THE EARLY BIRD: HOW TWITTER HAS FUELED
A PERPETUAL MEDIA RACE

by

Tyler R. Remmel

A capstone project submitted in partial fulfillment
of graduating from the Academic Honors Program
at Ashland University
May 2013

Faculty Mentor: Matt Tullis, Assistant Professor of Journalism & Digital Media
Additional Reader: Dr. David McCoy, Assistant Professor of Journalism & Digital Media
Abstract

Twitter has emerged as a groundbreaking new media tool. Tweets disseminate today’s news faster than ever before and to a wider audience. This project looks into how the contemporary media use Twitter. In particular, it investigates how Twitter has been adopted, how credibility is perceived on Twitter and what new opportunities Twitter affords. This thesis strives to put historical information from the media landscape into perspective and to use this information in criticizing current media practices and making suggestions for improvement. Within the text are two studies. The first is a case study analyzing the CNN and Fox News coverage of the June 2012 Supreme Court ruling on the Patient Protection and Affordable Healthcare Act’s individual mandate. Leveraging this case study, an original study looks for systematic trends on Twitter concerning the speed at which news is broken. This study diagnosed that the emphasis placed on being the first to break news may be justified, but at what ethical cost? Areas for further research are discussed, as well as suggestions for new ways to tell a story in 140 characters or less. The project also includes advice for the media on how to better use Twitter to interact with and attract the attention of their audiences.
To all of my families—my family at home, my swim team family and my JDM family—and to all of my friends who have helped me make it this far.

Thank you.
Acknowledgments

There are a few people without whom this Capstone thesis would not have been possible, and who deserve special thanks.

To my adviser, Matt, who coached me through a process that neither of us were familiar with, and who was as passionate about this topic as I was.

To Dr. Ted Avtgis, who showed me that my available data research study was not worthless, and for helping me parse through these data.
Table of Contents

Abstract ..................................................................................................................................................... ii
Dedication .................................................................................................................................................. iii
Acknowledgements ................................................................................................................................. iv

Introduction ................................................................................................................................................ 1
  History of the media landscape & news cycles ......................................................................................... 4
  The impact of the Internet ....................................................................................................................... 7
  How Twitter breaks the news .................................................................................................................. 11

Review of existing literature ..................................................................................................................... 14
  Contemporary news consumption habits ............................................................................................... 14
  News source credibility in the age of the Internet .................................................................................. 20
  Case study — 2012 SCOTUS Ruling ...................................................................................................... 23

Contemporary News Cycle Study ............................................................................................................ 27
  Purpose for conducting study .................................................................................................................. 27
  Methodology ......................................................................................................................................... 27
  Results .................................................................................................................................................... 31
    Account Profile ................................................................................................................................. 31
    Tweet Profile .................................................................................................................................... 31
    Data Analysis ................................................................................................................................. 32
  Discussion ............................................................................................................................................ 34
    Limitations ......................................................................................................................................... 37
    Future research ............................................................................................................................... 39
  Conclusions .......................................................................................................................................... 40

Effective storytelling with Twitter .............................................................................................................. 41
  Media organizations as a selecting source ............................................................................................ 41
  Storytelling in 140 characters or less ..................................................................................................... 43

Conclusion ................................................................................................................................................ 46

References ............................................................................................................................................... 47

Appendix ................................................................................................................................................. 55

About the author ..................................................................................................................................... 56
**Introduction**

Twitter is a popular microblogging application that can be accessed via desktop or mobile devices (About Twitter, 2013). Users send out tweets to their followers\(^1\), which are limited to 140 characters or less. Users can interact with one another and with the Twittersphere\(^2\) through mentions\(^3\) and hashtags\(^4\).

During its early adoption period, the public had mixed perceptions of the application. This sort of response was similar to the responses to earlier communication technologies like the telegraph, radio and the Internet (Arceneaux & Schmitz Weiss, 2010). Technologies like these elicit negative responses because they disrupt established concepts and norms of communication (Marvin, 1988; Covert, 1984; Wellman, 1999; cited in Arceneaux & Schmitz Weiss, p. 1265). Specifically, they blur the line between the public and private spheres, generating uneasiness in response to the change.

Despite these negative responses from the public, press coverage of these types of new communication technologies has been continually favorable (Cogan, 2005; Rossler, 2001; cited in Arceneaux & Schmitz Weiss, 2010). Arceneaux and Schmitz Weiss explained this by saying, “journalists, the personal computer and the Internet are particularly valuable tools, so they are more prone to adopt the technology” (p. 1265).

One of the reasons that the media have adopted Twitter so rapidly is because of its near-instantaneous speed of dissemination (Arceneaux & Schmitz Weiss, 2010; Farhi, 2009). Farhi (2009) believed that the reason for this adoption by news organizations and reporters is obvious: “Its speed and brevity make it ideal for pushing out scoops and breaking news to Twitter-savvy readers” (p. 28). Arceneaux and Schmitz Weiss found that proponents of the technology believe that its method

---

1 According to Sagolla (2009), to follow is to subscribe to a user’s messages on Twitter.
2 According to Sagolla, “the collected presence of Twitter users” (2009, p. 171).
3 According to Sagolla, “an instance of your username included in a tweet, preceded by the @ symbol” (2009, p. 168).
4 According to Sagolla, “a string of characters preceded by the # symbol. Linked to a search for those characters” (2009, p. 167).
of dissemination is superior to that of traditional news outlets. According to Arceneaux and Schmitz Weiss, “[The] bomb blast in Manila [in 2008] was circulated via Twitter even before local news got the story” (p. 1268). Twitter is being recognized increasingly as a news source and current events tool (Kwak et al., 2010; Phelan et al., 2009; Sakaki et al., 2010).

There are, of course, drawbacks to the application. One criticism is the brevity required by the 140-character limit. Arceneaux and Schmitz Weiss found that writers believed that the brevity of Twitter encourages cryptic, condensed language (like texting), as well as increasing the likelihood of being misunderstood (2010).

A second criticism is that Twitter releases a torrent of useless information, resulting in a sort of information overload. For instance, Kroth (2009) argued, “Twitter floods the market with private thoughts of public figures, most of which aren’t really worth articulating.” Dumenco (2008) called Twitter “an unnecessary distraction in an already information-overloaded age.”

A third criticism is that the acceptable and appropriate practices on Twitter are not established. In one case observed by Arceneaux and Schmitz Weiss (2010), Black (2009) noticed that jurors were discussing details of their trials on Twitter, and argued that this might be reason enough for a judge to declare a mistrial. In another, Dumenco blasted the Rocky Mountain News for allowing a reporter to live tweet the funeral of a three-year-old, calling the live tweeting, “One of the most idiotic and shameful moments in journalism this year” (Dumenco, 2008). In a third, Coller (2009) drew attention to representatives in Congress who were tweeting during proceedings, arguing that it is disrespectful to tweet during meetings because, “You are, in effect, broadcasting the fact that you are not paying attention” (Coller, 2009).

Twitter does offer distinct news consumption advantages. This information-seeking benefit isn’t in a single 140-character tweet, but rather in the collection of all of the tweets that are pertinent.

---

5 Tweeting a real-time account of events as they unfold.
to a story. Elizabeth Lawley, the director of the social-computing lab at the Rochester Institute of Technology, compares a single tweet to a single pixel: “When you see all those little pieces together, it gives a much richer portrait” (Greene, 2007, p. 44).

Thompson (2007) argued that this was a new form of social awareness, something he called ambient intimacy. He said, “As the days went by, something changed. [A Twitter user] discovered that he was beginning to sense the rhythms of his friends’ lives in a way he never had before” (p. 42). While he was applying it in an interpersonal context, the cross-media nature of Twitter allows this to hold true in a mass media context as well. It offers the ability for users to get a more complete picture of world news events (as well as local news events) than they ever have before, by getting access to more information than ever before. Graber (1988) referred to this increased access as “the information tide.”

Media organizations are not the only entities to utilize Twitter for dissemination. In the 2008 US Presidential Election, both John Edwards and Barack Obama used Twitter to reach people (Arceneaux & Schmitz Weiss, 2010). In that election, John Edwards, used Twitter to talk about his daily activities as well as his campaign platforms (Bush, 2007). Twitter provided people with more political information about the election than ever before (Arceneaux & Schmitz Weiss, 2010).

Civic entities turn to Twitter because they can quickly distribute information, news and emergency updates to the public. In 2008, the FDA used Twitter to inform people about the salmonella outbreak and food recalls (Shute, 2009). The Department of Transportation in Minnesota sends tweets about accidents and road closures, giving users a real-time source for traffic information (Foti, 2009). And—although a media outlet—The Los Angeles Times distributed up-to-date information about the California wildfires in 2007 via Twitter (Stratton, 2009).

Kathy Kiely, managing editor of politics at the National Journal warns that the speed-oriented focus that Twitter encourages also discourages a certain perspective:
We are obsessed with beating the competition by one or two seconds. The balancing act is trying to take advantage of the new technology to engage readers, to get the word out about a story but, at the same time, examining your conscience and [asking if I am providing enough perspective]. (quoted in Enda, 2011)

Reporters can get caught up in the demands of social media, and it can distract from the reporting process. According to New York Times national correspondent Jeff Zeleny, the news cycle has sped to the point that the notion of a “news cycle” no longer exists (Enda, 2011, p. 16). Howard Kurtz, Washington bureau chief for Newsweek and The Daily Beast, said, “The whole thing seems stuck on fast forward to me, because we’re all essentially on deadline every hour as opposed to a couple times a day” (Enda, 2011, p. 16).

It is certain that Twitter has expedited the process. Today, stories are broken faster than ever; however, a certain accuracy threshold is sometimes compromised in order to win the media race. It’s unclear whether consumers are demanding news sooner than ever, but this compromise has been detrimental for the believability and credibility ratings for news media organizations. All hope is not lost, though—through a modification of processes, media organizations can use Twitter more effectively to deliver news, to better interact with consumers and to tell better stories.

**History of the media landscape & news cycles**

In order to understand the current media landscape, one must first understand the events that led to the present day. An important component is understanding the news cycle. As Keim (2009) noted, defining the term “news cycle” can be tricky and imprecise; news cycle can refer to how long stories are featured before being replaced, how long stories remain in the media consciousness, or—as it will be defined in this paper—how often news is selected, delivered and consumed.

The earliest newspapers bore little resemblance to the modern paper. Information that appeared was often months old because it was literally carried by hand (Keim, 2009). After Samuel Morse invented the electrical telegraph in 1837, the process was sped up immensely because
information could then be sent at near-instantaneous speeds. The publishing schedules for newspapers still did not change, however.

Radio was the next significant transformation. According to Keim, “Radio was the first form of mass communication to which one could turn at any moment and expect a fairly regular briefing” (2009). Print was still the primary source of information for most households, though. And during this period, even though the production schedules did not change, the actual production of news changed when wire services were created.

Some of the earliest races were between rival press wires United Press International and the Associated Press (NPR, 2012). Beat writers used to disable phones on-site so that only they could call in the story to their headquarters. When the cell phone came out, the AP was the first to get them for their reporters. Because of that technology, Jerry Schwartz was able to call in the verdict of the 1987 Bernhard Goetz trial before UPI moved the story. However, as “First and Worst” host Bob Garfield explained, consumers didn’t get anything out of behaviors like that:

Newspaper readers got their papers when they got them, not when the AP moved the story, and broadcast (radio) audiences heard the news on whatever station they happened to be tuned into, which means they were oblivious to any time lag on a UPI-served station they weren’t tuned into. (NPR, 2012)

At that time, news cycles weren’t even fast enough most of the time to reflect any difference in time like that case. Even when expedited over the years, there was no greater advantage offered to beating the competition by a few minutes.

TV news began appearing in the 1930s and 1940s (Keim, 2009). Even after TV news became a trend though, the production schedules were unchanged; like print, TV news was delivered precisely at the same time each day, in the early evening. Thus, the news cycle was still simple: newspapers broke a story in the morning, and then TV carried the news in the evening (Onderstall, 2012).
News cycles used to be so predictable that crisis management teams would take advantage of them by timing news releases to coincide with weekends or holidays (Smerconish, 2012). The tactic was called the Friday “news dump,” and it worked because print cycles were such that newspapers couldn’t adjust when public relations timed releases for Friday nights. The Saturday Night Massacre associated with Watergate came one day after Nixon discharged Special Prosecutor Archibald Cox and accepted the resignations of Attorney General Elliot L. Richardson and Deputy Attorney General William D. Ruckelshaus, on a Friday night in October 1973. When he was campaigning for the 2008 presidential election, John McCain’s campaign granted access to McCain’s medical records on the Friday before Memorial Day. The September 1998 Starr report on President Clinton was released on a Friday. The list goes on and on. When released on a Friday, corporate earnings announcements are 20 percent more likely to be negative (Smerconish, 2009). Finally, presidents are 25 percent less likely to sign favorable legislation between Friday and Monday (Smerconish, 2012).

In the mid 1970’s, the cycle became less static and moved closer to instantaneous when portable satellite uplinks permitted live reports from around the globe, but the news cycle made a huge jump when Ted Turner launched the Cable News Network (CNN) in 1980 (Keim, 2009). This was the first cable television news station, and as such was the first station that required news programming to fill all 24 hours of the day. From there, speed increased incrementally through the advent of the Internet, but the invention of cable news essentially brought the media into the modern day. Today, according to Onderstall (2012), the news cycle looks like this: the story breaks on Twitter and is developed there before traditional media cover it, then the story continues to develop on social media through referencing and commenting.

Friedman (2011) analyzed the media coverage of three major nuclear accidents and radiation, specifically looking at how traditional and new media coverage related. She found some similarities between the coverage of the Three Mile Island, Chernobyl and Fukushima accidents in 1979, 1986
and 2011, respectively. Heavy print and broadcast coverage followed all three accidents, and reporters covered them all in real-time, as they unfolded. During the first few days, the news was treated as breaking and constant updates were being issued; relatively little time was taken to insure accuracy. As the accidents progressed, however, reports became more accurate and detailed (Friedman, 2011). The primary difference that she noted was that coverage of the 1979 Three Mile Island and 1986 Chernobyl accidents did not grow as quickly or become as vast as the coverage of Fukushima (2011). Aram Sinnreich, a media professor at Rutgers, compared this impact to an earlier time, “The peer-produced social media are doing to cable-news networks what cable news did to broadcast. We’ve gone from a one-day news cycle to every hour on the hour to second by second” (Timpane, 2010).

The impact of the Internet

The advent of the Internet created a volatile time for newspaper publishers. In the early 1990s, there was a pervasive fear among traditional newspaper practitioners of becoming irrelevant in the Internet age (Nguyen, 2008). According to Nguyen, this fear is what led to a massive online migration. Newspapers did not want to fall behind, so they immediately invested resources in going online. In doing so, newspaper companies needed to reposition themselves as information companies (Newspaper Association of America, 2006).

In April 1994, the Casper Star-Tribune (Casper, Wyoming) launched a Web-based newspaper called the Electronic Signpost (Carlson, 2003 cited in Greer & Mensing, 2004). By 1996, there were 775 publications online worldwide, 175 of which were in North America (Levins, 1997 cited in Greer & Mensing, 2004). One year later in 1997, 1,600 newspapers worldwide were published online, with 820 in the United States alone (Levins, 1997 cited in Greer & Mensing, 2004).
Of course, going online isn’t the only component of staying relevant in a period of dynamic change. Online newspapers needed to find ways to engage readers in ways that were previously impossible in a print-only medium. Greer and Mensing (2004) noted that online newspapers offered more content, multimedia, interactivity and revenue-generating features as time passed and practitioners became more accustomed to the online environment. Further, all of these elements expanded in their use, rather than setting one or two aside to focus on another (Greer & Mensing, 2004). Specifically, the use of multimedia storytelling increased dramatically from 2000-2004, leading Greer and Mensing to posit that multimedia storytelling would continue to become more popular throughout the 2000s.

One of the elements that is Internet-specific is interactivity. The Internet allows the media to readily communicate with consumers in a way that was never before possible. The dissemination of news was formerly a one-way channel of communication—the media gave the news to the viewer. On the web, users can easily communicate with media organizations to voice opinions about the news. Greer and Mensing (2004) found that interactive features were more prevalent in 2004 than they were in 1997, but that there was a limited amount of actual growth; the primary change was the addition of reporter email addresses in the bylines of stories.

One of the digital tools available before social media sites was the RSS feed. RSS is one form of news aggregator, a program that collects links, headlines and other content of interest and delivers them to the reader’s homepage (Palser, 2005 cited in Greer & Yan, 2010). RSS was among the push technologies that emerged in the early 2000s, driving traffic by sending compelling headlines and enticing readers to click into the main website.

---

6 Really Simple Syndication.
RSS was the most widely used delivery tool\(^7\) in 2010, appearing on over 60 percent of news websites (Greer & Yan, 2010). This prevalence is possible because RSS requires no upkeep from a staff member or additional staff resources (Greer & Yan, 2010). When stories are pushed to the web, the headlines automatically appear in the RSS feed for the site.

Social media opened the doors for media to interact with consumers in even more ways. An Internet-specific phenomenon, social media can serve the media in three ways, according to Greer and Yan (2010). Social media can reach new audiences, they can drive traffic to news sites, and they can be used to extract information about consumers. Learning how to accomplish these tasks with something as novel as social media, however, proved to be an initial struggle.

Using resources like Facebook and Twitter to push stories requires staff time. Content analyses show that this extra step has resulted in papers using social media, but not promoting it as much as they were other delivery tools. According to Greer & Yan (2010), Facebook and Twitter had the lowest prominence of all delivery tools on news sites from publications of all sizes. The ways in which publications use these social media tools has not evolved as much, either; the average number of followers/fans has increased over time, but the amount of content being pushed has not (Greer & Yan, 2010).

When it comes to the implementation of delivery tools, the size of the news site can predict the number and placement of tools that will appear on the site. Large newspapers are the most likely to have tools present and to give them better placement (Greer & Yan, 2010). While the number of tools present grew over the 10-month course of Greer and Yan’s study in newspapers of all sizes, smallest papers always had fewer on average. This is similar to adoption of newsroom technologies in the past. Gubman and Greer (1997) noticed that the sophistication of online newspaper sites increases based on the size of the parent print news organization. Greer and Mensing (2004) found

\(^7\) Examples of other delivery tools are email, text/mobile, Facebook and Twitter (Greer & Yan, 2010).
that the largest take a lion’s share of web traffic, making it harder for smaller papers—who are already less dependent on online communication—to spend valuable, already scarce resources developing an online presence that will only capture a small proportion of the audience.

Theoretically, the Internet provides the opportunity for smaller papers to compete with larger ones, though, because dailies, weeklies, small and large newspapers all have access to roughly the same technology (Adams, 2007 cited in Greer & Yan, 2010). However, small papers lagged behind in every measure analyzed by Greer and Mensing (2004), including news content and presentation, multimedia, interactivity and revenue sources. Meanwhile, medium and large papers were more similar than ever before.

By 2011, small media organizations had discovered how to capture their market share. Greer & Ferguson (2011) found that there is no significant relationship between the number of TV homes and average number of daily tweets from TV stations with a Twitter account. Large market stations do not produce more Twitter content than smaller stations, even if they have more staff dedicated to online work. In smaller communities, Sutel (2006) believes that small papers can better extend their brand locally because they are seen as a community member. On the Internet, weeklies can also start to compete with other media outlets on breaking news because they no longer have to wait upwards of a week to get their news out in a print version (Adams, 2007).

Interactivity is still a weak point for the media at large (Muralidharan, 2011). Greer and Ferguson (2011) argued that an outlet uses Twitter effectively if the followers share the information, not just if the information is fast and accurate. They found that the number of followers was higher for stations that use interactive tweets than for stations that use no interactive tweets; the average number of tweets was also lower for stations using interactive tweets than for non-interactive stations. Thus, interactivity can increase overall reach, but also serves to limit the average news content output of an organization (Greer & Ferguson, 2011).
Obviously, it is much easier to post one-way messages. However, one-way messages most interested in giving away news content can cause the content to act as a substitute to broadcast content, rather than being a supplement (Greer & Ferguson, 2011). Greer and Ferguson believed that social media should also be used to drive audiences to TV broadcasts, rather than just to the main news site. Of the stations they looked at, 71 percent did not promote their newscasts on Twitter. This means that stations were not taking the time to extend their brand across platforms. As Greer and Ferguson said, “The emergence of new media platforms offers television stations opportunities to service their viewers with information, while also enhancing their loyalty to the station” (2011, p. 199).

**How Twitter breaks the news**

In 2006, a small earthquake hit San Francisco. Twitter’s creators—Evan Williams, Biz Stone and Jack Dorsey—turned to their new application to tweet about the quake. When they accessed the site, however, they noticed others’ tweets about the same quake. It was at this point that they discovered Twitter’s usefulness as a frontline news report (Miller, 2009). Since then, the application has broken news on a number of occasions.

One was when the US Airways Flight 1549 crashed in the Hudson River in January 2009. Twitter broke the news of this story 15 minutes before the mainstream media picked it up (Beaumont, 2009). The first tweet came from Jim Hanrahan (Twitter handle @manolantern) four minutes after the crash, in which he said, “I just watched a plane crash into the hudson riv in manhattan” (Beaumont). Shortly thereafter, passengers that were on the commuter ferries that were diverted to pick up passengers posted text, pictures and video to Twitter, Flickr and YouTube. Twitter was able to break the news faster than more traditional online sources as well. At the same time that tweets started coming in, the FlightStats information showed that the flight was 26 minutes
late, yet still en route to the destination of Charlotte, North Carolina (Beaumont, 2009). Over an hour after going down, Google’s trends still did not show signs of the crash; meanwhile, four of the top trending topics on Twitter (“US Airways”, “Hudson”, “plane” and “crash”) referred to it (Beaumont).

There are many more instances in which Twitter has been the first with information about a story that eventually was covered by the media. In 2008 when James Karl Buck was arrested while protesting in Egypt, he tweeted on his way to a police station and Twitter activists began demanding his release (Arceneaux & Schmitz Weiss, 2010). In May 2008, the first information out of the Sichuan province of China after a massive earthquake came from Twitter (Arceneaux & Schmitz Weiss, 2010). Twitter also broke the news of the Mumbai terrorist attacks in November 2008 and the Iranian election protests in June 2009 (Arceneaux & Schmitz Weiss, 2010).

It is important to understand why Twitter has this news-breaking ability. One component is the brevity that Twitter requires; it is much faster for someone that is present to tweet a 140-character information bit than it is for a mainstream media entity to research, report, write, edit and push a story about that same event online.

The networked nature of Twitter also allows information to be spread very quickly (Timpane, 2010). It also offers a news creation opportunity for every user with followers. Through the retweet process, it is theoretically possible for any user’s tweet to go viral. Twitter also allows traditional roadblocks to be worked around to push news out faster. Farhi said, “Twitter can also provide instantaneous access to hard-to-reach newsmakers, given that there’s no PR person standing between a reporter and a tweet to a government official or corporate executive” (2009, p. 28).

The information-seeking advantage of Twitter isn’t in a single 140-character tweet, but rather in the collection of all of the tweets that are pertinent to a story. Elizabeth Lawley, the director of the social-computing lab at the Rochester Institute of Technology, argued that a single tweet is like a
single pixel; however, “When you see all those little pieces together, it gives a much richer portrait” (Greene, 2007, p. 44). This theory also applies to Twitter’s aptitude for following stories as they develop. Former Washington Post journalist Craig Stoltz said, “Twitter works best in situations where the story is changing so fast that the mainstream media can’t assemble all the facts at once” (cited in Farhi, 2009).

According to Beaumont, Twitter “provides an invaluable real-time running commentary on events, which, when taken together with the factual accuracy, analysis and commentary of the mainstream media, provides a fascinating and rich account of major incidents” (Beaumont, 2009). One way to effectively follow these incidents is to follow Twitter’s trending topics. These trends better predict top news stories than media websites or search engines (Gilbertson, 2009). For this reason, Yahoo! BOSS engineer Vik Singh created TweetNews, which compares Yahoo! News results to Twitter’s trending topics list (Gilbertson, 2009). TweetNews uses Twitter’s trending list to rank the importance of news stories, and then fetches the full-length stories from Yahoo! News. The result, Singh believes, was faster, more relevant and more in-depth coverage than either source can provide exclusively (Gilbertson, 2009). Singh created the service after the Mumbai terrorist attacks in November 2008, during which he realized, “Twitter messages were providing incredible focus on the important subtopics that had yet to become popular in the traditional media…what I found most interesting...was that news articles did exist on these topics, but weren’t valued highly enough yet” (Gilbertson, 2009). Arizona State University journalism Professor Dan Gillmor mirrored that sentiment, suggesting that journalists view Twitter as a “central intelligence system” that warns about news, people and trends (cited in Farhi, 2009).
Review of existing literature

Contemporary news consumption habits

As mentioned previously, Graber (1988) noted that there is an excess of information available to people, and they need to adapt in order to “tame the information tide” (p. 200). There are more news sources now than ever before, and more information available exclusively from almost every source (Pew Research Center’s Project for Excellence in Journalism, 2010). The Pew Research Center’s Project for Excellence in Journalism said, “The notion that people have a primary news source…is increasingly obsolete” (2010). With all these new sources for news, more Americans are spending more time with the news every day than they did in the past.

In 2000, Americans spent an average of 57 minutes per day with news from TV, radio and newspapers (Pew Research Center for the People and the Press, 2010). In 2010, those 57 minutes were still being spent consuming news from TV, radio and newspaper sources, but an additional 13 minutes was spent each day getting news online8, for a total of 70 minutes per day (Pew Research Center, 2010). Instead of replacing traditional news sources, there is an increasing integration of new technologies.

Highly educated people are the primary drivers of that increase in time spent with the news each day (Pew Research Center, 2010). These people are the most likely to combine platforms; in a 2010 study, 69 percent say that they got news through a digital source yesterday, up 15 percent from the 2006-2008 average (Pew Research Center, 2010).

Despite these findings, there is other evidence that gives a different picture of the shifting consumer habits. Even though Americans are spending more time with the news than ever before, they are less-informed than they have been in the past; in 2010, only 14 percent of Americans could answer all four questions on a current event test correctly (Pew Research Center, 2010).

---

8 These extra 13 minutes do not take into consideration news consumption on mobile devices (Pew Research Center for the People and Press, 2010).
The proportion of Americans consuming news on a daily basis is not increasing, either. The Pew Research Center (2008) found that young people especially are not consuming news with the same regularity that generations before them have. In 2008, 34 percent of Americans under 25 consumed no news over the course of an average day, up from 25 percent in 1998 (Pew Research Center, 2008).

This is in part because a large proportion of young people are news grazers⁹; 57 percent of all Americans were classified as news grazers in 2010, up from 48 percent in 2008 (Pew Research Center for the People and the Press, 2010). This is echoed in the percentage of Americans who use the Internet to get their news, implying that the Internet may encourage grazing habits. In 2010, 61 percent of all Americans consumed some kind of news online; in a two-year period from 2008 to 2010, the percentage that regularly use search engines for news increased 14 percent, from 19 percent in 2008 to 33 percent in 2010 (Pew Research Center for the People and the Press, 2010).

Digital devices are also undoubtedly contributing to the prevalence of grazing. Among all Americans, 26 percent get news on a handheld device (Pew Research Center’s Project for Excellence in Journalism, 2010). And among Americans who access Internet on their phone, 88 percent of them consume news at least occasionally on their mobile device (Pew Research Center, 2010). On the contrary, regular watchers of nightly network news is down 50 percent from 1990s levels, and the percentage of Americans who read a newspaper on a typical day have declined by about 40 percent since the early 1990s (Pew Research Center, 2008).

Young people may be more likely to integrate new technologies into their news consumption habits, but they are not consuming news as a whole at higher rates than older Americans. Digital sources are only supplementing the habits of an already-consuming public; the proportion consuming news daily has not increased because of the new sources (Pew Research Center, 2010).

---
⁹ Users who check in on news from time to time, rather than being regular consumers (Pew Research Center, 2008).
Twitter may be popular as a news source because of the dominant demographics that use the site. Somewhat surprisingly, however, this is because the Twitter demographic is an older one; according to a Nielsen Online 2009 survey, 42 percent of tweeters were age 35-49 (cited in Farhi, 2009). The number of people using the site that are older than 55 years old outnumbers users that are age 25-34 (McGiboney, 2009 cited in Farhi, 2009). Thus, the demographic of the average Twitter user is almost identical to the demographic that are most likely to consume news. They are also those most interested in and engaged with the news (Farhi, 2009). According to ComScore analyst Andrew Lipsman, the average Twitter user is twice or three times as likely to visit the website of a leading news outlet than an average person is (cited in Farhi, 2009).

One component of news consumption is the actual reading of the news. Graber (1984) studied the ways in which people read newspapers and discovered how people screen the news they read. For instance, two out of every three newspaper stories is not read when a person “finishes” reading the newspaper and only 18 percent of all stories are read in full (Graber, 1984). She noticed a similar screening process for television and radio news. This screening is exhibited because newscasts are repetitive. Stories are repeated, often with little new information. The inverted pyramid style taught in newspaper journalism also encourages screening, placing all of the important details of a story in the first few paragraphs (Graber, 1984).

It is schema process that contributes to this screening, a mechanism to further reduce the amount of information needing to be stored (Graber, 1984). According to this process, humans extract limited amounts of information from stories that is then incorporated into thinking. If information is redundant, schema process allows it to be removed from a person’s memory storage. Thus, specific knowledge grows, despite a high level of forgetting. Schema process is also reflected in interpersonal communication; most conversations are not integrated into a person’s memory because there is no new-ness (Graber, 1984).
Schema process plays a role in the way that users interact with the Twitter timeline. Graber noted the excess of information available in newspapers and on television news broadcasts in 1984, but there is even more available on a user’s Twitter feed. Even if a user does read every tweet from every user that he or she follows, the chances are high that most tweets will not sound important and will not be committed to memory or integrated into thinking. Thus, without repetition in different forms, there is the likelihood that users will be unaware of some current events, even though they are indeed exposed to information about these events.

Some argue that Twitter is popular among users as a news aggregator because it is so user-friendly (Thompson, 2007). Twitter users have the ability to choose from whom they consume their news, in effect tailoring their consumption habits to their own interests. Kim, Jo, Moon and Oh studied the most common interests on Twitter by looking at the most common list10 titles (2010). What they found is that, among the top 20 list titles were: news/media, music, celeb/celebrities, sports, tech, entertainment and politics. These interests are not wholly unexpected. Graber (1984) noted that the public is interested in news to satisfy a need for information as well as a need for entertainment. This is also reflected in the number of followers that accounts have. In 2009, every account that had at least one million followers on Twitter were either celebrities or media outlets (Kwak, Lee, Park, and Moon, 2010).

The idea that news consumption based on specific interests is becoming more prevalent is further supported by an increase in the number of people who tailor their digital news to fit those interests. In 2010, 28 percent of Americans customized their homepage to get feeds from specific sources or on narrow topics (Pew Research Center’s Project for Excellence in Journalism, 2010).

Interest also contributes to a dynamic dimension of news consumption. The level to which individuals exhibit information-seeking behavior varies with the news; one major increase came in

---

10 Lists are a way for users on Twitter to curate the tweets from related accounts. A list was created to follow accounts for the study discussed later in this paper.
response to the terrorist attacks on September 11, 2001 (Boyle, Schmierbach, Armstrong, McLeod, Shah & Pan, 2004). It was found that—following those attacks—individuals were motivated to seek information about what happened to reduce personal uncertainty. This occurs because large-scale crises are experienced primarily through the media (Rasinski, Berktold, Smith & Albertson, 2002). It seems like a simple conclusion, but this knowledge is important; it allows what was previously an interpersonal communication theory to be applied in a mass media context.

Uncertainty reduction theory (U.R.T) is a theory that explains and predicts interpersonal communication, specifically classifying stages of initial interactions (Infante, Rancer & Avtgis, 2010). It posits that there are three conditions facilitating the desire to acquire knowledge – incentive\(^\text{11}\), the unpredictable behavior of others\(^\text{12}\) and the likelihood of future interaction\(^\text{13}\).

In the frame of those September 11 attacks, stronger negative emotive responses to the attacks were linked to more information-seeking behaviors (Boyle, Schmierbach, Armstrong, McLeod, Shah & Pan, 2004). As Boyle et al. (2004) wrote, “Affect can drive an interest in information…. Rather than avoiding information about an event that left people feeling angry or upset, those who experienced these negative emotions actually wanted to know more about the causes and consequences of the attack” (p. 162). It is important to note that, in this study, it was found that the prior use of media did not function to generate interest in the attacks; instead, a greater motivation to learn is what was linked to a greater use of media sources like the Internet, television and newspapers (Boyle et al., 2004).

Messenger (2012) went so far as to say that mourning is different in the social media age. He noted the same need for information as Boyle et al., but believes that that search for information

\(^{11}\) A motivation where we want to know more about people who control rewards or can satisfy our needs (Infante, Rancer & Avtgis, 2010).

\(^{12}\) When communication deviates from our expectations, we monitor the communication of others more closely to get extra information (Infante, Rancer & Avtgis, 2010).

\(^{13}\) A motivation that assumes a person’s desire for future contact causes people to pay close attention to their own and others’ communication (Infante, Rancer & Avtgis, 2010).
begins online because of the instant gratification that Twitter and Facebook can provide. The national discussion takes place in real-time with no time for calm reflection; the tragedy will still be unfolding (Messenger, 2012).

Kubey and Peluso (1990) reported similar findings in respondents they studied following the Space Shuttle Challenger explosion in 1986. In that time, mass media was not as pervasive, but respondents with the strongest emotional reactions still reported a greater number of conversations about the event as well as a greater amount of time spent watching television coverage of the event. Adding another dimension to Boyle et al.’s findings, Kubey and Peluso suggested that “informing others may be partly an outgrowth of an effort to cope with emotionally upsetting news and images” (1990, p. 74). In the modern environment, a similar study may discover an increase in interaction with tweets following an emotionally unsettling news story.

Another news event that drew millions of news consumers worldwide was the previously discussed Fukushima Daiichi plant explosion in March 2011. Interactivity tools on the Internet allowed all of these people the opportunity to participate in discussions with journalists and to gather information. However, the same infrastructure that provided this interaction also caused a breach of the media’s gatekeeping control of information. Friedman said,

During the early days of the accident, when the Tokyo Electric Power Company and the Japanese government held news briefings to provide minimal and somewhat optimistic information, their reports were quickly interpreted, supplemented, and contradicted online by scientists, government personnel, nuclear industry or anti-nuclear sources, and private individuals. (Friedman, 2011, p. 56)

An advantage of the speed of online dissemination is that information appears quickly; a disadvantage is that information can go viral without considering its accuracy or the credibility of its sources.
News source credibility in the age of the Internet

Following the Fukushima Daiichi plant accident, an early blog post posited that there was no chance that significant radiation would be released from the damaged reactor (Oehman, 2011). This post, by Josef Oehman, was shared on social media sites over 35,000 times, and even linked to by reputable media organizations like Discover Magazine, UK Telegraph, Business Insider, and CNBC’s Jim Cramer (Elliot, 2011). In the post, Oehman identified himself as an “MIT research scientist;” while Oehman works at MIT, he has no special expertise in nuclear power (Elliot). The illusion of ethos that Oehman established with his title contributed to the post going viral.

This issue of source verity is a new problem that has manifested itself as mostly Internet-specific, because the Internet differs from other sources of information retrieval devices. Unlike books, magazines, television, newspapers, the telephone, email and face-to-face communication, the Internet is not centrally located (Flanagin & Metzger, 2000). Instead, there is a free-flow of information on the web.

Unfortunately, consumers struggle to verify things like an author’s credentials online, even though the Internet is used as an information source more often than any of the information retrieval devices mentioned in the previous paragraph (Flanagin & Metzger, 2000). Flanagin and Metzger said, “Those who might benefit most from verifying online information (because they may lack experience that helps to discern valid from bogus material) are doing so the least” (2000, p. 531). People are, however, better at verification that is easy and requires opinion, like distinguishing whether information is current and/or complete (Flanagin & Metzger, 2000).

Traditionally, content producers are judged based on credibility (Sundar, 1999). Sundar identified four criteria that influence attitudes toward print and online news: credibility, liking, quality and representativeness. Flanagin and Metzger (2000) defined credibility as the extent to

---

14 Ironically, Oehman claimed that the media coverage of Fukushima was full of bad reporting.
which individuals find information or its source believable, accurate and trustworthy. Historically, media believability and credibility ratings have been very low, and on the decline (Pew Research Center, 2008). In the past, offline information was viewed as more credible than online information; Kiousis (2001) found that newspapers were viewed as the most credible source for information, followed by online news and then by television. However, Johnson, Kaye, Bichard and Wong (2007) found that some online sources are more credible than their offline counterparts.

Judgment for different media sources is based on different sorts of cues, specifically by how the information is being presented. Newhagen and Nass (1989) found that newspapers are judged based on the institution itself, whereas TV news credibility is assessed based on the people presenting the information—the anchors and reporters. On the Internet, however, individual pieces of information are assessed (Sundar, 1999), in addition to factoring in the user’s familiarity with the source (Flanagin & Metzger, 2000).

On the Internet, —specifically on Twitter and blogs—the actual source of information can sometimes be unclear. Sundar and Nass (2001) differentiated between the originating source of a story (who composed it) and the selecting source (who suggested that story to the consumer). They suggested that the reader also judges the selection source for credibility, finding that other users were judged as a more credible selecting source than expert editors or oneself.

Even after weblogs caught on in the 2000s, there was a clear originating and selecting source with most information. Twitter, however, blurs the lines between the originating and selecting source (Schmierbach & Oeldorf-Hirsch, 2012). This allows users’ opinions about Twitter to factor into credibility judgments as if the actual Twitter application was serving to select content. According to Schmierbach and Oeldorf-Hirsch, this suggests that superficial cues sway user judgments, rather than careful consideration of a story’s sourcing and the actual message content.
Schmierbach and Oeldorf-Hirsch (2012) designed an experiment to test Twitter as a quasi-selecting source, looking at the credibility of a media organization’s official Twitter account versus the credibility of a news story published on that organization’s website versus the credibility of a blog linking to that news story; the New York Times was used as the media organization. They found that the blog story was scored as slightly more credible than Twitter, even though the blog was not affiliated with the Times; the credibility ratings for the blog as a source were also slightly higher than the credibility ratings for the Times Twitter account. Even more surprisingly, they found that subjects in the blog condition ranked the story as having the highest issue importance, higher than even the story on NYTimes.com.

Twitter users have significantly more favorable responses to the medium than people who are online but non-users, but even somewhat regular Twitter users do not perceive information on the site as more credible; the population as a whole is unusually skeptical of Twitter when compared to other distribution methods (Schmierbach & Oeldorf-Hirsch, 2012; Phelps, 2012). Further, the data suggested that the Twitter brand has some sort of independent cue influencing perception of the larger news organization as a whole. This cue has a greater influence than even the ads that appear alongside a news story on the web. Greer (2003) found that people paid little attention to the ads, choosing instead to pay attention to the brand of the source.

Within the Twitter site, there are a number of cues that influence a user’s perception of credibility. The username and profile picture were ascribed a great deal of importance (Phelps, 2012). Usernames associated with a topic (@AllPolitics) were rated as more credible than usernames associated with a traditional user name (@Alex_Brown), which were rated as more credible than usernames that take an Internet name style (@tenacious27). Likewise, accounts with a photographic profile picture were rated as more credible than accounts with a cartoon image or logo. Familiarity with the source also impacted the credibility of information (Phelps, 2012).
This poses a potential problem; credible users can easily spread information that is untrue. Phelps (2012) noted that this happened when the “gay girl in Damascus,” Amina Abdallah Arraf al Omari, turned out to be a hoax perpetrated by Tom MacMaster, a student in Edinburgh, Scotland:

By constructing a fake but plausible identity — with a real-sounding name and a real person’s photo — MacMaster was able to spin a narrative that fooled even seasoned journalists. MacMaster was able to override our built-in skepticism by constructing the features of credibility we value most. (Phelps, 2012)

While there is no way to prevent this sort of behavior, it places greater responsibility on news curators on Twitter. Great care must be taken to try to eliminate perpetuating information from these sorts of accounts.

Schmierbach and Oeldorf-Hirsch (2012) also suggested that people might view a large media organization as less credible because stories are distributed via Twitter. This poses a major problem for these organizations. As will be discussed later, media organizations need to alter their use of Twitter in order to position accounts as selecting sources if they want to be perceived as more credible, and if their stories are to be perceived as having higher issue importance.

**Case study — 2012 SCOTUS Ruling**

The continuum of speed versus accuracy is most visible when applied to past events where accuracy is compromised when speed is the primary objective. The most outstanding and recent example of this compromise occurred with the Supreme Court of the United States ruling in the summer of 2012.

In June 2012, SCOTUS weighed the constitutionality of President Barack Obama’s Patient Protection and Affordable Care Act, also known as Obamacare. Specifically, opponents of the act—signed into law on March 23, 2010—objected to the individual mandate, a requirement by law for all Americans to purchase health insurance (Klein, 2012). The SCOTUS ruling on this act was to be the

---

15 More information about news curation on Twitter is provided in the “Effective storytelling with Twitter” section later in this paper.
news event of the year; as such, media entities positioned themselves to be the first to report when the Supreme Court justices announced their opinion on June 28, 2012. With Chief Justice John Roberts’s verbal announcement, the written decision was simultaneously pushed to the SCOTUS blog (Alvarez, 2012). The dissemination of information was very similar to a news conference—all media organizations had the same access to the information at the same time. As Paul Farhi, who covered the ruling for The Washington Post, said on “First and Worst,” “No one was getting an advance [on the SCOTUS ruling]. It was just a typing contest, who could type it out fast enough” (NPR, 2012).

CNN and Fox News were among the first to report the verdict (Silverman, 2012). Posted on CNN.com was the headline, “Mandate struck down.” CNN’s TV graphic was similar, and CNN sent out tweets and an email blast saying that the mandate was ruled unconstitutional. As soon as they received the news, CNN looked to their chief national correspondent, John King, to explain what the decision meant to viewers. He called it a “dramatic blow” for President Obama (Lam, 2012).

On Fox News, the lower third graphic read, “Supreme Court finds health care individual mandate unconstitutional” (Silverman, 2012). Anchor Bill Hemmer anchored the channel’s coverage and announced to viewers,

We have breaking news here on the Fox News Channel. The individual mandate has been ruled unconstitutional. This was a part of the law that was at the center of the oral arguments three months ago on this day, when the justices hammered away at the White House and the administration’s attorney [questioned] the validity of the individual mandate and [asked] the following pointed question: if you can legislate healthcare, where can the federal government be stopped? (Alvarez, 2012)

Fox then switched to reporter Shannon Bream who was live outside of the Supreme Court. She reported that Chief Justice John Roberts declared that the mandate could not be sustained under commerce law (Alvarez, 2012).
Within two minutes, more deliberate stations were reporting a verdict contrary to what CNN and Fox had reported: that the mandate actually survived (NPR, 2012). This was, in fact, the correct ruling. In their rush to report the news of the verdict first, Fox and CNN saw the commerce law clause and incorrectly translated this into meaning that the mandate was struck down (Lam, 2012). “The Supreme Court is a deliberative body that wants to explain its decisions, which are often complex,” said Tom Rosenstiel, director of the Pew Research Center’s Project for Excellence in Journalism. “Speed is always the enemy of accuracy” (Lam, 2012).

Both media organizations quickly updated their coverage to reflect the truth, and issued statements explaining their error (Alvarez, 2012; CNN, 2012). Fox only misreported the verdict during their on-air broadcast, which minimalized the impact of the mistake. Because CNN mistakenly tweeted and mass-emailed the incorrect headlines, the “news” was allowed to go viral.

Once the emails were sent, there was no way to rescind them; if CNN viewers consumed this news via email exclusively, it would have been a few minutes at least until a correction email was issued. During this period of time, these news consumers could have forwarded this email to other contacts, who would have been one degree removed from the originating source—CNN. Because of this removal, the contacts that received that forwarded email would not have received the correction email, and thus would not have known that the information was false. Further, they could have continued the string of forwarding and created additional degrees of separation from the originating source.

The error on Twitter was spread in a very similar fashion. Consumers who saw the tweet from @CNN stating that the individual mandate was ruled unconstitutional could have responded by “retweeting” it to their own followers—in essence, forwarding the original tweet. This can be accomplished much quicker than an email forward because it requires no input of contact

---

16 Circulated widely on the Internet.
17 Assuming that they were not forwarded the correction email by the original recipient as well.
information; from the twitter.com interface, only two clicks are required in order to retweet a tweet. As such, false information can be circulated via Twitter much quicker than through other media—and it is harder to make a correction. Even though it may be simple for CNN to issue a tweet containing the correction information, that tweet will not be circulated in the same way that the original tweet was; many viewers would never see the correction.
Contemporary news cycle study

**Purpose for conducting study**

Before this thesis was researched, there was no academic research conducted to compare and contrast the ways in which media organizations use Twitter, as related to the speed at which stories are disseminated. This study was conducted in order to begin to understand some of the reasons why the media use Twitter in the ways that they do. It aims to investigate how the news is being tweeted, as well as how audiences interact with news on Twitter. An important component of this interaction is the ways in which the media modify their dissemination in order to garner greater consumer interaction, if they do so at all.

The idea of this study takes off from the CNN-Fox SCOTUS case study. My hope is that it will begin to paint a picture of specifically what the contemporary news cycle looks like, a cycle that has only been theorized about up to this point.

**Methodology**

This study looked for systematic trends among the tweets of major media organizations using available data research. A list on Twitter.com\(^{18}\) was created using the accounts of media organizations that satisfied four conditions: (a) the organization responsible for each account cannot have a regional affiliation\(^ {19}\), (b) each account must have at least 450,000 followers as of January 27, 2013, (c) each account must be the main hierarchal Twitter account of the media organization as a whole\(^ {20}\), and (d) the accounts studied must collectively represent each type of mainstream media—broadcast news, newspapers, newsmagazines, wire services and Internet news. Fourteen accounts satisfied these criteria, and are available in Table 1 of the appendix.

\(^{18}\) List available at https://Twitter.com/remmsAU/the-early-bird

\(^{19}\) Accounts like The New York Times, The Washington Post and The Los Angeles Times were not included because these organizations have additional responsibilities of covering their respective regions. They also serve a different set of news consumers.

\(^{20}\) Accounts like @CNNBrk and @ABCPolitics were not studied.
Data was gathered on February 18, 2013 from tweets published between 12 a.m. and 2 p.m. (Eastern Standard Time) on February 16. The elapsed time was observed in order to insure that all retweets and favorites were accounted for. The timeframe was selected as a convenience sample that allowed for a nearly complete news cycle to be observed. Seven pieces of data were recorded by hand from each tweet that appeared in the timeline during that time:

- Which account sent out the tweet
- The text contained within the tweet
- A short slug that categorizes which story the tweet is in reference to
- Whether a hyperlink to a longer story was included within the tweet
- How many times the tweet was retweeted
- How many times the tweet was favorited
- The timestamp of exactly when the tweet was published

This data was then coded into the nine variables that were examined in the study. Account handles were assigned a unique numeric indicator from 1 to 14, and those numbers became the “Account” variable. The identified story slugs were then assigned unique numerical categorical indicators from 1 to 12, which became the “StoryType” variable. Text of the tweets was discarded. Timestamp data was re-coded into military times (11:00 a.m. becomes 1100, 12:30 p.m. becomes 1230, etc.) and became the “Time” variable. Dates were discarded because all of the tweets within the sampling frame shared the same date. Retweet and favorite numbers were transferred as recorded, becoming the “Retweet” and “Favorite” variables. The presence of a hyperlink was coded; tweets that contained a link were assigned a 1 and tweets that did not contain a link were assigned a 0, becoming the “Link” variable.

---

21 “1” corresponded to an “other” category, in which tweets that mentioned a topic that was not mentioned by another account were placed. The remaining 11 categories grouped stories according to their slug. Each category represented a unique story that was mentioned by more than one account during the sampling frame.
To code the final three variables, the data needed to be sorted. For the “FollowUp” variable, the data were sorted first by “StoryType” and then by “Account.” If more than one tweet was sent from a single account within the same story type, the later tweet(s) was/were classified as a follow-up\(^{22}\) and assigned a 1. If the tweet from a specific story type was the only tweet from the account about that story, it was assigned a 0.

For the “FirstMention” variable, data were sorted according to “StoryType.” The first instance of each story type (except the “other” story type) in the sampling frame was coded as a 1 for this variable. Subsequent references to each story type, regardless of account, were coded as 0\(^{23}\).

The “\(\Delta t\)” variable represented the amount of time after the “FirstMention” that each tweet was sent. Data were sorted according to “FirstMention,” and the difference in minutes between each of the subsequent mentions (FirstMention=0) were recorded and coded in number of minutes. For tweets coded as FirstMention=1, \(\Delta t=0\). This variable acts as an indicator of relative speed at which the tweet was sent out. From these variables, hypotheses and research questions were proposed.

The two hypotheses predicted relationships between the variables in the study. Theoretically, organizations strive to attract users by being the first to break news stories. Thus, the first hypothesis is proposed,

\[
H_1: \text{The greatest amount of user engagement through retweets and favorites will correlate with earlier mentions of news stories.}
\]

This hypothesis assumes that news consumers are viewing a constantly refreshing Twitter feed, in which the earliest mention of a news story is always the first mention that he/she sees. It offers a quantifiable argument in favor of news organizations competing to be the first to break news stories, proving that consumers interact more with the fastest news organization. Confirmation of this

\(^{22}\) If more than one tweet was sent about a story from a single account, it is assumed that the subsequent tweet(s) include more information or an update about the story that was previously mentioned.

\(^{23}\) While not perfect, this method isolates the tweet that appears to have “broken” each unique news story.
hypothesis also could lead to further findings suggesting that source credibility is related to reporting speed.

However, as the speed at which an organization tweets about a news story or event approaches an instantaneous level, I hypothesize that there will be sacrifices that need to be made. Specifically, real-time tweets can be sent out much more rapidly than a story can be written and pushed to the web. Thus, the second hypothesis is proposed,

\( H_2: \) Fewer tweets will contain links as the speed of mention decreases.

The lack of a conventional Internet story also could indicate that a reporter has not observed a sufficient amount of time to research and report the story fully, including finding relevant sources and discovering why the news story is happening. Instead, such tweets would, I presume, focus on only telling what is happening.

Additionally, two research questions were proposed. The first inquires about the ways in which media use Twitter to break news; specifically, if a news organization is compromising the reporting process in order to be the first to break a news story (as \( H_2 \) suggests), is the organization providing consumers with an updating account of the event as it unfolds? The first research question asks,

\( RQ_1: \) What is the prevalence of follow-ups issued to the fastest breaking tweets?

If there is a positive correlation between first mentions and follow-ups, I would assert that news organizations are adequately disseminating the news in a dynamic fashion; however, if a negative correlation exists, I believe it would not be hasty to assert that news organizations are not properly serving their consumers.

The final research question looks to diagnose a particular tweeting trend of the media organizations within the study. This second research question asks,

\( RQ_2: \) Is there consistency with which accounts have the fastest tweets?
If the answer to this question is yes, we can begin to see the valued priorities of the news organizations being studied. This could offer statistical verification of the proposed “race” amongst media organizations to break stories (CNN, 2012; NPR, 2012; Silverman, 2012).

**Results**

**Account Profile.**

The media composition of the accounts studied was moderately diverse. Considering the 14 accounts being sampled, the mean number of followers as of January 27, 2013 was 2.49 million, with a standard deviation of 1.90 million followers. Eight accounts had more than 2 million followers and only three accounts had fewer than 1 million followers. The minimum number of account followers was 465,388 (@USATODAY) and the maximum number was 7.2 million (@CNN). Of the 14 accounts that satisfied the criteria of the study, 12 sent out tweets during the sampling frame\(^{24}\), and were thus studied.

Five of the accounts represented the TV media type. Three represented Internet media sources. There were two wire service accounts and two newsmagazine accounts. There was one account from both the radio and newspaper media types.

**Tweet Profile.**

During the sampling frame, there were 89 tweets that appeared in the timeline of the Twitter list. The mean time that tweets were sent out at was 5:39 a.m. (SD = 4 hours, 23 minutes). The mean number of retweets was 50.93 (SD = 48.21) and the mean number of favorites was 10.71 (SD = 9.28). With a maximum of 1 and minimum of 0, the mean for link presence was .84 (SD = .37). The

\(^{24}\) The @newsweek and @CNN accounts did not.
presence of follow-up tweets was much lower, with a mean of .28 (SD = .45). The mean relative speed was 62.35 minutes (SD = 107.45).

**Data Analysis.**

After running descriptive statistics to determine the profile of each account and tweet, a correlations report was run to investigate possible relationships between variables in the study. A more complete correlations report can be found in Table 2 of the appendix.

Hypothesis 1, which posited that the greatest amount of user engagement through retweets and favorites will correlate with faster mentions, was only partially supported. There was no significant evidence of correlation between retweets and relative speed, but there was a low negative correlation between number of favorites and the amount of time after the earliest mention at a significant level ($r = -.282, p < .01$). This means that the “fastest” tweets accumulated the greatest amount of interaction through favorites.

Hypothesis 2, which posited that the fastest tweets would contain fewer links than the slowest tweets, was not supported.

Research question 1 inquired about the number of follow-up tweets that would appear within the sampling frame. In the study, 11 separate story categories appeared which had a total of 25 total follow-up tweets. Approximately 28 percent of the tweets sampled in the study represented a follow-up.

Research question 2 asked if there was a pattern in which accounts had the fastest tweets. After analyzing the data, the Associated Press broke the most news stories through the course of sampling; three of the 11 stories were broken by @AP. The Huffington Post broke the second-most with two earliest mentions. Six other accounts each broke a news story in one instance.
In addition to those hypotheses and research questions, a number of other patterns were observed in the variable correlations report. There was a high positive correlation between time and relative speed at a statistically significant level \( r = .649, p < .001 \), meaning that as the day progressed, the number of time in between tweets increased. The mean amount of time in between tweets that were not an earliest mention was 71.1 minutes \( (SD = 112.1, t(87) = 2.10, p < .05) \).

There was a statistically significant low negative correlation between link presence and number of retweets \( r = -.472, p < .001 \), meaning that the number of retweets is greatest for tweets that do not link to a news story online.

There was a statistically significant low negative correlation between time of day and number of favorites \( r = -.427, p < .001 \), meaning that the greatest number of favorites comes earliest in the day.

There was a statistically significant low positive correlation between the number of retweets and the number of favorites \( r = .399, p < .001 \), meaning that as the number of retweets increases, so too does the number of favorites. This makes practical sense; viewers of a tweet who choose to retweet a tweet are also likely to favorite that tweet, or vice versa.

There was a statistically significant low negative correlation between follow-up and number of favorites \( r = -.314, p < .01 \), meaning that follow-up tweets were favorited less frequently than tweets that were an account’s earliest mention of a story type.

There was a statistically significant low negative correlation between link presence and time of day \( r = -.312, p < .01 \), meaning that as the day progresses, so does link presence. Tweets that come later in the day have a lower chance of linking to a story.

There was a statistically significant negative trend between follow-up and link presence; however this showed little or no correlation \( r = -.279, p < .01 \). This means that follow-up tweets have a lower presence of links than non-follow-ups.
There was a statistically significant positive trend between follow-up and time of day; however this showed little or no correlation ($r = .273, p < .001$). This means that as the time of day increases, so too does the follow-up presence. This finding makes practical sense because follow-ups must, by definition, come later in the day than the earliest mentions.

There was a statistically significant negative trend between relative speed and earliest mention; however this showed little or no correlation ($r = -.219, p < .05$). This means that as the relative speed increases, the likelihood that a tweet is the earliest mention of a news story also increases; the finding is assumed obvious, considering that earliest mentioning tweets—by variable definition—will also be the quickest. Likewise, the statistically significant positive trend between relative speed and follow-up ($r = .211, p < .05$) is also an obvious finding; the slowest tweets are most likely follow-ups.

Discussion

While some findings simply reinforced pre-study beliefs, others were very important in characterizing the news cycle in the age of Internet media. One that is particularly important is the partial verification of hypothesis 1. For media companies, this affirms that placing emphasis on being the first to break news on Twitter may be justified, and that the speed does have an impact upon the level of engagement with followers.

The discovery of correlation between time of day and relative speed is an interesting find; it gives perspective into what the timing of the modern news cycle is like. Specifically, it indicates that, while news may be broken faster than ever because of technologies like the Internet and Twitter, news stories stale just as quickly as they ever have\textsuperscript{25}. Also, it would seem as though media organizations recognize that there is no benefit in being a “close second place” when it comes to

\textsuperscript{25} This study did not consider conversation threads that began as a reply to the primary story. This was most certainly a limitation.
breaking news. The 61-minute average time difference between the earliest mention and subsequent mentions indicates that these organizations might be taking that hour to research, source, write and edit a story before publishing to the web. In this way, they are able to offer a more complete account of what happened than that breaking tweet was able to.

This finding also suggests that the fastest tweets come early in the morning. Also considering the correlations between relative speed and follow-up and time of day and follow-up, it can be suggested that most news breaks in the morning, which is why the fastest tweets come earlier in the day. Throughout the rest of the day, then, tweets come in less-rapidly from the same accounts that are, at that time, issuing follow-ups to their earlier reports.

There is also a connection between the correlations of link presence and time of day and link presence and follow-up. Together, these two findings suggest that a web story is shared by media organizations early in the day, and then those stories are not shared again. Instead, there may be a latent assumption among organizations that after the story is shared, all of the account’s followers will click through the link and read the story, incorporating it into their knowledge. Consequentially, media organizations believe that after a story is shared once, the knowledge contained within that story becomes commonplace among the collective followership. This is risky, primarily because it is a large assumption to make. Considering the schema process that Graber (1984) suggested, the likelihood that even a majority of followers will click through that link is slim. Thus, the follow-ups issued by accounts that do not link to the original story act to transform a news thread—what media organizations likely are aiming for through this practice—into a story about the original story. These subsequent tweets are not telling a story on Twitter, they are simply showing what information became available after the story was originally pushed to the web. And if consumers are not familiar with this story, vital information is lost.
There are other practices surfacing that also reflect poorly upon media practices. The correlation between link presence and number of retweets implies that users find information that does not include a link to be more novel than information that does include a link. From a user’s standpoint, even if a tweet is not breaking the news of a story, there is the false perception of first-ness if that tweet does not attribute the news breaking to another source. Users may feel as though information is only available within this tweet if a link is not included, and are thus inclined to share the information with their followers via retweet. Further, this act of retweeting can give the user a feeling of positive affect because he/she feels like a part of the news-breaking process by quickly disseminating the news to their own followers.

This behavior could be volatile. Allowed to pervade, this displaces the original source of the story and further reinforces a new position for news companies in today’s society as “information companies” (Newspaper Association of America, 2006). Were this to continue, it would—in this author’s humble opinion—violate an untold purity of news dissemination. In the modern media landscape, companies like the Huffington Post (which classifies itself as an online newspaper, despite “reporting” mostly on celebrity gossip and reposting viral photos and videos) are as highly regarded by news consumers as more established and more reputable companies like ABC, CBS or NBC.

These interests also reflect poorly upon the news consumer on Twitter. The Pew Research Center (2010) found, as previously discussed, that Americans do a particularly poor job of staying up-to-date and informed on current events. Among a Twitter public at least, it would seem that one of the reasons for this is because preference is given toward inconsequential “fluff” like celebrity news and gossip, rather than hard news stories that contribute to national and global literacy in general.
Limitations.

There were a number of limitations in this study, the first of which was Twitter’s update of the Twitter API\textsuperscript{26} from version 1.0 to version 1.1 in early 2013 (Twitter, 2013). This update was the first of the Twitter API since its creation. As such, there was a large window of time for developers to create applications using version 1.0 that could accomplish a wide range of tasks, including archival of tweets and the data that accompany those tweets (O’Brien, 2010). These applications no longer functioned after the update, explaining why the 89 tweets analyzed in this study were all coded by hand.

This was a major limitation. First, this created the possibility of human error in the coding of tweets. Specifically, transferring the numbers from Twitter.com to an Excel spreadsheet had a very high probability of typing error. Third, this became a major time constraint; coding for each tweet took nearly three minutes.

It was also a problem because Twitter only stores the most recent 1,000 tweets before they disappear. This meant that, in order to record the information, I needed to scroll through 1,000 tweets before I could get to the pertinent tweets. These created a problem that was two-fold; (a) all of the coding needed to be done in one sitting because refreshing the Twitter page would inevitably cause unlogged tweets to be lost in the cyberspace, and (b) because each tweet needed to be expanded in order to see all of the data, and some expansion links open a new window, creating the same problem as from refreshing the page, coding was a very volatile process. Twice in the coding process, I needed to discard my information because I navigated away from the timeline.

The hand coding also created a secondary problem; the 14-hour time period utilized in this study is a small window for analysis. Ideally, tweets would have been logged through multiple days to minimize the impact that time of day has on the results. There have been no studies diagnosing

\textsuperscript{26} Application Programmer Interface. (Sagolla, 2009, p. 165)
what kind of effect that the time of day has on the amount of engagement to a tweet. Thus, this
could have a latent effect on the results that were observed in this study. This effect could be so
strong that it has greater correlation with the retweet and favorite numbers than relative speed does.

The small frame of time also limited the total number of tweets being studied from a
different standpoint. Had the sample size been tripled, or even quadrupled—and included afternoon
and evening time periods—there could have been other trends that manifest themselves.

In general, the idea of measuring user engagement can be a tricky task because there is no
definition of what makes something “retweet-worthy” or “favorite-worthy.” In general, this author
uses the retweet button to share news that he believes is pertinent to his followers, and he uses the
favorite button in the same way as a bookmark in a web browser. However, I know that everyone
does not use these buttons for the same purpose; their use is very ambiguous. The act of retweeting
or favoriting a tweet represents a different reaction from user to user. The motivations behind these
activities may vary with respect to the followers of each account as well. For example, there are likely
reasons beyond speed of dissemination that entice users to follow a news account; each organization
attracts users of a varying demographic, demographics which might systematically utilize the
interaction buttons differently. In order to compensate for this, there would need to be a baseline of
user engagement established for each account being studied.

Engagement may also vary based on the information contained in the tweet itself (or even
the wording), rather than the story that it links to. It is inevitable that—were it logistically possible—
two tweets sent at the same time from one account with different details from the same story will
elicit different responses. Thus, the best metric for measuring user engagement may be the number
of click-throughs on a link; however, this would exclude tweets that do not include a link. The link
variable was one upon which great emphasis was placed in this study. Engagement could also be
measured in the number of replies to the original tweet.
Future Research.

Because the contemporary news cycle has gone largely unstudied by the academic community, there are a variety of opportunities for further research that can springboard off of this research. One such research thread could be replication of this study with a larger time frame of analysis. This kind of study would be able to confirm the findings of the study discussed here, which are very novel and unsupported by other data right now. Were these findings to be supported, even more types of research could be conducted incorporating this knowledge.

Larger content analyses should also be conducted on large media stories—like the Boston Marathon bombing on April 15 of this year—to more specifically analyze how the storylines progress and develop on Twitter. In a study like this, the Twitter behavior by media organizations as well as the behavior of other Twitter elites (high number of followers and tweets) should be analyzed. In order to conduct such a study, an archival application must be created to operate on Twitter v1.1. Specifically, this application should archive the same information from each tweet that was analyzed in this study. Additionally, the application should leverage Twitter’s search feature to archive all tweets that were published by any user containing keywords pertinent to the story. In this way, a study could account for not only media behavior, but also the behavior of average users. During output, visual manipulations could be made which visualize how many tweets were sent out at specific times throughout and following the incident.

Another study could incorporate qualitative input from average Twitter users, attempting to discover what motivations cause a user to interact with tweets through retweeting and favoriting. These interactions are very important to the media applications of Twitter; media organizations are responsible for disseminating information, but are simultaneously also responsible for insuring that the information they disseminate is consumed in a predictable and predicted way. Further, this kind of survey research could ask Twitter users what the most effective ways of telling a story on Twitter
are. From previous data, we know that information on Twitter is viewed as less credible by the public, but a diagnosis of what changes can be made in order to alleviate this stigma would also be helpful.

Experimentation must also be conducted to diagnose relationships based on the correlations found in these data. As previously discussed, if a relationship exists that causes tweets without a link to be viewed as more novel and retweeted because of it, this would reflect larger ethical concerns of source attribution and the integrity of news companies. While these companies were tasked in the late 1990s with becoming “information companies,” this author is certain that the suggestion was not implying a departure from modesty and conventional news practices.

As such, further research should focus on how to best inform the public about current news events. The best practices for increasing national and global awareness must be discovered, and media organizations must adjust their dissemination practices in order to insure that publics remain news-literate.

What to take from this study

Overall, the findings from this study are much needed for the media community. Previous research on Twitter has focused on credibility and user interests and preferences, but no research has focused on user behavior in response to the consumption of news on the site. In general, there have been no studies conducted that investigate the interactive potential of Twitter. This study began to look at how users interact with tweets associated on different characteristics and made a few important discoveries. If Twitter is to be used to the fullest potential by media organizations heading into the future, changes will surely need to be made in the habits that these organizations practice. Some changes that can be made to better use Twitter as a delivery tool are shared in the next section.
Effective storytelling with Twitter

According to Pavlik (1997), the level of success a newspaper exhibits on the web is dependent upon how well they can repurpose content from their printed product and develop new content that is web-exclusive. While research thus far has been unable to diagnose exactly how to best use Twitter for storytelling, this author believes that some lessons can be taken from other threads of research and applied in this context. Specifically, media use of Twitter can be adjusted in order to gain credibility by taking advantage of the cues of being a selecting source, and inroads can be made in storytelling practices that capitalize on a 140-character-or-less structure.

Media organizations as a selecting source

As the literature review presented, one of the credibility concerns with news dissemination on Twitter is the false assumption that the Twitter brand acts as a selecting source. People fail to recognize the brand of major media outlets on Twitter. Thus, it could be possible that an effective way to eliminate this stigma is to use primary media accounts as an actual selecting source, curating tweets from reporters and people on the ground at the news source. In this way, the Twitter timeline of the organization would begin to look like a Storify27 story, containing relevant tweets that give a user-friendly account of the news event as it unfolds.

This sort of application would also solve a problem that is mentioned frequently by media professionals (Enda, 2011; Farhi, 2009), that media in this age are so concerned with presenting real-time facts that they forget to put stories into perspective. Curation in this manner would also solve this problem; the impact that news has on people could be shared by those affected, in first-person and in real-time. As a result, another issue that media companies have with the Internet—that their gatekeeping control of information has been breached—could be solved. While news companies

27 A curating service available at storify.com.
would not be producing more content in the conventional sense for dissemination on Twitter, these companies would be producing a comprehensive timeline.

This practice, while new for American media organizations, would not be new to Twitter. Notably, NPR’s senior strategist Andy Carvin (@acarvin) is particularly adept at curation. His timeline contains occasional tweets that are original, but the majority of his tweets are actually retweets from media accounts, media professionals and local civilians; he refers to the practice in his Twitter bio by calling himself a “real-time information DJ” (Carvin, 2013). His focus in early 2013 has been to provide his followers with an account of what is happening in Syria, which he does without ever leaving the United States. He is able to do this because he has precisely chosen whom to follow; he also most certainly integrates use of the Twitter search function. Both of these are requirements. In addition to these retweets, Carvin also spends time interacting with his followers about the news he is curating, replying to tweets directed to him.

Of course, news isn’t always broken on Twitter from sources that are media accessible. For journalists looking to Twitter in a breaking news situation, finding these key sources quickly poses a few problems (Myers, 2012). More specifically, the question must be asked: how can journalists find eyewitnesses that are themselves credible? Twitter is almost as friendly to rumor spreading as it is to news breaking, which poses a problem. At the moment, there is no way to find these accounts with 100 percent accuracy as they break news, however developers are working on an application called SRSR (Myers, 2012). SRSR tries to figure out who observed something important in four ways: (a) it categorizes Twitter users, (b) gives preference to tweets that link to images or video, (c) excludes retweets, and (d) finds tweets that were sent from mobile devices. Although still in the developmental stages, if an application like SRSR is allowed to partner with Twitter to aggregate data in real-time, there is promising evidence that these previously unnoticed tweets would be noticed.

---

28 Seriously Rapid Source Review (Myers, 2012).
Media accounts could also act as a quasi-selecting source through Twitter. Provided that reporters are tweeting links to their stories, the primary account could then retweet those reporter tweets. In this way, theoretically, the account could benefit from a selection cue and encourage a greater number of users to click through the link and read the story. If this practice were to catch on, research would need to be conducted to investigate whether or not media accounts would begin to reverse the trend of declining credibility, especially on Twitter.

**Storytelling in 140 characters or less**

As Arceneaux and Schmitz Weiss (2010) identified, the media at large identified a few ways in which the 140-character limit that Twitter imposes on tweets could be an opportunity. First, it offers the opportunity to teach concision on another level, a skill that has always been required by journalists. Rather than corrupting the writing style of users, it could actually be used to improve writing ability. They also discovered that this type of concision was often compared to the form of a non-fiction haiku poem.

Sagolla (2009) also compared tweeting to a form of non-fiction poetry, and noted that writers were experimenting in the short form. This is not new, however; Hemingway experimented in the short form decades ago. His most famous short short story would have made an outstanding tweet: “For sale: baby shoes, never worn.” (cited in Sagolla, 2009, p. 21). That phrase is only 33 characters long—well within the constraints of a tweet—, but functions like a snapshot does. It shares a story much deeper than just the words on the page can tell. A reader of that fills in the blanks and expands the story in their own head. It evokes images of parents who just lost a child, forced to part with the few mementos they have left. It creates an emotional response.

Journalism on Twitter can have this effect. There are a lot of great writers in the Twittersphere, names like Michael Kruse (@michaelkruse) and Ben Montgomery (@gangrey), just to
name a few. These folks are masters of “new journalism”—narrative journalism—and are quickly mastering the new “new journalism,” Twitter. For example, Kruse tells stories like, “Her husband served in both world wars. She JUST died. bit.ly/14zbEYp @TB_Times #Clearwater #Florida” and “On the faces of shiftless Sunday evening drinkers is the amazing light that makes me stay here” (Kruse, 2013). Montgomery tells stories like, “I just ran over a crow. He didn’t move. Kept right on eating. Bravest or hungriest bird I’ve ever met” and “Said 86-year-old sentenced to probation for mercy killing his 81-year-old wife: “I loved her since she was 15 years old.”” (Montgomery, 2013).

The key to being able to tell an entire story in 140 characters or less is not trying to tell the entire story. It may be cliché, but the secret really is what is left untold. More than just writing a witty or sharp headline, a short short story can make consumers curious about the story as a whole. Accompanied by a link, such a tweet could generate a greater number of retweets and favorites—as well as click-throughs—than the current tweet method yields. This would, however, need to be verified through an experimental design. While individual tweets are limited to 140 characters, there is no limitation that prevents a string of tweets.

This is the concept that a live tweet is built upon. A Twitter user uses the application to provide snippets of action that, collectively, provide pictures of the event. One of the most widely read live tweet came when web developer Andy Boyle tweeted the breakup of a married couple at a Burger King restaurant (Chen, 2011). One segment of the story:

I am listening to a marriage disintegrate at a table next to me in this restaurant. Aaron Sorkin couldn’t write this any better. / These kids must be 21, tops. His main complaint? She doesn’t clean the dishes when his mom asks her to. / She is sobbing quite loud. He gets up and walks out. She stays. We all feel quite awkward. Do we console her? No one does anything. / He is back. She is telling him she didn’t cheat. He doesn’t believe her. He says he loves her anyway. He sits. We are more calm. (Chen, 2011)

Here is another segment, later on:

“I am a gentleman,” he says. She stands up at his audacity and stares out the window. Someone’s phone on speaker is blocking their chat. / “Go!” she says. “Run away like a scared little boy!” He continues sitting, eating his fries. / She has moved to another table,
still facing him. / “Let's go outside,” she says. “Why? Let's do this here. Everyone needs to know what kind of a wife you are.” / He is now critiquing how she dressed at a party recently. "I like dressing like that," she says. "I get to decide how you dress," he says. (Chen, 2011)

These kinds of stories catch on because they include drama and depict the human condition. They may sometimes be funny, but they are true. Odd situations like this make an especially compelling story because it is the kind of story only available on Twitter. This sort of storytelling is uniquely Twitter.
Conclusion

A number of factors have contributed to the current media state, especially the current state of media presence on Twitter. Things like changing news cycles following the invention of new and disruptive modes of communication have had a tremendous impact. Today, media organizations are able to disseminate news faster than ever. But, what are the consequences of this? Believability and credibility ratings are at all-time lows, and the American public fails to interpret issue importance via new technologies like Twitter; this public, which is the same public that is less-informed of current events than it has ever been before.

All hope is not lost. There are plenty of reinforcing behaviors that already exist which could contribute to a rebirth of the media in terms of public perception. In order to do this, however, media entities need to be willing to invest resources into new technologies like Twitter in ways that they have not yet done. In order to be successful on this medium, organizations need to not just invest staff to increase their social media presence, but to instead fund further research that systematically determines what storytelling practices are most effective in the contemporary environment. If organizations can adapt, they will avoid becoming irrelevant as new technologies continue to be created. If current media practices continue as is, though, the risk of becoming irrelevant will continue to grow.
References


Foti, J. (2009, August 12). MnDOT starts tweeting: Minnesota drivers can now get official traffic and construction updates via the Twitter text-messaging service, the Minnesota Department of Transportation announced this morning. Star Tribune (Minneapolis, MN). Retrieved from http://www.startribune.com/


doi:10.1080/01463373.2012.688723


## Appendix

**TABLE 1: Accounts Followed**

<table>
<thead>
<tr>
<th>Handle</th>
<th>Organization</th>
<th>Followers (Jan. 27, 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>@ABC</td>
<td>ABC News</td>
<td>2,135,201</td>
</tr>
<tr>
<td>@BreakingNews</td>
<td>Breaking News</td>
<td>5,140,139</td>
</tr>
<tr>
<td>@CBSNews</td>
<td>CBS News</td>
<td>2,303,976</td>
</tr>
<tr>
<td>@CNN</td>
<td>CNN</td>
<td>7,219,649</td>
</tr>
<tr>
<td>@FoxNews</td>
<td>Fox News</td>
<td>2,395,133</td>
</tr>
<tr>
<td>@HuffingtonPost</td>
<td>Huffington Post</td>
<td>2,582,470</td>
</tr>
<tr>
<td>@NBCNews</td>
<td>NBC News</td>
<td>474,404</td>
</tr>
<tr>
<td>@Newsweek</td>
<td>Newsweek</td>
<td>1,887,906</td>
</tr>
<tr>
<td>@nprnews</td>
<td>NPR News</td>
<td>1,486,961</td>
</tr>
<tr>
<td>@Reuters</td>
<td>Reuters Top News</td>
<td>2,464,964</td>
</tr>
<tr>
<td>@AP</td>
<td>Associated Press</td>
<td>1,588,890</td>
</tr>
<tr>
<td>@TIME</td>
<td>TIME.com</td>
<td>4,228,892</td>
</tr>
<tr>
<td>@USATODAY</td>
<td>USA Today</td>
<td>465,388</td>
</tr>
<tr>
<td>@YahooNews</td>
<td>Yahoo! News</td>
<td>552,469</td>
</tr>
</tbody>
</table>

**TABLE 2: Significant Variable Correlations**

<table>
<thead>
<tr>
<th>Variable 1</th>
<th>Variable 2</th>
<th>Pearson Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favorites</td>
<td>Time</td>
<td>-.427***</td>
</tr>
<tr>
<td>Favorites</td>
<td>Retweets</td>
<td>.399***</td>
</tr>
<tr>
<td>Link</td>
<td>Time</td>
<td>-.312**</td>
</tr>
<tr>
<td>Link</td>
<td>Retweets</td>
<td>-.472***</td>
</tr>
<tr>
<td>Follow-up</td>
<td>Time</td>
<td>.273**</td>
</tr>
<tr>
<td>Follow-up</td>
<td>Favorites</td>
<td>-.314**</td>
</tr>
<tr>
<td>Follow-up</td>
<td>Link</td>
<td>-.279**</td>
</tr>
<tr>
<td>Relative speed</td>
<td>Time</td>
<td>.649***</td>
</tr>
<tr>
<td>Relative speed</td>
<td>Favorites</td>
<td>-.282**</td>
</tr>
<tr>
<td>Relative speed</td>
<td>Follow-up</td>
<td>.211*</td>
</tr>
<tr>
<td>Relative speed</td>
<td>Earliest mention</td>
<td>-.219*</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01, ***p<.001
About the author

Tyler Remmel was born in Menomonee Falls, Wisconsin on July 10, 1991. He grew up in Hubertus, Wisconsin and graduated from Hartford Union High School (Hartford, Wisconsin) in 2009. At Ashland University, Tyler is majoring in journalism and sport communication. He is a member of first-year honorary Alpha Lambda Delta, communication honorary Lambda Pi Eta and leadership honorary Omicron Delta Kappa. He is also a member of the College of Arts and Sciences Scholars program and competed for four years on the Ashland University swimming and diving team, where he was a captain for two years. Tyler received the 2012 Society for News Design Foundation scholarship.

Upon graduation, Tyler plans on becoming a page designer at a large newspaper.