CHOICE OF INFORMATION: A STUDY OF TWITTER NEWS SHARING DURING THE 2009 ISRAEL-GAZA CONFLICT

Completed Research Paper

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Abstract

The study explores determinants of the prominence of public information sources in Twitter. Twitter users are conceptualized as the "gated" who play an active role in selecting and distributing news sources through their Twitter messages. Using Twitter data on the Israel-Gaza conflict, the study identifies three determinants that characterize information sources: whether they are produced by mainstream media, whether they are filtered through aggregator services, and the number of in-links to the source media generated by the online public.

Keywords: Twitter, Gatekeeping, Metajournalism, Gaza, Social Media

Introduction

The rise of social media allows the online public to actively participate in processes of online content creation and circulation. Consequently, the public communication sector brims with user-generated content as well as traditional media content. Indeed social media empower users with diverse news choices regarding what to consume, while traditional information providers are experiencing a lesser role as gatekeepers.

Increase in alternative informational sources revisits a Nobel prize-winning economist Herbert Simon's (1971) statement that "a wealth of information creates a poverty of attention" (p. 40). Observing growing competition for attention-gathering in the online environment, scholars have characterized the web-based information society as an attention economy. In an attention economy society, audiences' time and cognitive capacity to consume information remain relatively same as the past, while the quantity of information sources has remarkably grown. Accordingly, users' attention is treated as a scare resource for which information suppliers should compete (Davenport & Beck, 2001; Franck, 1999; Goldhaber, 1997). Social media users' attention is a particularly valuable resource, because users are not just readers but also buzz-makers who reproduce and redistribute the information they choose to consume.

Twitter is a new social media through which users can easily share selected information with others in a short text message format (Mills et al., 2009). In recent years, Twitter has become a dominant social reporting tool for strategic communication (Li et al., 2010). Marketers, advertisers, political actors, and newsmakers are eager to catch Twitter users' attention, because they not only produce word-of-mouth effects but influence other online users' informational choices. In this sense, Twitter users are not just passive information recipients. Rather, they are conceived as power shareholders who control information flow through their interaction with mainstream media.

Assigning an intermediary role to Twitter users in information flow accords with Barzilai-Nahon's network gatekeeping theory (2008). In this theory, Twitter users can be conceptualized as the "gated" in that they collectively share and distribute news through their Twitter space. In this regard, the "gated", Twitter users are somehow replacing the role of traditional news intermediary in online information landscaping (p.1496). Sundar and Nass (2001) also propose that understanding online information source should not be restrained to the traditional concept of information senders but include technological and audience factors. The current study aligns with these theoretical speculations and conducts an empirical analysis of online users' news sharing behavior through Twitter messages on the Israel-Gaza conflict in 2009.

This study adds two contributions to emerging body of research on participatory social media. First, it attempts to understand what types of information sources are prominently shared in Twitter and how they are different or similar between the practices of firsthand tweeting and retweeting. While the hype is pervasive that social media empowers voices of non-traditional, user-driven information sources, traditional big media are still actively adapting social media tools to capture as many eyeballs as possible to maintain their reputation as information creators. This study is one of the earliest attempts that empirically show to what extent traditional big media and newly emergent content providers play a role in enriching information in Twitter. Second, we identify to what degree user-driven infosphere reflects the diversification of online information and serves the participatory public. We believe that our empirical finding can provide a baseline to assess the current status of participatory social media to collectively mediate informational sources to virtual space.

Empowered Gated in Social Media

McQuail (1994) defines gatekeeping as "the process by which selections are made in media work, especially decisions whether or not to admit a particular news story to pass through the 'gates' of a news medium" (p. 213). Traditional gatekeeping has involved a series of filtering mechanisms from information sources to recipients and from top to bottom. The onus of information filtering has been put on information producers, who have been traditionally termed simply as sources (Sundar & Nass, 2001).

Filtering process has often been affected by information producers' preferences, backgrounds, routines, practices, or value system nurtured in an institution with which producers are affiliated. The editorial process in journalism is a classic example of gatekeeping that exerts control over message content and audience's access to the message. As a gatekeeper, an editor selects or modifies news content from their own perspectives, news organization's conventions, content format allowed by channel characters, and/or value orientation of a community that the organization is embedded in.

The traditional model of gatekeeping exclusively focuses on the role of producers as gatekeepers and factors that affect their decision-making. Therefore, information recipients have not been regarded as an important composite of the gatekeeping model. Barzilai-Nohon (2008) insightfully points out that the absence of vocabulary that refers to those information recipients subjected to the gatekeeping effect reflects relative negligence toward this entity by traditional gatekeeping literature. Barzilai-Nohon (2008) proposes to call those subjects as the "gated" (p. 1496). In her view, the gated intervenes in gatekeeping mechanisms to a varied degree depending on their level of "political power," ability of "information production," "relationship" with traditional gatekeepers, and potential to choose "alternatives" as substitute for elite information sources (pp.1500-1501).

Social media elevates the salience of those who Barzilai-Nohon (2008) defines as the gated. Participatory social media embraces amateur online users as information co-developers by harnessing the online users' self-authoring, sharing, and collective intelligence (O'Reilly, 2004). Bruns (2007) describes the gated with his new term "*produser*," which implies the dual meaning of the 'user' as 'producer' or 'consumer' as 'producer'. In this view, the "*produser*" can be the online public empowered by web 2.0 technology that enables practices of searching, linking, authoring, tagging, recommending, and updating in an easier way and at minimal cost (Brynjolfsson & McAfee, 2007).

One way for the gated to contribute to a gatekeeping mechanism is to participate in producing user driven online news content. Easy creation of deliberative information and various opinion outlets by non-traditional actors diversify news sources. The increased influence of bottom-up journalism in which citizens become both information sources and receivers often result in a discrepancy in storytelling between the public and mainstream media (Kwon & Moon, 2009). The discrepancy can even trigger public contention against elite journalist's role as a public agenda setter. Although setting up the criteria on what to be news might still be an important task of mainstream journalism, the legitimacy of such criteria is not taken for granted any more. Indeed, recent years have experienced several important political and social issues that were exposed to the public primarily through non-traditional social media rather than elite professional journalism - for examples, wikileaks.ch, ushahidi.com, and Twitter and Facebook in association with the recent multiple protests in Arabic countries and England. Those cases reflect that traditional gatekeeping entities have been experiencing weakened power to control information flow, while the gated emerges as an information creator and disseminator empowered by social media.

Another way for the gated to take part in the gatekeeping process is to be a mediator rather than an original content creator. Many emergent social news and bookmarking sites such as digg.com, delicious.com, and newsvine.com function as mediatory information management systems. Goodes (2009) terms such social news websites as "metajournalism" whose primary role is to forward or circulate already existing information by taking advantage of sophisticated aggregation algorithms and public participation (p.1290). Users of these websites usually hyperlink first-hand sources to their posts along with rates, tags, or brief comments. The hyperlinked sources are then re-broadcast to other connected users. As Dimitrova et al. (2003) argue, hyperlinking is a part of gatekeeping exercise that influences readers' information selection choice. In this sense, users of social news sites occupy a distinctive position from that of the traditional gated. Bruns (2005) highlights the unique impact of such practices on information dissemination by calling it "gatewatching". A gatewatcher is an information gatherer rather than creator, taking a similar role to "the specialist librarian, who constantly surveys what information becomes available in a variety of media and serves as a guide to the most relevant sources when approached by information seekers" (p.7).

"Choice-Bounded Gated" in Twitter Network

Twitter is a representative gatewatching social media through which users' selected information is tweeted via follower networks. The information can be spread even farther via relays of retweeting. Twitter has been a particularly successful venue to spread first-hand eyewitness information at a rapid speed under crisis events such as terrorist attacks (Oh et al. 2010a; Oh et al. 2011) and natural disasters (Oh et al. 2010b). Considering that a Twitter user plays multiple roles of information creator, transmitter, and reader, we can conceptualize Twitter users as gatewatchers or the autonomous gated who should be differentiated from the traditional gated.

As an intermediary between information providers and the online public, a Twitter user as the gated determines which information will take the lead in the Twitter-initiated public sphere. Although democratization of infrastructure of online social media is evidenced from lowered entry barriers, it is questionable whether it is directly translated into diverse voices and participatory news generation. Sunstein (2001), for example, argues that it is not external forces but users' self-regulation that hinders comprehensive adoption of alternative news sources. According to Barzilai-Nohon's gated typology (2008), Twitter user can be categorized as a "choice-bounded gated" whose self-regulation results in "information paradox," referring to our internal tendency to limit our attention to "culturally known information" despite many available alternative choices (p.1505).

Tweeting of External Information

While Twitter has become an influential social news media, it is unknown which factors influence the process of Twitter users' self-regulation in defining the worthiness of information and selecting certain information. To explore this question, we adapted the Sundar and Nass' (2001) typologies of news sources – visible source, technological source, and receiver source –to identify three components that characterize information sources for Twitter users.

First, Sundar and Nass (2001) refer to "visible source" as newspaper reporters or editing staff who deliver the message. Visible source resonates with the traditional news source that has been a key concept in source credibility studies that focus on 'how' the message is presented. However, rather than 'how,' our study focuses on 'who' is the sponsor putting its name on the face of information. As is the case of institutional mainstream media, if the source provider has been known to users as information providers, users are likely to select it due to its familiarity. For example, the website from a major newspaper may be more likely to be selected than a newly established online journalism website.

> **H1**: Traditional mainstream media-based news sources will be attended more prominently by Twitter users than alternative sources.

As another type of news source to explicate web source characteristics, we devised the notion of aggregated channeling by adapting the discussion of Sundar and Nass (2001) regarding technological source. Aggregate channeling implies that computerized delivery of news content may affect receivers' information evaluation. According to Sundar and Nass (2001), channeling is often not differentiated from information originator. For example, although a TV box is merely a "technical conduit" for content transmission, users treat TV box as if it is an originator of the content and assign channel-based attributes to the content (Nass, Reeves, & Leshner, 1996). Currently, news aggregator sites are popular information channels. Specifically, 31% of American adults consume news content channeled by aggregator websites (Doctor, 2009) and 44 % of visitors to Google News read headlines without assessing where the contentsare originated (Yoo, 2011). These surveys suggest that users may be predisposed to information delivered through aggregator channels (i.e., digg.com, delicious.com) not only because of the increased user accessibility but because of the implicit consensus to the quality of contents. Based on this, we hypothesize that Twitter users will also choose information sources delivered through aggregator sites more than those not through aggregator channels.

> **H2**: Information sources that are delivered through aggregator channels will be attended more prominently by Twitter users than those not through aggregator channels.

Sundar and Nass' (2001) third part of source typology is the receiver or audience sources. While each individual audience member performs his or her own gatekeeping, audience as a collective is "responsible for the content floating around in any given media vehicle" (Sundar & Nass, 2001, p. 59). Indeed, each user's hyperlinking practice facilitates others to visit the linked site more frequently, directly contributing to traffic rates of the website. As a collective audience effect, number of links made to a source (a.k.a. In-links) will increase the source's online presence.

> **H3**: The more in-links a source medium receives, the more prominently the source medium will be attended by Twitter users.

Israel-Gaza Conflict and Twitter

To understand media source characteristics that may influence Twitter users' media source selection behavior, this study analyzes Twitter data of the Israel-Gaza conflict (December 27th, 2008 to January 18th 2009). Israel-Gaza conflict started with Israel's major military attack against Hamas in the Gaza Strip with the arguable claim of suppressing rocket fire into the southern Israel territory from the Gaza Strip (Zanotti et al. 2011). Due to the sensitive political nature of those areas, Israel-Gaza conflict has drawn global attention through both mainstream and social media. For the Gaza attack, despite the Supreme Court's ruling, Israel coordinated a media campaign to prevent foreign journalists from accessing the Gaza strip area[1], and Israeli soldiers were disallowed to carry mobile phones which could unintentionally leak out embarrassing information to the world (Ward 2009). However, as Ward (2009) argues, ironically, the media control forced outsiders to rely on the public driven social media (i.e., blog, Twitter, Facebook, Youtubeetc) to obtain and relay news of mainstream and social media. In this regard, we believe that Israel-Gaza conflict is a good case to understand the online public's media source selection behavior as a means to produce, share, and consume news on Israel-Gaza Conflict.

Methods

We collected a total 6839 Twitter messages during the Israel-Gaza conflict through Twitter search engine. Search keywords that we used for data collection are as follows: Gaza Air Strike (98), Gaza Attack (840), Gaza ceasefire (1146), Gaza Clash (62), Gaza Conflict (954), Gaza Emergency (164), Gaza Massacre (480), Gaza Violence (648), and Gaza War (2447). Out of the total of 6839 tweets, we randomly selected 3400 tweets to reduce the samples to a manageable size. Among the 3400 tweets, firsthand 1863 tweets that included external news sources were retained to test hypotheses. External contents are hyperlinked to tweets with a form of tiny URL[2]. Each tiny URL was translated into the original full URL. Then, URL was cleaned in a way that includes the top three level domain names (http://www.zzz.zzz), deleting the rest that followed the first slash (/).

Dependent variable: frequency of media source tweeted

We consider that the number of media sources being tweeted is a proxy for the degree of attention a media source receives from Twitter users. Each domain name of media source was counted using the content-analysis software, Automap (Carley, 2010). This resulted in a total of 403 unique websites, with a varied range of frequency from 1 time to 104 times ($M = 3.36$, $SD = 8.61$).

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[1] http://cyberwanderer.wordpress.com/2009/01/03/summary-2009-israel-gaza/ (Accessed February 12th, 2011).

[2] As Twitter allows only 140 characters in a message to post, lengthy URLs cannot be properly posted as a linked message. To avoid this problem, many websites are providing the service of shortening the lengthy URL into a "tiny URL" format. One exemplary website is: http://tinyurl.com/.

Source characteristic variables

Three components of source characteristics were operationalized as following:

1. Mainstream media source: First, we sorted out hyperlinked sources into nine distinguishable types – websites of (1) newswire agencies, (2) domestic electronic media (TV and Radio), (3) domestic print media (newspaper, magazine), (4) international electronic media, (5) international print media, (6) online journalism, (7) governmental organizations, (8) non-governmental and educational institutions, (9) personal blogs or homepages. Two masters' students were trained to code data (coding scheme attached as appendix 1). Inter-coder reliability of the randomly selected 300 tweets was satisfactory, Cohen's Kappa k = .890 (p< .001). These types were then recoded into a binary variable, combining (1) to (5) as mainstream media source (code = 1) and (6) to (9) as non-mainstreams or alternatives (N for mainstream = 177, 42.7%; N for alternatives = 231, 56.6%) (code = 0).

2. Aggregate channeling: The website was coded as 1 if it was hyperlinked in a tweet via aggregator service at least once. Aggregator service was defined as a website that uses computer algorithms or open-source user collaboration as a means to collect and present information created from other website sources. The examples are twitter.com, digg.com, flickr.com, Google news, Yahoo news, or Wikipedia.org. Inter-coder reliability was satisfactory, Cohen's Kappa k = .849 (p< .001).

3. In-links: Extensive in-links (incoming hyperlinks to the source media website) indicates general popularity or credibility of the website received by online public. In-links data of each website was retrieved from Alexa.com, a Web information company (M = 8,961.09, SD = 24,883.15). To fit the data with our data analysis plan, we recoded it into a categorical variable including the low (0 - 500), medium (501 – 4909), and high (4910 – the highest) level of in-links frequency.

Results

Descriptive Analysis

The frequency analysis shows that 403 unique media sources were hyperlinked in Twitter: 175 (43.18%) mainstream media sources versus 228(56.82%) alternative media category. It tells that a slightly more alternative media sources were available for the online public to select and share information.

Figure 1. Information Source Types
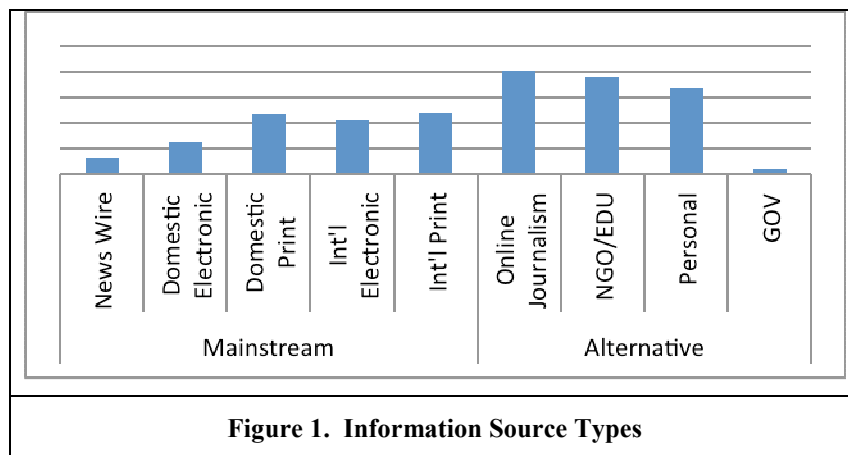
However, in reality, while the online public selected to tweet mainstream media 4.99 times on average, they tweeted alternative media sources 2.17 times only. It implies that, despite the diverse option of alternative media sources, the online public were dominated by a few super-star mainstream media in their tweeting behavior: i.e., bbc.co.uk (104 times), reuters.com (90 times), and cnn.com (46 times). It is further evidenced from the fact that a large number of alternative media sources were relatively evenly tweeted without having a salient super star: i.e., alertnet.org (47 times), allvoices.com (18 times), israelnationalnews.com (16 times), and globalvoicesonline.com (15 times).

Figure 1. Information Source Frequency Distribution
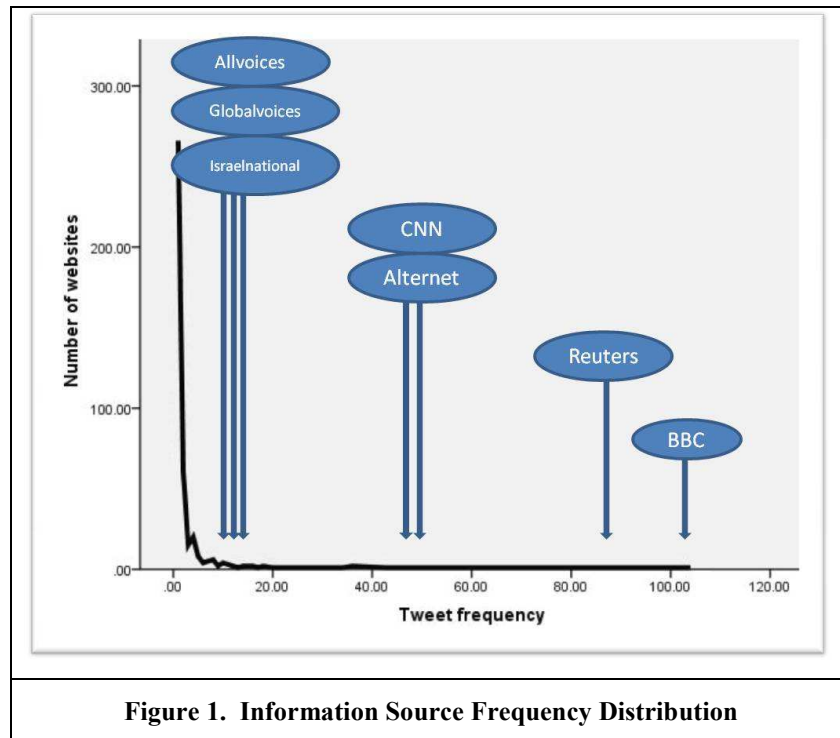
The distribution for the in-links showed a similar pattern. While mainstream media sources have received 12,901.90 in-links on average, alternative media has received 6,057.43 in-links. Again, this pattern represents a few super-star mainstream sources that have received an astonishing number of in-links: i.e., nytimes.com (138,489 links), bbc.co.uk (100,335 links), cnn.com (85,968 links), and guardian.co.uk (77,318 links). Regarding the aggregate channeling, frequency analysis showed that 63 (15.3%) sources were visible through aggregator websites at least once, while 350 sources (84.7%) were directly hyperlinked to Twitter messages. Among the 63 sources channeled by aggregator websites, 27 sources were categorized as mainstream media and 36 as alternatives.

Hypotheses Testing

Our data violates the assumption of normality and homogeneity of variance. As indicated above, this is due to a few super star mainstream media which receive lots of tweeting and in-links. Therefore, we ran distribution-free, nonparametric statistics: Kruskal-Wallis H-test, which is the non-parametric version of F-test in ANOVA, and Mann-Whitney U-test which is the non-parametric version of independent samples T-test (Field 2005). Given that these tests are based on average ranks of each group, we report the rank of median and mean of each group.

First, Kruskal-Wallis H-test revealed that all three single variables resulted in significantly different tweet frequency patterns: for mainstream media, $\chi^2 = 7.26$, $p < .01$; aggregate channeling, $\chi^2 = 40.82$, $p < .001$; and in-links, $\chi^2 = 37.27$, $p < .001$. Mann-Whitney U-test indicated further that all three levels of in-links were significantly different from one another (Table 1). These results mean that H1, H2, and H3 are

supported. First, mean differences between mainstream media sources and non-mainstream media sources are significantly different. It confirms that the mainstream media news sources were tweeted significantly more frequently than non-mainstream media, hence, H1 is supported. Second, significant difference exists between the mean value of media sources that are visible through aggregate channeling websites and the media sources that are not. It confirms that the media source that is visible through aggregate channeling websites are more likely to be tweeted than others, hence, H2 is supported. Third, significant mean differences exist between low in-link website group and medium in-link website group, low in-links websites group and high in-link website group, and medium in-link website group and high in-link website group. As can be seen from the rank values of mean and median, it confirms that the more links the websites received from other online users' websites, the more likely those in-linked websites are tweeted, which confirms H3.

Table 1. Group mean and median of single variable						
Single Variables		Mean	Median	*Sample Size*	χ^2 (p-value)	Result
Mainstream	N	2.17	1.38	231	7.26 (*p*<.01)	H1 Supported
	Y	4.99	1.58	177		
Aggregate Channeling	N	2.12	1.36	350	40.82 (*p*<.001)	H2 Supported
	Y	9.71	3.00	63		
In-Links	L[a]	1.38	1.21	138	37.27 (*p*<.001)	H3 Supported
	M[ab]	2.35	1.47	138		
	H[ab]	6.39	1.79	137		

Note. N= no, Y=yes, L =low, M=medium, H=high; significant from Mann-Whitney U-test at [a]*p*< .001, [b]*p*< .01 (Note: Mean difference in tweet frequencies between groups L and M, and groups L and H are denoted by superscript 'a'. Mean differences in tweet frequency between M and H is denoted by superscript 'b').

Conclusion

Twitter is a social media flouring with diverse information sources, ranging from the full-fledged mainstream media to the individual online public. This study conceptualized Twitter users as an active player in the gatekeeping process, and attempted to understand online users' role in landscaping the information marketplace. We questioned how, in addition to the news providers' reputation, collective in-linkings and the Web 2.0 driven aggregating websites impacted on Twitter users' information selection behavior.

Specifically, we explored whether three elements of media source characteristics – mainstream media source, in-links intensity, and aggregated channeling - affect the Twitter user's news source selection in their tweeting behavior. In general, mainstream media-affiliated websites were still highly attended by Twitter users than alternatives. Additionally, we also found that mainstream media received more in-links from online public than alternatives. These results are mainly due to a few superstar mainstream media which highly dominate information market. However, effects of aggregate channeling upon mainstream and alternative media are still ambiguous. As of now, regarding the aggregate channeling site, our temporary conclusion is that Twitter in combination with aggregate channeling may re-order the pre-existing information market hierarchy. In addition, given that more alternative media are visible through aggregate channeling, it also has potential to put multitude of heterogeneous voices to the foreground of media landscape. In other words, these three factors are likely to interact with one another to influence the gatekeeping process as a whole. The interrelationships among the factors situate Twitter users' selection behaviors in a more dynamic and complex context of information market. While the current paper did not study further about such complexity, we propose it as a future direction for this project. We admit that more rigorous analysis needs to be followed with larger samples to better understand the

function of aggregate channeling as a human-machine collaborative information filtering systems at global scale.

The inquiry on what kind of structure will characterize Twitter information market is consistent with the recent theoretical contentions between centralization of web-sphere and decentralization. Proponents of the centralization of web-sphere argue that the egalitarian distribution of users' attention on the web is mythical because the preferential attachment tendency generates imbalanced hyperlink structure in the Internet that results in the bias during the information search process (e.g. Barbarasi, Albert, Jeong, & Bianconi, 2000; Hindman, 2008). On the other hand, other voices argue that, despite the imbalanced hyperlink structures of the web as a whole, users' information needs are often dependent on their niche preferences and the subsequent search queries contribute to the flow of information more egalitarian and decentralized than the former perspective assumes (Anderson, 2006; Barsky & Purdon, 2006; Fortunato, Flammini, & Menczer, 2006). Alongside of such theoretical contention, structural analysis of Twitter will be the next step of this project.

Acknowledgements

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Appendix 1: Coding Scheme

Column Name	Description	Data Type
IDX	Index number. This is different from the row number of Excel. We need to maintain index numbers to uniquely reference specific Tweets whenever necessary.	Integer
Hyperlinked domain name	Domain name of the actual hyperlinked website (not tiny url) which is embedded in tweets. Please keep the "registered-domain-name" and "top-level-domain" Please exclude subfolder path. If the top-level-domain is a country code, keep	Plain Text

	the second-top-level domain as well. .	
	Examples:	
	- http://www.edition.cnn.com : **cnn.com** - http://globalvoicesonline.org/2008/12/27/ : **globalvoicesonline.org** - http://www.oxford.ac.uk : **oxford.ac.uk**	
1. Hyperlinked Information Sources (if not hyperlinked, then stop coding for "3" and "4")		
Hyperlinked	Check if the tweet contains hyperlink in the text	Binary
2. Source does not exist anymore? (if not existing, then stop coding for "3" and "4")		
Missing?	Check if the hyperlink is valid	Binary
3. Visible Sources (This category is mutually exclusive: select only one)		
Wire Services Agencies	Wire Services are the first-hand news agencies who sell news to other news organizations. The Appendix 1 includes globally well-known news agencies of which the US-based news organizations are clients. The data are from American Journalism Review (ajr.org) and dpa.org. Please code 1 if the webpage is included in the list. If not in the list but look like news wire? : Check out the page "about us (or organizational name)" or similar sort of page. If the organizational description includes the word "news wire" and talks about its role as distributing/selling news to other news organizations, it should be coded here.	
National TV News Organizations (US-based only)	Websites or blog BROADCASTING NETWORK stations or CABLE CHANNELS, whose headquarters are located in the US (e.g. NBC, Foxnews, CNN…)	
National Print News Organization (US basedonly)	Webpages affiliated with PRINT media publishing organizations, whose headquarters are located in the US (e.g. NYT, Times, Businessweek)	
International TV News Organizations (non-US based only)	Websites or blog of BROADCASTING NETWORK stations or CABLE CHANNELS whose headquarters are NOT based in the US. Only consider websites written in English (e.g. BBC, Al-Jazeer).	
International Print News Organization (non-US based only)	Webpages affiliated with PRINT media publishing organizations whose headqurters are not based in the US. Only consider websites written in English (e.g. guardian).	
Online Journalism website/blog	Online-based news sites or Journalistic blogs that meet ALL of the followings: 1. Pursue Journalistic writings 2. Copyright notation © (mostly at the bottom of main page) 3. Draw revenues, for example through advertisements, shopping carts, or pay-for-subscriptions 4. Do not belong to any offline-based TV or print media company (e.g. Huffingtonpost.com; http://www.allvoices.com)	

Non-journalism/personal blogs/websites	Individual user's blogs that are NOT categorized as professional journalism blog (doesn't have to be a single author).	
Governmental websites	Website whose domain name ends with .gov	
Non-governmental organization website	Websites that meet the followings: 1. Non-governmental 2. Not categorized in any other category (e.g. http://www.unmultimedia.org)	
Educational institution	Websites with the top-level domain ".edu" for the US and the second-level domain ".ac" for other countries	
Non-codable	Website that does not belong to any of above category	
5. Technological Source		
Aggregation websites	Is the Domain name a website that aggregates news information, for example based on computer-generation or open-source collaboration/sharing (e.g., digg.com, flickrs.com, google news, or Wikipedia.com etc)	Binary
6. Audience Source (http://www.alexa.com)		
Linking-In	Sites Linking-In Information (if not indicated, write "9999999999")	Integer