

# **The impact of social media on traditional media agenda setting theory – the case study of Occupy Wall Street Movement in USA**

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**Abstract:** Looking at the growing usage of social media in the world it is necessary to notice its influence on public perception of different issues and problems. Social media is not only employed as a place for discussions and content sharing but also as a tool for social activism in the offline world which may be illustrated by recent events in Egypt or Tunisia known as Arab Spring or started in July 2011 in USA Occupy Wall Street movement. This study focuses on the impact of social media on agenda building and agenda setting in traditional media by examining the case study of Occupy Wall Street movement where social media was used as the most important tool for communication. It also discusses the implication of social media coverage on the theory of issue-salience cycle.

**Key words:** Occupy Wall Street, agenda building, agenda setting, issue-salience cycle, social media

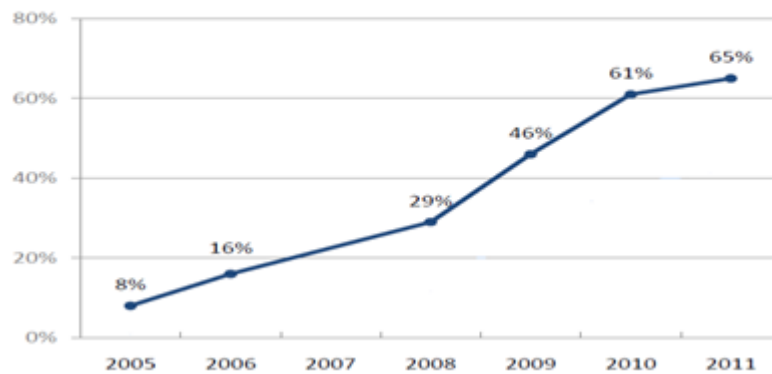
## **Introduction**

Ever since the emergence of social media in the 1990s, communications scholars and professionals alike have sought to understand the impact of the social media on traditional mass media communications. Of particular note has been the concern that social media (and user-generated content) could supplant traditional mass media as the leading information source and agenda setter for audiences in the digital age.

Several papers have been written investigating the issue, frequently electing to focus on individual components of the social media sphere: blogs, Twitter feeds, YouTube videos, et cetera. Although these investigations have yielded some results, many larger questions regarding the role of the social media in public issue salience have gone largely unanswered. Furthermore, given the still evolving nature and role of social media in the lives of its users, questions are frequently answered with yet more questions as researchers hedge their bets against impending and often unforeseen evolutions in the field.

As mentioned, however, despite the relatively small number previous studies on the subject, the social media continues to play an ever increasing role in the lives and the attentions of its audiences. A recent survey conducted by Pew revealed that record numbers of Americans are turning to the internet both for social and informational reasons with ever increasing frequency (Graph 1).

**Social networking site use by online adults, 2005-2011**  
The percentage of all adult internet users who use social networking sites since 2005



Graph 1: Social networking site use by online adults, 2005-2011  
Source: [www.pewinternet.org](http://www.pewinternet.org)

Given these trends, this article seeks to delve into the troubled waters of the role of social media in modern agenda and to add to the growing body of literature investigating the state and the future of social media as a key component of public discourse. To examine this topic, the authors elected to delve into a case study of the roles of these competing media avenues surrounding a contemporary news topic: the Occupy Wall Street movement.

### **Occupy Wall Street – overview of the case**

Occupy Wall Street is a “leaderless resistance movement with people of many colors, genders and political persuasions” ([www.occupywallst.org](http://www.occupywallst.org)). The protesters define themselves as “the 99%” of lower wage earners who do not agree with greed and corruption of the 1% top wage earners and an “open, participatory and horizontally organized process through which we are building the capacity to constitute ourselves in public as autonomous collective forces within and against the constant crises of our times” ([www.nycga.net](http://www.nycga.net)). The movement was first started on July 13, 2011 when members of foundation called Adbusters<sup>1</sup> issued a call to action: Occupy Wall Street and started a website ([www.occupywallst.org](http://www.occupywallst.org)) supported by Facebook and Twitter channel. The goal proposed by Adbusters was to gather 20,000 people at Wall Street in New York City on September 17<sup>th</sup>, 2011, beginning a popular occupation of that space for two months and more ([www.occupywallst.org](http://www.occupywallst.org)). The idea was inspired by the events that occurred in Arab World, particularly in Egypt and Tunisia in 2010, frequently referred to as the “Arab Spring” (Kuhn 2011). The protesters declared to follow the spirit of the movements in Arab World as they considered it “revolutionary tactic to achieve the ends and encourage the use of nonviolence to maximize the safety of all participants” ([www.occupywallst.org](http://www.occupywallst.org)). What was crucial for protesters was the significant usage of social media as a tool of a grass root revolution that took place in Egypt or Tunisia. The protesters in Arabic countries used Facebook and Twitter to organize and activate themselves to pursue their goals of changing the social reality they lived in (Kuhn 2011). The Occupy Wall Street participants wish for social media to play a similar role in their movement.

On September 17<sup>th</sup>, 2011, hundreds of demonstrators gathered in the streets on Manhattan’s financial district. Somewhat contentiously, the early days of the protests went

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<sup>1</sup> The Adbusters Media Foundation is a Canadian-based not-for-profit, anti-consumerist and pro-environment organization founded in 1989 by Kalle Lasn and Bill Schmalz in Vancouver, British Columbia. Adbusters describes itself as “a global network of artists, activists, writers, pranksters, students, educators and entrepreneurs who want to advance the new social activist movement of the information age”.

largely uncovered by traditional media outlets, leading many to claim that the demonstrations were being “blackout”, or being left deliberately uncovered, by the mainstream media. This “blackout” was widely decried both through social media channels as well as through alternative, yet still traditional media sources such as Comedy Central’s “The Daily Show” (“Parks & Demonstration” 10/5/2011). Although statistics show that the term “blackout” doesn’t necessarily represent the exact level of coverage (several news agencies ran brief stories in the opening days of the movement, on and around September 16/17, 2011), it is nevertheless clear that agencies were slow to respond and only quietly covered the early days of the OWS movement.

Despite this meager coverage, the OWS movement nevertheless took root in the public consciousness during their first week until September 24<sup>th</sup>, when YouTube footage of an activist being pepper sprayed by an officer of the New York Police Department went viral (Caren & Gaby, 2011). From that moment the movement began to accumulate an ever more significant presence in the traditional news cycle, including traditional media coverage of the arrest of over 700 people on the Brooklyn Bridge on October 1<sup>st</sup> (Reuters, 10/2/2011) and riots during the protests in Oakland at the end of October (Fox News, 10/26/2011).

Although originally the movement was focused in New York City as the financial center of the United States, it spread all over the country. Organizations such as Occupy Together ([www.occupytogether.org](http://www.occupytogether.org)) and Occupy Colleges ([www.occupycolleges.org](http://www.occupycolleges.org)) were formed to popularize the movement nationally. As Caren and Gaby point out, with the idea being framed to everybody outside of the top 1% of wealth holders in the United States it makes it flexible to apply to different communities and social groups (Caren & Gaby, 2011).

Occupy Wall Street is above all an offline activity. Protesters gather in central city locations for hours or days. Collective decisions for activities and events are made during live, in-person, scheduled assemblies. That said, one of the most activating channels for protesters is social media. Occupy Wall Street maintains a presence on all major social media platforms such as Facebook, Twitter, Youtube, Meetup, Livestream and individual websites made by particular chapters such as Occupy Colleges. These are where everybody can find information about the next gathering, sign in for newsletter or discuss with other activists. Kalle Lasn, the editor-in-chief and co-founder of Adbusters says in the interview for Aljazeera that the movement aims to be international and does not have a planned end: “I’ll be happy if this movement is one of the biggest blasts of revolutionary fervour [sic] that we’ve seen since 1968. If that happens, then we will have ignited a spark that will then spread into all kinds of different factions” (Aljazeera.com, 10/7/2011).

### **Social media agenda building theory**

Lasn’s quotation is a profound example of one component of agenda setting theory: agenda building. Agenda building has been defined as “the process through which the media chose which events, issues, or sources to feature over others” (McCombs, 2004). Its concept has been outlined by Scheufele to Cobb and Elder’s 1971 study of politics and news (Scheufele, 2000). According to authors, agenda building is prior to agenda setting. The main difference between these two is that agenda setting refers to how traditional media agenda influences the public perception of issue salience whereas the main point of agenda building is how some topics become a part of media agenda when others do not (Scheufele & Tewksbury, 2007). Zach and Molleda observed that the influence in agenda-building process is allocated by who started the narrative or who is responsible for the nature of the story (Zach & Molleda, 2006).

As defined by Scheufele (2000), agenda building represents the initial stage in any sort of larger media or public agenda. In short, agenda building is, in Lasn’s terms, the “spark.”

Many different factors can drive agenda building, however several key variables have particular power at this stage in the process. Intriguingly, it is at the agenda building stage that the relationships between traditional media outlets and their audiences are most pronounced in terms of audience interests shaping agenda. At the opening of this issue salience process, Sheaffer & Weimann (2005) propose that agenda building is a result of media channels responding to external events they suspect their audiences would be interested in, “real-world conditions and events, and the activities of political actors”. This definition, however, still externalizes the motivating agents of agenda beyond the mainstream audience. Agendas are attributed to either “real-world conditions and events” (non-human/non-individual actors) or “political actors” (opinion leaders within their respective communities). Intriguingly, though, this definition neglects to consider some of the ways in which power for opinion leadership may have shifted in the social media age. Are “political actors” the sole “opinion leaders” for a given community? Do social media channels enable average citizens to serve as “opinion leaders” in a given context? These questions led the authors to the first research question,

RQ1-Can social media ‘build the agenda’ for the traditional media?

## Social media and agenda setting theory

### Level-one agenda setting theory

The theory of agenda setting deals with the influence of news media on the salience of events in the public mind (McCombs, 2004). The concept was fully introduced in 1972 by Maxwell McCombs and Donald Shaw in the study of the role of the media in 1968 presidential campaign in Chapel Hill, North Carolina (McCombs & Shaw, 1972), but it was debated by different scholars earlier on without using the name “agenda setting”. In 1922 the intellectual father of agenda setting theory, Walter Lippman, stated in his classic *Public Opinion* that news media is the window to the vast world beyond our direct experience and for that matter defines how we perceive this world. According to Lippmann public opinion responds to the pseudo environment created by news media (McCombs & Reynolds, 2009). In 1963 another scholar, Bernhard Cohen made the case that the media does not tell people what to think but point out which issues are important (Cohen 1963).

The main focus of the research examining the issue of agenda setting is so-called “salience transfer”; how the media serves to establish issue importance and consideration (i.e. “salience”). “Through their day-by-day selection and display of the news, editors and news directors focus our attention and influence our perceptions of what are the most important issues of the day. This ability to influence the salience of topics on the public agenda has come to be called the agenda setting role of the news media” (McCombs, 2004, p.1). In their pioneering research from 1972, McCombs and Shaw proposed that the mass media set the agenda of issues for a political campaign by influencing the salience of issues among voters. To test their hypothesis, the authors conducted a survey among a sample of undecided voters in Chapel Hill, North Carolina. Respondents were asked to name the key issues of the day regardless of what the politicians were saying. Their answers were measured against the actual media content (five local and national newspapers, two television networks, two news magazines). The findings supported their hypothesis that the media plays a role in setting the agenda for public opinion by accentuating specific topics (McCombs & Reynolds, 2009).

The study conducted in 1972 showed the existence of first level agenda setting, also known as priming. **First-level agenda setting** focuses on the transfer of object salience from the media agenda to the public agenda (Chyi & McCombs, 2004, p. 23). “When making decisions about political actors or public figures,” Iyengar and Kinder argued, “audience members rely on those issues as a basis for evaluation which are most salient to them at the

time they make the decisions. This process is commonly referred to as priming.” (Kim, Scheufele, & Shanahan, 2002, p. 8). Within the next years scholars went further with the research on agenda setting and started to examine the framing role of media which is called second level agenda setting. Second level agenda setting deals “with attribute salience in the media and its impact on both object salience and attribute salience among the public” (Chyi & McCombs, 2004, p. 23). Level two is examined by analyzing two types of attributes: cognitive and affective ones. The first group of attributes refers to subjects/people and their perceived characteristics that have media content whereas the second one shows opinions about these subjects/people (Golan & Wanta, 2001, p. 249).

### **Social media – definitions**

The biggest social networking site in the world, Facebook.com exceeded in September 2011 800 millions users. This is more than population of United States (312 million) and Brazil (190 million) together. The phenomena of social networking sites and the rapid development of Web 2.0 after 2004 focused the attention of many scholars. Nonetheless there seems to be confusion among academic researchers on what social media is and what exactly should be included in this term. According to Kaplan and Haenlein social media is “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content” (Kaplan & Haenlein, 2010). Another group of scholars argues that “social media employ mobile and web-based technologies to create highly interactive platforms via which individuals and communities share, cocreate, discuss, and modify user-generated content” (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). There is no certainty as well which Internet tools can exactly be included to social media and how to categorize them. Kaplan and Haenlein differentiate categories of social media depending on social presence and media richness. First category would be collaborative projects (e.g. Wikipedia), than blogs, content communities (e.g. YouTube), social networking sites (e.g. Facebook), virtual game and social worlds such as World of Warcraft or Second Life (Kaplan & Haenlein, 2010).

### **The research on social media’s impact on agenda setting theory**

As social media itself is a relatively new phenomenon, research on its effects on the agenda setting process is somewhat limited. In 2001 Chaffe and Metzger point out that “the key problem for agenda-setting theory will change from what issues the media tell people to think about to what issues people tell the media they want to think about”. Later on this prediction will be followed by some authors who were trying to explore the impact of social media on agenda setting (Delwiche, 2005). Some scholars reviewed the subject theoretically such as the authors of *Trends in social media: Persistence and Decay* who claim that “when topics originate in media outlets, the social medium acts as filter and amplifier of what the standard media produces and thus contributes to the agenda setting mechanisms that have been thoroughly studied for more than three decades” (Asur, Huberman, Szabo, & Wang, 2011). Other work went further in order to check whether social media can influence or even set the agenda. The most developed group of research on the influence of social media on agenda setting is the one that examines the role of blogs in priming and framing. In 2004 Drezner and Farrell examined the interactions between significant blogs and traditional media outlets. According to them under specific circumstances – when key bloggers focus on a new or neglected issue – blogs can socially construct an agenda or give the frame that “acts as a focal point for mainstream media, shaping and constraining the larger political debate” (Drezner & Farrell 2004). The authors proved their thesis by analyzing the network of blog links, as well as with a survey of media professionals about their blog preferences (Drezner & Farrell 2004). Later on in 2005 Prof. Delwiche from Trinity University made a case that as

traditionally the issue salience is explored by focusing on audience recall and public opinion blogs give a chance to consider hyperlinks as “behavioral indicators of an issue’s perceived importance” (Delwiche 2005). He tracked news stories most often linked to by blog authors in 2003 comparing to results highlighted by traditional media making the thesis that blog authors construct an alternative agenda within limited blogospheres (Delwiche 2005).

This methodology was later applied in the survey conducted by S. Meraz from University of Illinois who examined the use of hyperlink as an external marker of source influence within 11 newsroom political blogs of the *New York Times* and the *Washington Post* and within 18 top U.S. independent political blogs across the political spectrum (Meraz 2008). Meraz argued that agenda setting power stopped being universal among citizen media outlets and that bloggers redistribute this power between traditional media and citizen media. Thus makes the traditional media agenda setting one of the forces among many influences (Meraz 2008).

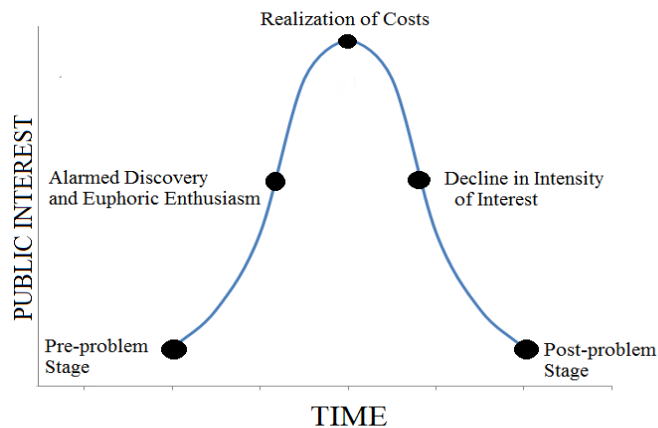
Next to the blogosphere the second mostly researched social medium is the broadcasting website Youtube.com. In 2010 a group of scholars from different universities analyzed thousands of videos posted to YouTube and their relationship to coverage of Proposition 8 in California in traditional media, tracing the correlations between them using vector autoregression (VAR) to juxtapose the effects each bore on the other (Sayre, Bode, Shah, Wilcox, & Rutgers, 2010). The authors found that YouTube allows users to drive or even lead public discourse on politically or socially relevant issues, effectively supplanting, or at the very least countering traditional “opinion leaders” such as religious authorities, community leaders, or political agents (such as in the case of Proposition 8). Further, the study provides an example of how social media platform can create issue salience when the mainstream media is interpreted as under-covering an issue or object (Sayre, Bode, Shah, Wilcox, & Rutgers, 2010).

This study emphasizes the role of social media as a component in this agenda-setting process, both by providing alternative content to traditional media and by examining whether or not social media, with its relative flexibility and speed, can in “scoop” traditional media outlets, thus determining the objects they opt to cover. This is not to say a causal relationship exists between the two media types, merely to elucidate a potential correlative relationship between trends in their respective coverage. This objective in turn led authors to the second research question.

RQ2: Does social media content correlate with traditional media coverage, and if so, which occurs first?

### **The theory of the issue-attention cycle**

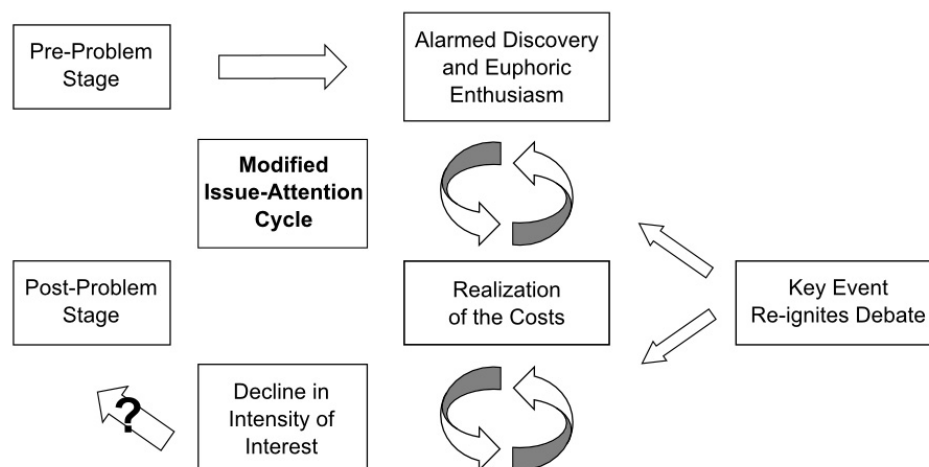
Originally proposed by Downs (1972), the issue-attention cycle represents the typical trajectory for issue salience for American audiences. In his article *Up and down with ecology – the “issue attention cycle”* described the phenomenon of public interest in crises and major problems highlighted by media within the American society. The author built a theory of “issue-attention cycle” that is coming from the nature of some domestic problems and in the way traditional media outlets interact with the public (Downs, 1972). Downs differentiated five stages of the issue cycle: the pre-problem stage, alarmed discovery and euphoric enthusiasm, realizing the cost of significant progress, gradual decline of intense public interest and the post-problem stage (Downs, 1972, p. 40), (Graph 2).



Graph 2: The issue-attention cycle according to Downs  
Source: Downs (1972)

The first or *pre-problem* stage occurs when the problem exists but does not grab much public attention. It is only discussed by selected groups that have the best access to the news source or to the issue itself (Downs, 1972). The second stage -*alarmed discovery and euphoric enthusiasm* – begins when early media reports suddenly introduce the issue to the public consciousness, inspiring a flurry of engagement and activation of various exposed publics. Downs observes that this interest is usually accompanied by excitement connected with society’s intention to “solve the problem” (1972). The third stage – *realizing the cost of significant progress*- occurs when, despite interest and activation, affected publics come to believe that the cost of solving the problem is simply too high. This loss of public agency in turn leads to a drop in interest. This in turn leads to the fourth stage – *the gradual decline of intense public interest*. Without the will or the perceived capability to solve the problem public attentions gradually begin to turn elsewhere, leading to the final stage: *the post problem* stage. Described as a “prolonged limbo” (Downs, 1972, p. 40), publics remain aware of the issue in the post problem stage, but interest has turned elsewhere.

Building from Downs’ work, Peterson (2009) revisits the issue-attention cycle as it has emerged surrounding the international terrorism issue following 9/11. In her article, *Revisiting Downs’ issue-attention cycle: International terrorism and U.S. public opinion* Peterson proffers a modification of Downs’ model in an updated context (Graph 3).



Graph 3: Changes in Down’s issue-attention cycle  
Source: Petersen 2009

From the perspective of terrorism, Peterson proposes that several factors may modify the traditional, relatively linear cycle. The first of these factors is confusion about the issues themselves. "Because the public lacks the will or ability to process the complex issue of international terrorism, the issue-attention cycle is disrupted...the issue could become mired in a process whereby it cycles through stages two...through four rather than progress linearly into the final stage of a twilight realm..." (2009, p. 11).

Despite these updates and revisions, Downs' original model still remains remarkably useful, and yet it is somewhat limited by the emergence of social media as an integral part in the way publics receive information and communicate with each other. This added layer to Downs' pioneering work led to the final research question of this study.

RQ 3: Does social media impact the way in which the issue salience cycle unfolds? And if so, how?

## **Methodology**

### **Content Analysis**

In order to evaluate the objectives in this study, the quantitative content analysis was conducted. It is a research technique for the "systematic, objective, and quantitative description of the manifest content in communication" (Berelson, 1952, as cited in Kaid & Wadsworth, 1989). With an extensive body of literature in agenda setting research, content analysis has also emerged as one of the critical approaches to examining the role of the media in shaping public issue salience (Kaid & Wadsworth, 1989). This method has proven particularly constructive with samples that have large amount of data because a percentage can be used for analysis and still provide reliable results. What is more, content analysis has been used in previous research on the impact of social media in communication research (Trammell 2004; Trammell, Tarkowski, Hofmohl, & Sapp, 2006).

### **Sampling**

In November of 2011, the authors investigated the relationships of three major, national papers' coverage of the Occupy Wall Street events with the activities on the two largest Facebook pages dedicated to the movement. The three newspapers selected were: *The New York Times*, *The Washington Post*, and *The Los Angeles Times*. These papers were selected for several key reasons. The first reason for these papers is that all three have well-developed national sections dedicated to reporting news from around the nation. In this way their coverage may represent the traditional print media's closest approximation to the reach and the focus of social media site such as a Facebook page. Secondly, it was considered that these three papers also share a broader approach to news reporting, with extensive Opinion-Editorial (Op-Ed) and human interest reporting, again providing a more direct relationship with social media content.

Facebook was selected as the key social media site because it, similar to the newspapers, has in many ways the broadest reach in terms of audience access. As the site has grown in popularity and its user base has diversified, the volume and demographic diversity of active users have also grown considerably. With 800 million active users, Facebook is not only the largest social networking site in the United States but it is also the second largest website in the country (Alexa.com, 11/2011). Pivotaly, Facebook was also found in a survey to be the social media site most frequently accessed by active participants in the Occupy Wall Street movement, thus making it a critical link between the protestors and the general public (www.fastcompany.com).

Although Facebook hosts a multitude of pages with various relationships with the Occupy Wall Street movement (and its various, local-level relatives), two Facebook pages



were identified as the largest based on total number of “likes” (a process through which Facebook users signify their approval of the page’s content), “activity” (overall number of posts, comments, and interactions of users with the page), and “users” (individual Facebook members who “follow” the content of the page). The first page, “Occupy Wall St.” was the first, and is considered to be the “official” page of the protest movement. Started on August 8, 2011, “Occupy Wall St.” boasts the largest number of likes (345,044), the most activity (256,800), and the largest number of users (44,894). Emphasizing the events in the New York City area, “Occupy Wall St.” interacts with national OWS movements, but focuses on the original protest site. The second page, “Occupy Together” serves as a coordinator of various “occupy” movements around the country, seeking to activate and integrate the various occupations into one cohesive movement. Begun on September 23, 2011, the site has 199,274 likes, 57,079 “activities,” and 19,021 users.

For the sample period, the authors focused on the period between September 15<sup>th</sup>, 2011 and October 31<sup>st</sup>, 2011 for several key reasons. The first data point was chosen as it precedes the first major event of the OWS movement, on September 17<sup>th</sup>. This creates a contrast period where no major activity was occurring outside of online planning and preparation as well as encompassing the time earlier described as the “media blackout” (between the 17<sup>th</sup> and 25<sup>th</sup> of September). Although Occupy Wall St. had content dating back to August 8<sup>th</sup>, the activity was insignificant and engagement with publics beyond those actively planning to protest was minimal. October 31<sup>st</sup>, 2011 was the last full date for data as collection began on November 1<sup>st</sup>. These dates created a data collection space encompassing 47 days.

### **Data Collection**

Utilizing the search engine LexisNexis, the authors conducted a comprehensive investigation of all content of the three traditional media sources. The search was targeted at the particular phrase “Occupy Wall Street” as not only does this phrase explicitly refer to the protest movement itself but it also excludes overlapping terms such as “Wall Street” or “occupy.” This search yielded 348 individual articles on LexisNexis that were selected for closer analysis (n=348, mean= 7.4 articles per day).

Data selection on Facebook was determined by the aforementioned dates, although it should be observed that the authors only took into account posts authored by the administrators of the respective pages. This is to say that external activities and user postings (“wall comments”) were not taken into consideration as part of the data set. The final data set included 671 individual “posts” from the two Facebook pages (n=671, mean = 14.28 posts per day).

Drawing from the pre-existing trends in the field of agenda-setting analysis, the authors opted to utilize content analysis of the articles and posts in question as the optimum methodological approach to the subject. A coding guide was developed to examine factors key to the research questions proposed. The first section examined the nature of the content itself including the following categories:

- a. *Date of publication*- Dating was based on the 47 date points bracketed by the selected time-frame.
- b. *Type of publication*- Data was divided into two categories, traditional media (newspapers) and social media (Facebook).
- c. *Name of the medium*- *The New York Times*, *The Washington Post*, *The Los Angeles Times*, Occupy Wall St., and Occupy Together
- d. *Article or posting type*- Determined as “Informational” (emphasizing raw facts), “Op-Ed” (emphasizing attitudes or opinions), and “Human Interest” (emphasizing personal stories and emotional narratives).

The second section explored the nature of the posts and the positioning of the Occupy Wall Street phrasing within the piece itself. Variables of interest included:

- a. *Does the headline mention “Occupy Wall Street?”* – Although self-explanatory for newspaper articles, headlines on Facebook were considered to be either the first sentence of the posting, or the headline of the posted link.
- b. *Does the body mention “Occupy Wall Street?”* – For Facebook postings, the body was considered to be anything following the initial sentence, or the presence of the phrase in the text of a post or link.
- c. *Is the reference substantive?* – To be “substantive” was understood as whether the article or posting focused on the Occupy Wall Street movement or events connected to it, such as the protests themselves or incidents directly connected with the protests (such as police actions against protestors) or if the article or posting merely mentioned “Occupy Wall Street” but focused on another subject.

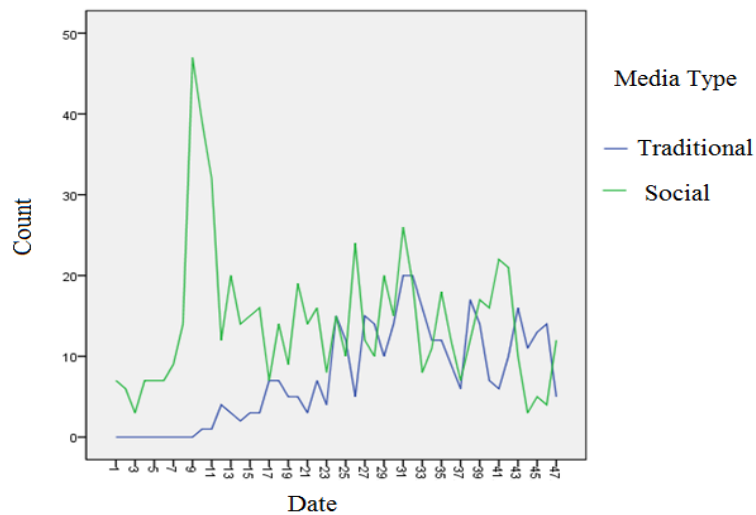
The third part of the coding guide examined the relationship of the two media within the content itself. Specifically the authors explored whether the article or posting referred readers to content within the media type or across to the other media type.

- a. *Does the object refer to social media?* – References to social media were understood to be a mention of social media sources or a link to social media content away from the original page.
- b. *Does the object refer to traditional media?* – Traditional media references were considered to be either the citation of a traditional media source, the mention of a traditional media source, or a link to a traditional media website.

In all, 1019 individual media objects were analyzed. Intercoder reliability was determined via the application of Krippendorff’s Alpha to a sample of 102 objects, resulting in an intercoder reliability estimate of .86 utilizing the program ReCal2 0.1 (see [www.dfreelon.org](http://www.dfreelon.org)).

## Findings

In the first stage of coverage there was no traditional media for the initial eight data points. Therefore the only coverage of the issue within this time period was that of the social media. Intriguingly however, despite the dearth of traditional media coverage, this time period does show a significant jump in social media content. Research question 1 asked if social media could initiate the process of agenda building for the traditional media. Scheufele proposed that as the initial stage in the issue salience cycle, agenda building is frequently the result of media coverage of a natural event or of the voice of a community opinion leader (2000). In this, analysis of the collected evidence suggests that social media can serve as the site for initial agenda building. Below, Graph 4 illustrates the leap of activity within the social media sphere during days five (9/19) through nine (9/23), before traditional media coverage follows on day ten (9/24).



Graph 4: The social media and traditional media coverage between 9/15 and 10/31  
Source: Authors

This suggests that social media content did serve to build the story that was later picked up by the traditional media.

Research question two asked if social media could generate issue salience for the traditional media. In order to verify potential correlations between the two media, artificial time manipulations were conducted on the data, with an attempt of discovering correlative relationships between the two (See Appendix 1). The statistical analysis indicated that there was no discernible pattern in the data. Therefore there is no statistical proof ( $p > .05$ ) to support the notion that social media served to drive media coverage over time or that traditional media set the agenda for social media. What is more, the analysis shows that social agenda is highly correlated with other agendas even with time lags as long as seven days. Similarly, the traditional agenda is highly correlated with other traditional media agendas. The changes in media agendas occur slowly unless there is a significant newsworthy event – the same pattern seems to be applicable for social media. Although there is statistical analysis does not show the significant correlation, the Graph 1 discloses tendencies at certain times. This leads to addressing research question three which posed the problem of the impact of social media on issue-attention cycle (see Discussion).

The self-influence of agendas was partially confirmed by the analysis of references. It stands to reason that if either media is operating on the heels of reports from the other, it will need to take into account these alternative reports. Therefore, research question two was reformulated as a hypothesis, based on pre-existing data on agenda setting. The null hypothesis ( $H_0$ ) thus formulated proposed that both social media and traditional media cite themselves and each other in roughly equivalent proportions. Since the independent variable (media type) had only two dependent scores (references to social media and references to traditional media) a t-test for dependent samples was applied to the data. In Table 1, the dependent t-test values are presented for the traditional media references and social media references in traditional and social media were 12.45 and -15.62 with actual probabilities of occurrence at 0.00 in both cases. Given a rejection region at  $p > .05$ , the null hypothesis of no variations in references between traditional and social media was not accepted.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
TRADMED	Equal variances assumed	627,146	,000	<b>12,445</b>	1017	<b>,000</b>	,29043	,02334	,24463	,33622
	Equal variances not assumed			10,461	456,578	,000	,29043	,02776	,23587	,34499
SOCMED	Equal variances assumed	9,798	,002	<b>- 15,617</b>	1017	<b>,000</b>	-,45514	,02914	-,51233	-,39795
	Equal variances not assumed			- 15,347	669,511	,000	-,45514	,02966	-,51337	-,39691

Table 1: Independent Samples Test  
Source: Authors

A closer look at the variant means is presented in Table 2 which shows how the number of references to either social media or traditional media changes with the particular media type. The results of the statistical analysis show that traditional media used traditional media (M=.3649) as a source of reference more often than social media which used it rarely (M=.0745). Conversely, social media was more frequently cited by other social media channels (M=.7511) whereas traditional media cited it much less often (M=.2960).

MEDTYPE		N	Mean	Std. Deviation	Std. Error Mean
TRADMED	1.00	348	<b>,3649</b>	,48211	,02584
	2.00	671	<b>,0745</b>	,26280	,01015
SOCMED	1.00	348	<b>,2960</b>	,45714	,02451
	2.00	671	<b>,7511</b>	,43269	,01670

Table 2: Group statistics  
Source: Authors

A closer look at the variant means is presented above which shows how the number of references to either social media or traditional media changes with the particular media type. The results of the statistical analysis show that traditional media used traditional media (M=.3649) as a source of reference more often than social media which used it rarely (M=.0745). Conversely, social media was more frequently cited by other social media channels (M=.7511) whereas traditional media cited it much less often (M=.2960). This analysis leads to two important findings. The first mean indicates that traditional media would rather use social media as a source than vice versa. The second illustrates that in both cases

there is a tendency for media channels to keep users “within the fold,” with social media linking out to other social media sites and traditional media trending towards discussion of other traditional media sources. That said, this tendency is significantly more pronounced in the social media sphere, where the variation between the means is substantially larger than that of traditional media. This analysis shows that although there is no statistical proof for social media to set the agenda for traditional media, social media do influence the coverage of traditional media.

## Discussion

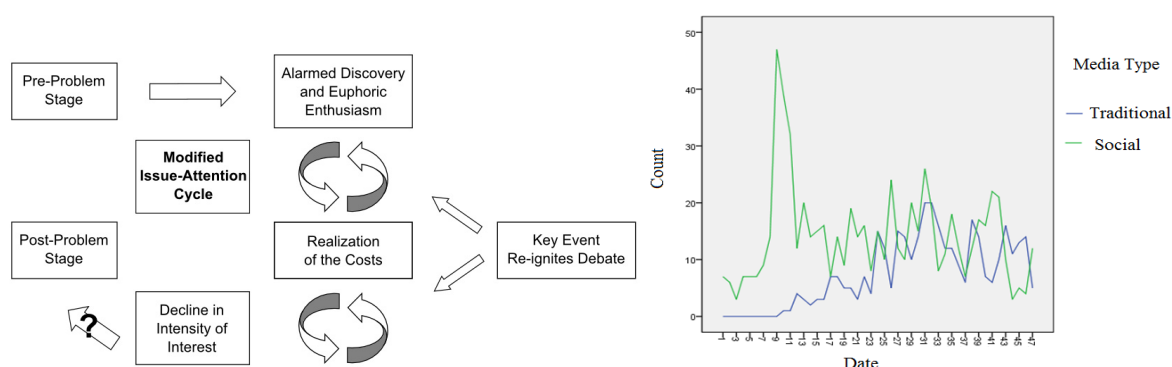
As with any study there are some limitations to this research. It must be considered that the time frame for data collection was limited due to the (as of this writing) still unfolding Occupy Wall Street events. This issue is particularly pronounced in the context of social media’s impact on the issue-attention cycle. Without the capacity to track activity about the entire issue, results are inconclusive about the final two stages in the process, decline in intensity and the post problem stages. The number of data points might be also the reason for which statistical analysis did not show the correlations between traditional and social agenda. The analysis of time lags by hour or in a longer period of time might have shown the statistically significant relationship between the two agendas.

It should also be acknowledged that although Facebook activity is a significant part of social media activity, it is by no means comprehensive. Significant content regarding “Occupy Wall Street” occurred across the social media spectrum including the blogosphere, micro-blog sites (such as Twitter), and video posting sites (such as YouTube). Facebook was selected for over the other sites for several reasons. First, its diverse user base positions it as a social media source that bridges various social groups thus providing direct access between OWS activists and other publics. Second, Facebook also has several data collection benefits over other social media sites including the fact that posts are maintained for extended periods of time (unlike Twitter, where archives are limited to the most recent month of activity), the posts aren’t as limited as regards length (again unlike Twitter, wherein 140 characters is the maximum length of a “tweet”), and where the content is better organized and independently managed (unlike YouTube, where content is relatively sporadic and where posts tend to be deleted by administrators).

The sampling is also somewhat problematic in regards to randomness. Given the relatively high-volume of general social media activity and the relatively broad time-frame selected for the study, random sampling of the content in question would’ve been counter-effective due to its expansion of the workload without an attendant expansion of workable data. Because of this, the authors opted to utilize directed searches, focusing on the precise terms discussed earlier or on specific Facebook pages. Although this purposive approach to the sample size renders generalizability problematic, the authors nevertheless standby the decision as it still presents an accurate analysis of the direct “Occupy Wall Street” references of any given news day. This dynamic is further reflected by our selection of three major traditional print media sources. Although considerable content is also available in myriad smaller publications, *The New York Times*, *The Washington Post*, and *The Los Angeles Times* are significant in that they all have well developed national news sections, they all generate primary content (thus minimizing the likelihood of repeated stories through a news agency such as the A.P. or Reuters), and they all have national reach. These three components align them more directly with the nature of content in the social media sphere.

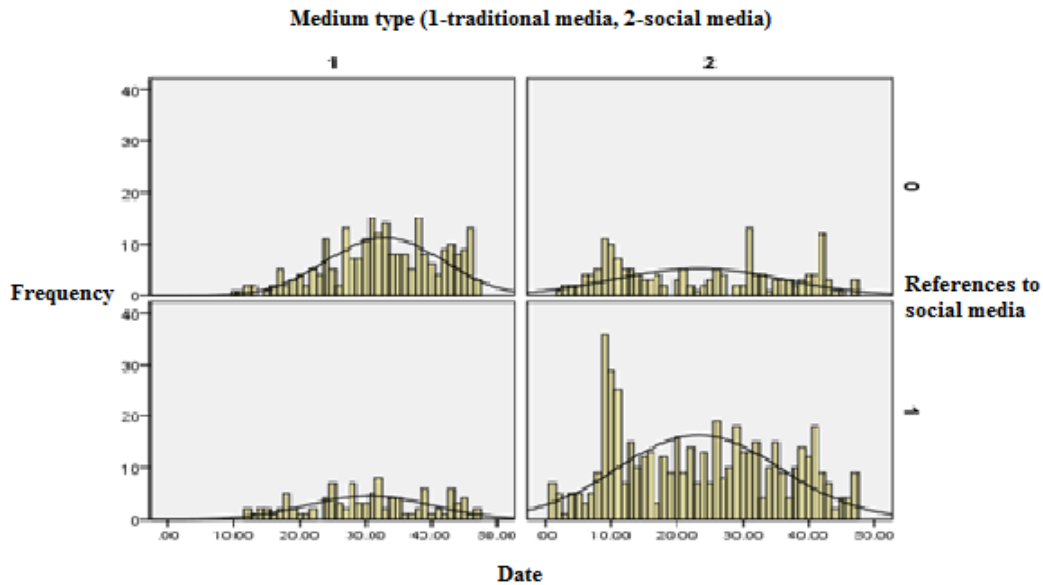
Despite these limitations, this study represents an addition to the existing literature investigating social media's role in the agenda-setting and issue-attention processes. Although statistical evidence supporting our initial research questions was mixed, the emergent data did reveal several key areas for possible future research. One way to approach a discussion of these opportunities is through the framework of Peterson's proposed modification of the issue-attention cycle.

Similar to classical agenda-building theory, the pre-problem and alarmed discovery and euphoric enthusiasm stages of Downs' and Peterson's cycles seem to emerge from the relationship of activity between social and traditional media uncovered. This effect is particularly pronounced in the early days of Occupy Wall Street activity, where a flurry of social media content precedes the first traditional media coverage. Supportive of Peterson's reshaped issue-attention cycle, however, is the way in which a similar pattern does seem to emerge over time regarding, in Peterson's terms "key events" that "re-ignite debate" (Peterson 2009). The first of these key events, a similar, although less pronounced relationship between social and traditional media occurs on and around September 24<sup>th</sup> when a social media video showing a New York City police officer pepper spraying several protestors, appeared in the Internet. This event leads to a jump in social media activity followed quickly by an uptick in traditional media coverage. Similar micro-events unfold throughout the process, lending credibility to Peterson's hypothesis that sub-issues can drive issue salience as issue-attention begins to cycle through stages three through five of the cycle.



Graph 5: Peterson's issue-attention cycle and the social and traditional media coverage of Occupy Wall Street  
Source: Petersen (2009) and authors

Another indication for the existence of relationship between social media and traditional media coverage is the number of references in traditional media to social media channels on particular dates. In the graph below (Graph6) it can be observed that the first significant peak in the number of references to social media channels in traditional media publications took place on October 2<sup>nd</sup> which was one day after the NYPD arrested 700 people during the protest on Brooklyn Bridge. The peak in mentions is most probably caused by the films made by protesters and posted on Youtube, Facebook and other social media channels which later on were used by journalists as a source of information. The dates of next peaks seem to confirm this observation: on October 10<sup>th</sup> (the decision of Mayor Bloomberg that protesters may stay in Zuccotti Park), October 13<sup>th</sup> (the communications about gathered donations by Occupy Wall Street Movement), October 25<sup>th</sup> (the visit of Egyptian Revolutionaries in NYC to support Occupy Wall Street), October 29<sup>th</sup> (riots during protests in Oakland). The biggest peak however can be noticed on October 17<sup>th</sup> – the exact month from the first protest which was treated by media as an occasion to sum up what the movement is about.



Graph 6: The frequency number of references to social media channels in two media types  
Source: Authors

On the days where there is an actual event such as Brooklyn Bridge arrests or Oakland riots it can be noticed that social media precede traditional media in coverage and may be used as a source for the publication. The following coverage of Brooklyn Bridge arrests from NYT (October 2<sup>nd</sup>) provides an example of this observation: “Video widely seen on the Internet of a high-ranking officer, later identified as Deputy Inspector Anthony Bologna, attacking what appeared to be docile protesters with pepper spray prompted public outrage and investigations by the Internal Affairs Bureau of the Police Department and Manhattan prosecutors”.

The use of social media as a source by traditional media and rare references in social media channels to traditional media could be caused by the ideological and organizational assumptions of the movement itself – Occupy Wall Street defines itself as a leaderless grassroots movement and boycotts traditional media – they do not distribute press releases, they do not have a spokesman and for the first month from the original protest in Wall Street they have not had a dedicated e-mail or telephone number for press. The only source of information for journalists about the movement and its actions were the social media channels. The context in which social media and traditional media use each other as a source also varies. Whereas traditional media use social media most often to support its coverage, social media would rather use traditional media as a starting point for discussion.

The next step of investigating the application of agenda setting theory to Occupy Wall Street Movement could be examining the level-two agenda setting – the attributes within the coverage of both traditional and social media and its comparison with opinion polls run by Pew Research Center on a regular basis. In order to conduct this study, the more representative amount of time is needed for the events to occur so the researchers could collect necessary data for the analysis.

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The presented study adds to the existing literature on the application of agenda setting theory to social media. The main challenge that the authors foresee considering the research in this

field is the choice of methodology which has not been standardized. As the impact of social media on agenda setting theory will grow in importance such methods must be refined.

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## Appendix 1

Correlations

		VAR000 12	VAR000 22	VAR000 23	VAR000 24	VAR000 25	VAR000 26	VAR000 27	VAR000 28
VAR000 12	Pearson Correlation	1	-.261	-.225	-.175	-.198	-.434 <sup>+</sup>	-.393 <sup>+</sup>	-.237
	Sig. (2- tailed)		.114	.181	.308	.254	.010	.024	.192
	N	39	38	37	36	35	34	33	32
VAR000 22	Pearson Correlation	-.261	1	.571 <sup>**</sup>	.340 <sup>+</sup>	-.051	.013	-.014	-.014
	Sig. (2- tailed)	.114		.000	.039	.769	.940	.938	.939
	N	38	39	38	37	36	35	34	33
VAR000 23	Pearson Correlation	-.225	.571 <sup>**</sup>	1	.571 <sup>**</sup>	.340 <sup>+</sup>	-.051	.013	-.014
	Sig. (2- tailed)	.181	.000		.000	.039	.769	.940	.938
	N	37	38	39	38	37	36	35	34
VAR000 24	Pearson Correlation	-.175	.340 <sup>+</sup>	.571 <sup>**</sup>	1	.571 <sup>**</sup>	.340 <sup>+</sup>	-.051	.013
	Sig. (2- tailed)	.308	.039	.000		.000	.039	.769	.940
	N	36	37	38	39	38	37	36	35
VAR000 25	Pearson Correlation	-.198	-.051	.340 <sup>+</sup>	.571 <sup>**</sup>	1	.571 <sup>**</sup>	.340 <sup>+</sup>	-.051
	Sig. (2- tailed)	.254	.769	.039	.000		.000	.039	.769
	N	35	36	37	38	39	38	37	36
VAR000 26	Pearson Correlation	-.434 <sup>+</sup>	.013	-.051	.340 <sup>+</sup>	.571 <sup>**</sup>	1	.571 <sup>**</sup>	.340 <sup>+</sup>
	Sig. (2- tailed)	.010	.940	.769	.039	.000		.000	.039
	N	34	35	36	37	38	39	38	37

VAR00027	Pearson Correlation	-.393*	-.014	.013	-.051	.340*	.571**	1	.571**
	Sig. (2-tailed)	.024	.938	.940	.769	.039	.000		.000
	N	33	34	35	36	37	38	39	38
VAR00028	Pearson Correlation	-.237	-.014	-.014	.013	-.051	.340*	.571**	1
	Sig. (2-tailed)	.192	.939	.938	.940	.769	.039	.000	
	N	32	33	34	35	36	37	38	39

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).