly adept at getting users to share its stories on social media.

Table 7. Bitly Clicks by Story.

Title	**Media source**	**Number of Bitly clicks**	**+/–**
Porn Stars Explain Net Neutrality	Funny or Die	204,678	
The Wrong Words: How The FCC Lost Net Neutrality and Could Kill the Internet	*The Verge*	40,474	
Huge Coalition Led by Amazon, Microsoft, and Others Take a Stand Against FCC on Net Neutrality	*The Verge*	39,775	
How the Net Neutrality Ruling Will Affect Your Netflix Habit	*ABC News*	33,113	
This Hilarious Graph of Netflix Speeds Shows the Importance of Net Neutrality	*The Washington Post*	30,942	
Maintain True Net Neutrality	White House petition	25,484	
Obama Just Announced His Full Support to Preserve Net Neutrality	*Mother Jones*	23,771	
This Is Why Your Internet Is Slow. And It'll Get Worse. Unless You Take 1 Min To Do This, Now.	Battle for the Net	23,182	
The FCC Is About to Axe-Murder Net Neutrality. Don't Get Mad—Get Even	*The Guardian*	20,640	
The FCC Just Approved a Proposal That Will Completely Change the Internet as We Know It	*Silicon Alley Insider*	20,448	
Netflix Blasts Comcast and Verizon on Net Neutrality: "Some Big ISPs Are Extracting a Toll"	*The Verge*	19,363	
Dear Senator Ted Cruz, I'm Going to Explain to You How Net Neutrality ACTUALLY Works	The Oatmeal	18,941	
Former Comcast and Verizon Attorneys Now Manage the FCC and Are About to Kill the Internet	*Vice*	18,603	

The Real Battle for Net Neutrality Just Began	*The Verge*	15,669	
Why You Should Be Scared of the Comcast/Time Warner Cable Merger	*The Verge*	14,731	
Google Fiber Teams Up With Netflix in Fight Against Comcast's Internet Tolls	*The Verge*	13,846	
AT&T's Sponsored Data Is Bad for the Internet, the Economy, And You	*The Verge*	13,552	
Your Corporate Internet Nightmare Starts Now	*The Verge*	12,959	
Cable Companies Are Astroturfing Fake Consumer Support	*Vice*	12,365	

Clicks on Net Neutrality Stories via Bitly

The list in Table 7 offers a significantly different view of the media landscape. At the top of the list is a video by Funny or Die in which porn stars explain net neutrality. Several familiar sites are on this list: a White House petition to maintain net neutrality and the Battle for the Net site. Compared to the most-shared links on Twitter, the stories with the most clicks via Bitly are more often news reporting of the issue, likely reflecting common use of Bitly URL shortening in share buttons on mainstream news sites. The list is also largely populated by stories that are supportive of net neutrality. Fourteen of the top 20 back net neutrality, the other six are neutral.

Each of these data sets offers a different view of the media landscape, capturing different sets of users and different behavioral choices. Although some common stories and media sources are found across the top sites in Twitter, Bitly, and the broader set of digital media, there are also interesting differences. A common feature that is unmistakable is the overwhelming support for enacting strong net neutrality rules (see Figure 6).

Discussion and Conclusion

The day after Wheeler's February 4, 2015, announcement, the *Wall Street Journal* published a deep "insiders" story that suggested that the battle was primarily won by the CEOs of start-ups Etsy, Tumblr, or Kickstarter and younger, more Internet-savvy White House staff, outmaneuvering not only Comcast, Time Warner, AT&T, and Verizon but also Google's Eric Schmidt's exhortations for the White House to side with the big companies on net neutrality (Nagesh & Mullins, 2015). The *National Journal*, by contrast, offered a more nuanced story that combined both this inside story and a remarkable story of online mobilization. Both stories focused on the fact that President Obama's speech on November 10 was a turning point, that the speech was likely influenced by the fact that the president had given up working with congressional Republicans after their election victory, and that he was focusing on victories for his agenda that could be achieved without congressional cooperation (Sasso, 2015). How much of the president's ultimate decision was based on the internal political consideration of a president seeking to make his legacy in the teeth of a hostile Capitol Hill is hard to gauge from publicly available data.

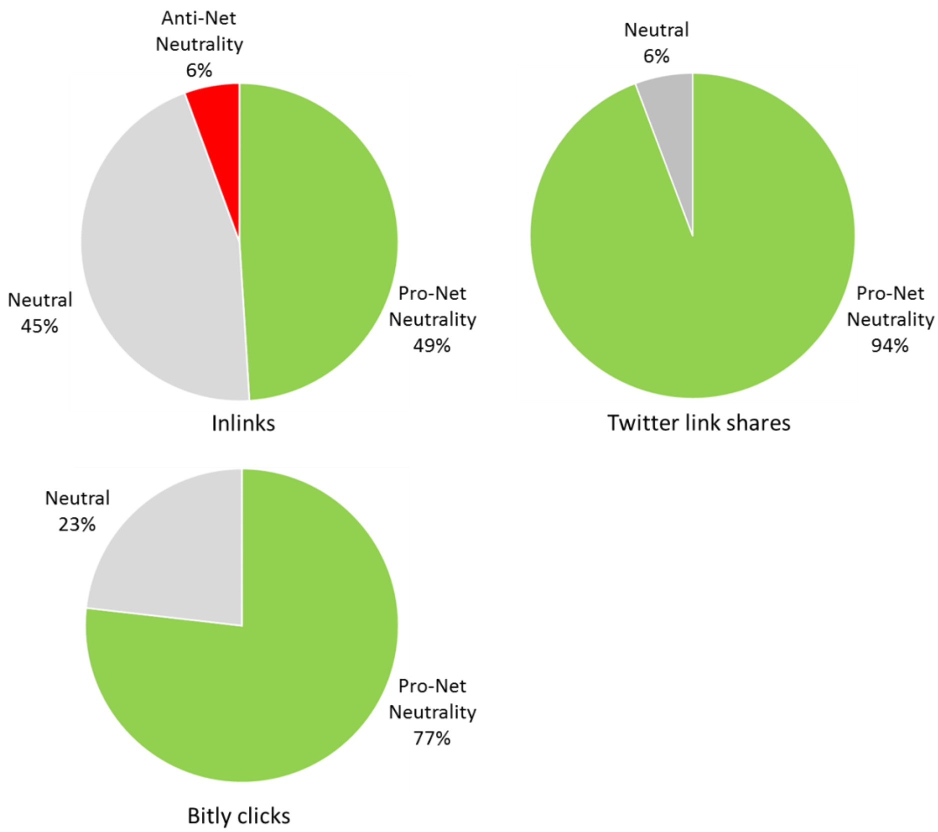

Figure 6. Proportion of most linked-to media stories that support, oppose, or take no position on net neutrality (based on top 30 for each).

Both stories made it amply clear that Washington lawyer and long-time net neutrality fighter Marvin Ammori played a central role in orchestrating the start-ups' efforts with both Wheeler and White House staff, by explaining to them that reclassification was critical to Internet start-ups. One thing is apparent: By November, digitally connected citizens had made it abundantly clear that net neutrality was an area where assertive presidential action would be embraced by millions of people willing to call their senators and representatives, file comments with the FCC commissioners, sign petitions, and argue their case publicly.

For 15 years, cable and telecommunications incumbents dominated the political economy of net neutrality and broadband regulation. Until the success of the actions described in this article, it was impossible for pro–net neutrality FCC chairmen to challenge the prior moves of the Bush-appointed FCC that had classified broadband providers as "information services." All subsequent failures of net neutrality in the courts stemmed from that classification decision. When Chairman Julius Genachowski proposed a version of Title II reclassification in May 2010, his initiative was beaten back by bipartisan congressional opposition. Chairman Wheeler's original proposal in May 2014 exhibited that he had learned the lesson and refused to attack the core of the problem—reclassification—opting instead for another iteration of regulation within the legal straightjacket imposed by the Republican controlled FCC in 2002–2005. The White House at the time was noncommittal (Edwards, 2014). The sole significant new factor in the political economy of net neutrality that unfolded over the five months between May and November 2014 was mass mobilization in the networked public sphere. On the background of this history, and the dramatic change in the FCC's ultimate stance from its initial position in May, it seems warranted to believe that networked mobilization and communication were decisive in tipping the political scales.

The results of this study align with the work of Herman and Kim (2014) and Lee, Sang, and Xu (2015): Supporters of net neutrality, including a substantial contingent of advocacy groups, won the online debate by a wide margin. The diversity of sources and styles of communication that typified the networked communications we observed belies a simple view that a small number of stable nodes recapture a mass-media-like dominance because of the power laws that characterize network linking. We see mainstream media and technology media or entertainment sites, established nongovernmental organizations, and campaign-specific sites that emerge "out of nowhere" alternate at the top of the attention economy. Parody and satire played a particularly strong role in communicating the issues, in promoting awareness, and in generating interest in a complex and highly technical issue. John Oliver, the Oatmeal, Funny or Die, and College Humor were all popular touch points in the outreach campaign. Individual experts were commonly cited in digital media.

In the activity online, we see the blurred distinction between media and audience in agenda setting, framing, and mobilization, and the integration of communication and action among civil society activists. Moreover, the size of civil society's response suggests that activism efforts reached a significant number of people who otherwise would not have become involved. Online media that are distinctly not political or aimed at a mobilized audience played a significant role. This role parallels the role general-audience television has traditionally played in drawing into the political realm the so-called inadvertent audience who are generally removed from politics.

The reach and impact of this debate also call into doubt the applicability to the digital realm of theories based on the influence of relatively small, static groups of engaged citizens, such as issue publics (Converse, 1964), interested elites (Zaller, 1992), or the attentive public (Almond, 1950). In contrast, we observe a highly dynamic participatory media culture that varies in size and composition over time in response to ongoing events (see Table 4 and Figure 4).

Consistent with earlier studies (Hart, 2011; Stiegler & Sprumont, 2012), we find net neutrality to be a conventionally defined partisan issue, which makes the highly skewed online public debate even more remarkable. Public conservative voices generally opposed net neutrality, and there is little evidence of prominent political figures crossing the aisle. The media coverage of this controversy also appears to be divided cleanly along partisan lines. After reviewing coverage of conservative and liberal media sources, we found that the coverage in conservative media, blogs, and think tanks was consistently in opposition to net neutrality. This includes coverage in the *Washington Examiner*, *RedState*, American Enterprise Institute, *Breitbart*, *Daily Caller*, *the Blaze*, the Heritage Foundation, *Hot Air*, and *PJ Media*. We similarly found liberal media to consistently support net neutrality—for example, in *Slate*, *Salon*, *The Guardian*, *The Nation*, *The Atlantic*, and *Mother Jones*. We also found that liberal sources reported on the issue more than conservative sources.

This campaign is perhaps more impressive than the campaign mounted in opposition to the Stop Online Piracy Act (SOPA) and the PROTECT IP Act (PIPA), an earlier benchmark of effective digital activism (Benkler et al., 2015; Sell, 2013), given the active, but ineffective, efforts by anti–net neutrality activists to influence the online public debate. Given the current political environment, it is notable to see such broad support for a policy that provides the government with greater latitude to intervene in private markets. Unlike the opposition to SOPA and PIPA, this campaign was in support of a public policy initiative that required affirmative action rather than in opposition to the passage of legislation subject to many veto points.

The networked public sphere acted to filter and highlight different opinions on a complex topic (Benkler, 2006). The public interest groups, policy experts, and academics that support net neutrality proved to be more credible sources of guidance on this issue. Broadband providers failed to convince many that their arguments would well represent the interest of consumers. Digital media appears to have offered a mechanism that helped convince a broad array of citizens to appreciate the importance of this issue, to take a stance, and to act on it, despite the complexity and contradictory opinions (Koehler, 2016). The potential replicability of this model has important implications for public policy and democracy.

The structure of the media landscape we observe is consistent with a core–periphery model of networks (Barberá et al., 2015) that is characterized by a committed core of active participants that succeeds in engaging and energizing a broader set of participants (Benkler et al., 2015). Further research will be needed to better understand the replicability of this model of citizen engagement compared to other modalities.

A natural question is why we see such a strong response for this topic and not others. Part of the answer may be in the strong significance of this issue to digital activists. We see, however, a growing number of examples of digital activism having an impact on topics outside of the technical realm, a recent example being the Black Lives Matter movement (Freelon, McIlwain, & Clark, 2016). Other factors that are worthy of further study and comparative analysis include the presence of a defined window into policy making—in this case, the notice of public rule making public commenting period—to serve as a focal point for activist efforts and the clearly defined threat in the form of the controversial draft regulations.

Methodologically, our findings suggest that different platforms (open web; Twitter, Bitly) draw different uses, and that for each of them, attention and use change over time. These finding should serve as a caution in interpreting the results of future studies that rely on a single platform (Twitter, most often) or on a snapshot of a platform at a single point in time taken to represent what is in fact a dynamic debate.

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