

The 2010 US Senate Elections in 140 Characters or Less
An Analysis of How Candidates Use Twitter as a Campaign Tool

Steven Haber
Professor DeGregorio
Professor Cowell-Meyers
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Abstract

Much of the recent changes in campaigning have been in how politicians use the Internet and social media. The 2010 elections saw candidates use Twitter as a standard campaign tool for the first time. This study examines how the 71 Senate candidates on Twitter used it in 2010, analyzing over 12,000 “tweets” from Senate candidates in the sixty days prior to the election. The results show that overall, candidates used Twitter to advertise the most, while interacting with other Twitter users and taking issue positions the least. Winning candidates tended to post fewer tweets but did so for different reasons. Overall, candidates use their Twitter accounts more as RSS feeds for their campaign than as a means for more interactive and direct conversation with constituents.

Introduction

American political campaigns by nature are incredibly competitive. Many races are often decided by a few percentage points, and candidates constantly look for the slightest advantages in a given race. Oftentimes candidates seize upon new technologies to better reach voters to gain such an advantage. Historically, the candidates that quickly learned how to use radio, television, the 24-hour news cycle, the Internet, and Web 2.0 were the most successful. The most recent example of how politicians use new technology is their use of Twitter.

Twitter is one of the newest social media platforms that has become widely popular today. Launched in 2007, it allows users to share small bursts of information called “Tweets,” each 140 characters or less in length. As of September 14, 2010, Twitter had over 175 million registered users, who sent out 95 million tweets per day (*About Twitter* 2010). Not only is Twitter a large social networking website, but it also growing at an exponential rate. In 2007, approximately 5,000 tweets were sent per day. In 2008, the number grew to over 300,000 tweets per day. The number grew to 35 million tweets per day in 2009, and in February 2010, users sent 50 million tweets per day (Beaumont 2010).

Twitter today has morphed into an outlet not only where users can express their thoughts and ideas, but also where businesses and celebrities can market their products, and where news outlets and journalists can post headlines and breaking news, all in real time. According to Sean Garrett, vice president of communications at Twitter, 20% of all tweets reference a product or a brand, making Twitter a prime marketing outlet (Beaumont 2010). Twitter users not only have the ability to tweet, but also to choose whose tweets they see. Thus, a user can tailor how they use Twitter based on their interests. For example, a political science student may choose to follow news organizations, political journalists, and politicians, while someone interested in

Hollywood entertainment news might follow celebrities, celebrity news organizations, and various studios.

The 2010 elections were the first major election in which nearly all major candidates used Twitter as a campaign tool. As my research will show, out of 36 contested Senate races held during the 2010 elections, only three candidates did not actively use Twitter. Furthermore, while there is extensive scholarship on how candidates campaign online, there is a gap in how candidates use social media as a campaign tool, and scholarship on how candidates use Twitter is nearly nonexistent. Thus, this study will attempt to fill this void and begin to explain how politicians are using the latest technology to win campaigns.

Research Questions

At the heart of this study, the research seeks to answer the question, “Why do candidates tweet as they do?” More specifically, the study will seek to answer what types of tweets are more prevalent among different types of candidates and within different types of Senate races. In order to answer this, the study will examine the effect of candidate race characteristics on campaign tweet content. The study will break the candidates down as individuals among five different demographic groups: winners, political parties, incumbents, younger candidates in a given race, and higher total spending in a given race.

The study will also examine if different types of races elicit different types of tweets, breaking down the candidates into dyadic groups. Like with the candidate dependent variables, the study examine five dependent variables among the Senate races: total spending above the median of 2010 Senate races, race competitiveness within ten percentage points, if the race had an incumbent, the percentage of the population with Internet access above the national average, and the median age of the state above. If the candidate or race meets these qualifications, the

candidate receives a “1”; if the candidate does not meet these qualifications, they receive a “0.” Again, these are purely to help analyze all similar races and candidates as a group.

Literature Review

In order to properly establish how and why Senatorial candidates use Twitter as a means of campaigning, it is important to examine how they have historically campaigned and interacted with constituents. It is equally important to examine how they have adapted to new technologies and strategically used them to advance their candidacies. From the Kennedy-Nixon debate in 1960 through the birth of the 24-hour news cycle, and Internet explosion in the late-1990s, members of Congress have used these new developments in mass communication to better reach voters. Even as the Internet and candidate websites became standard campaign tools, most candidates still lacked the ability to interact with voters.

However, as the Internet moves into “Web 2.0,” there are a plethora of new ways for ordinary people to communicate online, mostly through social networking websites such as MySpace and Facebook. Likewise, many candidates for political office have followed users by setting up campaign pages on such websites, encouraging increased interactivity between candidates and voters. Indeed, scholarship has reflected this shift in embracing social media. Where the void in scholarship exists is in how candidates use Twitter. Indeed, little has been written about this new platform, yet the 2010 midterm elections were the first in the United States in which the use of Twitter as a campaign tool was widespread across the political spectrum. Thus, it is important to study how candidates use Twitter as a campaign tool.

Fenno argues that representatives largely see their district in four concentric circles: geographic, reelection, primary, and personal (Fenno 2003, 27). As each circle gets smaller, the constituents become more ardent supporters. How a member acts depends on which circle the

representative wants to satisfy. Phrases such as “appealing to the base” or “winning swing voters” are commonly used to express such attempts to satisfy different circles. In attempting to win reelection, the member most often tries to satisfy the reelection circle, which includes the voters a member needs to win another term. While members may be thinking about the reelection and primary circles in order to win reelection, they must also serve their geographic circle while in office through personal service. Members must allocate a significant amount of resources to the district so that they may effectively serve constituents. Personal service provides a potential link to every single constituent in the district, regardless of prior electoral support. For example, Fenno found examples of conservative segregationists garnering a significant percentage of the black vote because of personal service, despite opposition to civil rights legislation (Fenno 2000, 28-29).

The idea of concentric circles and the importance of personal service is nothing new to politics. Fenno observed in the 1970s that there was a large emphasis on developing personal relationships with constituents, as he shadowed Rep. Jack Flynt while campaigned in Flynt’s conservative home district in Georgia. This was perhaps best exemplified by Rep. Flynt’s matter-of-fact quote that “a man who eats salmon and crackers with you will vote for you. And if a man takes a bite of your chewing tobacco – or, better still, if he gives you a bite of his chewing tobacco – he’ll not only vote for you, he’ll fight for you” (Fenno 2000, 21-22). Furthermore, Fenno observed that members of Congress could avoid policy altogether if they pleased. Indeed, he described one visit with Rep. Flynt as “totally and completely *issueless*” (2000, 37). While not every member of Congress avoided policy like Mr. Flynt, Fenno implies such a campaign strategy was not uncommon.

By the mid-1990s, traditional campaigning had been completely transformed. Whereas Rep. Flynt was more interested in meeting individuals in order to maintain personal relationships, Rep. Mac Collins, who also represented a conservative Georgia district, met almost exclusively with groups: small business leaders, seniors, veterans, etc. All of these meetings were based in policy – they all wanted to know how Rep. Collins was working in Washington D.C. to best serve the needs of his constituents (Fenno 2000, 107). While some of this change is based on individual preferences, there is undoubtedly a sense that constituents see their relationship with their representative as a business, rather than personal, one. During this era, giving a constituent crackers and salmon would not be enough to gain a vote. Still, long-term relationships are exceedingly important in sustaining lengthy congressional careers.

By the end of the 1990s and early 2000s, exceedingly collective move online by the American population was inevitable and irreversible. As of 2003, the US Department of Commerce found that 143 million, or 54 percent, of the population used the Internet regularly, while 45 percent of the population used e-mail (Johnson 2004, 4-5). Thus, it is natural to expect that as Americans went online, government did as well. In April 2002, 68 million Americans accessed government websites, and 80 percent had found what they were looking for (Johnson 2004, 5).

Congress made its first big push to move online in 1994. As part of the implementation of the “Contract With America,” Speaker of the House Newt Gingrich helped create the THOMAS bill search service, and several committees began streaming hearings online. By the end of the 104th Congress, 222 representatives and over a dozen committees had personalized websites, while every Senator had a personalized website by the end of 1997 (Johnson 2004, 96-97). However, while there was a big initial push, the rest of Congress adapted to the Internet at a

slower pace. Furthermore, many websites were updated infrequently and thus became stale with old news.

While the move online was a first step, it was not until Congress figured out how to effectively use e-mail that a real change in member-constituent interactions occurred. Like with many other aspects of the Internet, Congress as a whole was slow to embrace this new technology. Even in late 1999, 25 members of Congress had no means for constituents to communicate with them electronically, and in 2002, the Senate replaced their software system for the first time in 12 years (Johnson 2004, 102-104). Further growing pains included providing enough server space to handle always-increasing e-mail loads, how to delegate enough resources and staff to handle e-mail communications, and how to handle e-mails that did not come from constituents.

But perhaps the one event that jolted Congress into embracing e-mail was the 2001 anthrax attacks. After Senator Tom Daschle's office was sent a letter with anthrax spores, the Congressional mail service was temporarily shut down. Thus, members of Congress were forced to communicate electronically with constituents. Furthermore, even after mail services reopened, an irradiation process designed to prevent future bio-terror attacks meant it took weeks for a letter to reach a member of Congress (Johnson 2004, 120-121, 160-161). Thus, e-mail became the quickest and most efficient means for a constituent to reach a member. By the final weeks of the 2004 Presidential election, the Bush campaign was receiving 8000 e-mails per day while the Kerry campaign was receiving 5000-7000 per day, and both maintained extensive e-mail lists (Vaccari 2008 653).

If one can characterize Congress' collective move to the Internet as hesitant, then the move online for state legislators was outright slow. In a survey of 1,759 state legislature

candidates from 1998-2000, Herrnson, Stokes-Brown, and Hindman found that only 40 percent of candidates established campaign websites, while 41 percent of candidates communicated with supporters via e-mail, and even fewer reached out to undecided voters via the Internet (Herrnson, Stokes-Brown, and Hindman 2007, 35). Those who did use the Internet were those who primarily had to. Candidates that were engaged in competitive races were more likely to use websites or e-mail as campaign tools, as were those in districts that were white, young, and affluent, and thus were more likely to have a higher number of voters connected to the Internet. Challengers and open-seat candidates were also more likely to use the Internet as a campaign tool, often since they lacked equal name recognition as incumbents and thus had to use whatever means necessary to improve their visibility. Still, most websites lacked features such as volunteer recruiting and the ability to solicit contributions online, which is now considered standard and necessary.

The first “modern” campaign that effectively used the Internet as a campaign tool was Howard Dean’s run for President in 2004. Prior to Dean, candidates maintained rigid control, even in the most effective online campaigns, such as John McCain’s 2000 Presidential and Jesse Ventura’s Minnesota gubernatorial bids (Hindman 2005, 121). However, the Dean campaign encouraged supporters to generate their own content. This was a significant because he ran the risk that a user might create embarrassing or politically harmful material, either in the form of message board comments and blog posts. This helped Dean, an outsider when he launched his bid, gain increased media attention, more volunteers, more campaign contributions, and most importantly more early momentum. By the time he finally dropped out of the Democratic primary, he had raised \$52 million online, by far the greatest amount ever raised online at the time. Furthermore, 61 percent of donations were in amounts of \$200 or less, and only 1 percent

of donors contributed the maximum of \$2000 (Hindman 2005, 124). Another important aspect was how Dean garnered grassroots support through the Internet. As Hindman explains, Dean's campaign website provided links to supporters' blogs and information about Dean house parties, as well as encouraging "meetups," Web organized face-to-face meetings among those interested in the Dean campaign, turning many from indifferent citizens to active supporters.

In short, Dean's campaign provided the framework from which future candidates could run effective, interactive online campaigns. Both the Bush and Kerry campaigns tried to capitalize on Dean's innovation by turning supporters into activists via the Internet, and both raised significant campaign contributions online (Vaccari 2008, 654).

By 2006, websites had become much more homogenous and standardized. While a content analysis of every campaign website from the 2006 Congressional elections shows that 15 percent of Senate candidates and 21 percent of House candidates did not have campaign websites, the numbers become much lower when restricted to just Democratic and Republican candidates (Gulati and Williams 2007, 447). Furthermore, the features within campaign websites were similar. Almost every candidate had informational content such as biographies, issue positions, e-mail addresses, and relevant news updates. In addition, most candidates had ways individuals could donate, sign up to volunteer online, and receive e-newsletters.

Campaign websites offer a holistic view of candidates. Every candidate is given a blank slate to present themselves to voters. It is perhaps a campaign website that best allows a candidate to convey a sense of qualification, identification, and empathy to voters that Fenno identifies as necessary so that they elect them (Fenno 2003, 57-60). While television and radio advertisements, direct mail pieces, and other traditional media of campaigning can offer only parts of a candidate's campaign in post card size or 30-second length, the website offers a place

where the sum of campaign content can be aggregated (Druckman, Kifer, and Parkin 2009; Klotz 2007). Furthermore, while advertisements and direct mail can be expensive and not available in many races, even for House candidates, establishing and maintaining campaign websites today is relatively cheap. During the 2004 election, the DNC, RNC, and Bush and Kerry campaigns had spent just \$4.2 million in online advertising, compared to \$547 million in television advertising (Trent and Friedenberg 2008, 410). Furthermore, it can host all advertisements (which no longer have to be restricted to 30 seconds), speeches, and other material. Above all, the campaign website also provides an excellent platform for incumbents to explain their actions in Washington. Still, research shows that campaigns that had collected more money in contributions were more likely to campaign online, as were those in competitive races (Gulati and Williams 2007; Herrnson, Stokes-Brown, and Hindman 2007).

However, while campaign websites offer a plethora of information about a candidate aimed at convincing undecided voters and “voters in general,” the most frequent visitors are the most ardent supporters (Druckman, Kifer, and Parkin 2009). Fenno argues these strong supporters are those who are eager to produce additional political activity, and willing to stick with the candidate until the bitter end (Fenno 2003). Indeed it was Dean’s 2004 Presidential bid that first specifically aimed to attract ardent supporters so that they may in turn persuade friends and family that may be otherwise indifferent and inactive (Hindman 2005, 125). These are located within the second-innermost circle of Fenno’s concentric circles. Taking this argument, it makes sense that strong supporters would flock to campaign websites as a way to assist campaigns, even from the comforts of home.

Gulati and Williams also observe that despite the relative effectiveness of the Internet in creating opportunities for presenting oneself to voters, there was still very little interactivity

between the candidates and constituents. Only two Senate candidates included the capability to conduct live chats in 2006. Gulati and Williams argue that the benefits of including such a feature would not only allow for constituents to interact directly with the campaign, but also simulate the feel of a town hall meeting by approximating true two-way communication (Gulati and Williams 2007, 456). Furthermore, Gulati and Williams also find that a minority of candidates used blogs or created social media pages on Facebook and MySpace. This was especially true in House races where “less than one fourth of the House campaigns had blogs, and only 15 percent had developed their Facebook profile” (2007, 453). However, they suggest that while relatively few candidates established pages on social networking sites, more might use them in the future, as they overtook blogs as the preferred method of communicating in Web 2.0.

Although there is relatively little research on the 2008 elections, it is clear that the Internet played a much bigger role. During this cycle, the Internet had become the best way to reach young voters, especially on social networking websites such as Facebook and MySpace. Thus, it was no surprise that the youth vote increased across the board, both in absolute numbers and relatively compared to other age demographics. However, internet activity was not limited to young voters. The Pew Research Center found that 59 percent of voters had taken part in some sort of campaign activity online (Starks 2010, 8-9).

Backing up Starks’ claims were those most directly involved in the 2008 Presidential election. David Plouffe, Barack Obama’s campaign manager in the 2008 Presidential election, argued that the only way Obama could beat presumed front-runner Hillary Clinton in the Democrat was to use the Internet to foster grassroots support (Institute of Politics 2009, 97). Thus, the Obama campaign used the Internet as a central campaign tool, especially as a fundraiser. While Howard Dean broke records raising \$52 million online, Obama ultimately

raised over \$500 million online (Institute of Politics 2009, 97). Meanwhile, the Mike Huckabee campaign expanded on the power of mobilization that Dean tapped into in creating “Huck’s Army” of volunteers which was a necessary extension of the campaign early to help establish Huckabee as a viable candidate (Institute of Politics 2009, 102-103).

While Starks indicates that social media played a significant role in 2008, especially in getting young voters to the polls, there is little to show the specific impact it had on the election in terms of physical numbers. Thus, it appears a gap exists in the scholarship on how much social media affects voter turnout and vote totals. In addition, Twitter has grown exponentially from 2008 until 2010, especially in the political arena. Using these media are the newest ways for members of Congress to campaign and interact with constituents. Therefore, it is important to examine how politicians use social media in attempting to win elections, and examine which strategies work better than others do in campaigns. The purpose of my research would attempt to fill such a gap. It will attempt to show how politicians, specifically Senate candidates, use Twitter as a campaign tool. It will examine what types of tweets that candidates send, and search for trends among different demographic groups within the candidates. In doing so, the research will attempt to show that different types of candidates, such as incumbents, Democrats, winners, and quality challengers use different strategies to best further their campaign.

Study Design

The first step in analyzing candidates’ tweets is to determine the data set necessary. In this case, I chose to study all Senate candidates from major parties, as well as incumbents not running under a major party label, and independents that would qualify as quality challengers. The reason for studying Senate races is that they are often higher profile races than their House of Representatives counterparts and usually draw broader attention, both from the media and

from voters. In addition, there were 36 contested Senate races in 2010, compared to over 400 contested House races, making studying Senate races more feasible. I did not include the South Dakota Senate race, since it was uncontested, and Senator John Thune ran unopposed for reelection. Thus, any tweets would not need to be campaign related. Thus, there were 74 major Senate candidates. However, Senator Charles Schumer of New York, Jim Rodgers of Oklahoma, and John Raese of West Virginia either did not have Twitter accounts or did not post any tweets during the analyzed time period. Thus, the tweets of 71 candidates for US Senate are studied.

The next step is to determine how to best collect the data. Because this study examines how candidates for Senate use Twitter, the study will focus on Senate candidate's campaign Twitter accounts, taking into account all tweets sixty days prior to the election through Election Day. Once the parameters for the data have been set, the qualitative tweets must be codified and categorized. Because tweets are qualitative in measure, codification is necessary to examine trends. Thus, a content analysis of each candidate's tweets was necessary in order to properly categorize them. Tweets were categorized as either "Attacks," "Campaign and Rallies," "Free Media," "Issue Taking," "Mobilization," "Personal Media," "User Interaction," and "Miscellaneous."

Tweets codified as attacks are all those that directly criticize an opponent. One example of this came from Kentucky Senate candidate Jack Conway. On October 25, he tweeted, "Rand Supports Cutting Veteran's benefits. #KYSen." Clearly, the content of the tweet was meant to attack his opponent, Rand Paul's position that veteran's benefits should be cut. It did not outline Conway's position on the issue, but rather highlighted what he believed to be a negative aspect of Paul's platform. Similarly, on October 19, Indiana Senate candidate Dan Coats attacked his

opponent, Brad Ellsworth, tweeting “Debt Skyrocketing Under Obama-Ellsworth’s Watch [#INSen](http://ow.ly/2VPed).” The intent of Coats’ tweet was to link his opponent to an unpopular President in regards to the national debt, which has increased during the President’s time in office.

“Campaign and Rally” tweets are all those that highlight where the candidate will be or has been traveling and campaigning. They are largely apolitical in nature and are essentially serve as bulletin board reminders to interested followers that they will be in a specific place at a specific time. One example of this comes from Kansas Senate candidate Jerry Moran, who on October 29 tweeted, “Today I’m headed to Independence, where Kansans gather each year at this time to celebrate the Neewollah Festival....<http://fb.me/DiQKtxhi>.” Clearly, there is nothing political about the tweet and simply serves to let followers know that one of his campaign stops for the day is a festival in Independence, Kansas. These are important because they can show followers that the candidate is actively working each day to meet as many constituents as possible, thus hopefully showing that candidate will work hard for them if elected.

Tweets codified as “Free Media” include all those that in which someone else has said or written something about the candidate, which the candidate then highlights by tweeting about it. These include television and radio appearances, articles in newspapers, websites, and online publications, and endorsements from newspapers and interest groups. One example of such free media was posted by Pennsylvania Senate candidate Joe Sestak on October 24 highlighting his endorsement from the Washington Observer-Reporter. The tweet read, “Our 5th Newspaper Endorsement today. The Washington Observer-Reporter chooses #Sestak <http://bit.ly/9E6EsQ#p2>.” Importantly, almost all of these free media tweets have links such as in the example provided here so that followers may read or view the article or video. However, this was not

always true in some cases. For example, on October 21 Sestak tweeted “Great time at @TempleUniv with Chris Matthews. Catch the replay at 7 p.m. on MSNBC. #sestak #p2.” Sestak had taped an interview with Chris Matthews, host of MSNBC’s *Hardball with Chris Matthews*, yet the video was not yet available and thus Sestak was not able to provide a link in his tweet.

Tweets codified as “Issue Taking” are all those in which the candidate specifically advocates for or against a policy in a tweet. Once again, Joe Sestak provides an example of a tweet codified as “Issue Taking.” On October 22, Sestak posted a tweet in which he argued for lower taxes for the middle class, writing, “Joe stood up to his party to cut taxes for the middle class. <http://bit.ly/bQ9o7G> #sestak #p2.” By reading this tweet, it is clear what the candidate’s stance is on the issue at hand.

“Mobilization” tweets are all those which urge followers to take action in some way. These actions include voting, urging others to vote, volunteer, donate, or give their time and energy to the campaign in some way. Many of these tweets occurred in the days leading up to Election Day. For example, on November 2, North Carolina Senate candidate Elaine Marshall tweeted, “Have you voted yet? Polls close at 7:30 PM and every vote counts! Find your polling place here: <http://cot.ag/9JwahB> #ncSEN #p2.” Marshall is urging followers to go out and vote on Election Day, and provides a link so that readers can find their polling place.

Another type of tweet that falls into this category are those that asks readers to volunteer for the campaign. Missouri Senate candidate Robin Carnahan posted such a tweet on November 2 when she wrote, “Continue to #GOTV... make some calls! <http://is.gd/gDrBN> #mosen#movote #p2.” She asks followers to make last-minute get out the vote calls, and provides a link where potential volunteers can make such calls. Given that campaigns now have the capability for

volunteers to make such calls from the comfort of their own home, the entry cost for a candidate or campaign to make such an ask is much lower than it has ever been. It should also be noted that the “hash tags” that follow the link serve as hotkeys to make the tweet easier to find via searches on Twitter. In Carnahan’s tweet above, “#mosen” refers to the Missouri Senate race. Anyone searching for all tweets related to the race could search for “#mosen” and get a list of all tweets with this hash tag and know that the content of the tweet was about the race. Similarly the “#p2” hash tag referred to any tweet that was progressive in nature. The “#” symbol serves to hyperlink the word or phrase directly after it, allowing a user to perform the search with one, simple click.

The final type of tweet that fell into this category was those soliciting contributions. Given that Federal Election Commission required all campaigns to report their contributions from July 1 through September 30. Thus as the end of the reporting period neared, many campaigns made a last-minute push for contributions via Twitter. For example, on September 30, Kentucky Senate candidate Rand Paul posted “\$281,419.50 raised in our MoneyBomb so far. 3.5 hours left to finish the quarter strong! Thanks to all for your support! #KYSEN #tcot.” Paul posted this tweet in the waning hours before the deadline, urging followers to make a last minute donation to the campaign, while simultaneously boasting how much money they had raised in their “Moneybomb.” Of course, the more money a campaign raises during a reporting period, the stronger the campaign is perceived to be. Thus, it is better for a campaign to get a donation at 11:45 pm on September 30 than at 12:15 am on October 1, even though the money will not be spent until the morning of October 1 in either situation.

“Personal Media” tweets are a spin-off of the more traditional paid media. Indeed this category of tweets includes all types of paid media. However, because of the nature of the

Internet, a campaign does not need to necessarily expend money in order to publish media. Indeed, one of the most common types of tweets that fall into this category are links to new advertisements and web videos, almost always posted on the video-sharing website YouTube. One example of this was posted by Nevada Senate candidate Harry Reid. On October 31, he posted a tweet that read, “VIDEO: Watch Angle play the new retro game that’s all the rage “Duck Press” <http://bit.ly/bahNNA> #nvsen #unfit.” The link in the tweet brings readers to a YouTube video of a web video the Reid campaign produced, which shows clips of Reid’s opponent, Sharron Angle, actively avoiding reporters’ questions, and comparing her actions to the classic video game, “Duck Hunt.” It is important to note that while thirty and sixty second advertisements produced for television or radio are often posted, the example above is a ninety second video that was produced to be a web video, with no time restrictions.

Another common type of tweet that falls into the “Personal Media” category is tweets linking to photos and photo albums from the campaign trail. These types of tweets are clearly a form of media, but they only cost associated in publishing photos is the cost of the camera. For example, on November 1, Georgia Senate candidate Johnny Isakson tweeted, “More photos from the pre-election fly around today! <http://on.fb.me/9uMO8s> #gapolitics #gagop #tcot.” The link in the tweet brings readers to a Facebook photo album of pictures from the campaign. While not political in any meaning, photos of happy supporters, a large rally, or a fired up speaker can display enthusiasm and excitement from the campaign, which will hopefully inspire those viewing the photos to get to the polls and vote.

“User Interaction” tweets are one category of tweets in which the activity is relatively unique to Twitter. In order to interact directly with specific users, a Twitter user can place an “@” before the other user’s username. The other user then receives a notification that they have

received such a tweet. Furthermore, these types of tweets are still public and will show up in follower's Twitter feeds. In short, tweets such as these are what makes Twitter a social media platform, and distinguishes it from tools such as RSS Feeds. Therefore, they are a good way to publicly interact with other users who may not be able to interact with the candidate otherwise, thus making the candidate seem more open and accessible. Because many Senate candidates seem to have direct control over their Twitter account (rather than their staff), Twitter has the potential for greater interactivity between politicians and constituents (or more precisely Twitter users). Short of meeting a politician face-to-face, only Twitter allows for such direct interaction, given that staffs almost always manage a politician's snail mail, e-mail or Facebook accounts. For example, on October 25, Delaware Senate candidate Chris Coons tweeted "@lifein statutes What was it?" Coons was responding to a tweet posted by Twitter user "lifein statutes" and in doing so, reached out to a user who might not otherwise have the ear of a US Senate candidate.

Finally, any tweet that does not fall into any of the aforementioned categories was coded as "Miscellaneous." These were all tweets which were not political in nature nor did they have any relevance to the campaign. Many of these tweets were often related to sporting events. For example, on October 10, Florida Senate candidate Charlie Crist tweeted "Way to go Rays! Great win! Look forward to cheering for you back in FL on Tuesday. @raysbaseball #rays #fb" after the Tampa Bay Rays won a playoff baseball game. This had nothing to do with the campaign, and was apolitical in nature. Above all, it did not fall into any other category and therefore was coded as "Miscellaneous."

Once all of the data has been recorded and codified, it will be compared to the dependent variables described above. Once again there were five candidate characteristics that were studied: winning candidates versus losing candidates, Democrats versus non-Democrats,

incumbents versus non-incumbents, younger candidates versus older candidates, and candidates that spent more money on their campaign versus candidates that spent less. By comparing what winning and losing candidates tweeted, the study may highlight overall best practices. If there are significant differences between winners and losers, it could indicate that certain types of tweets or certain behaviors, such as the volume of tweets, are more effective than others. In addition, a higher median of followers among winning candidates could highlight the importance that having a strong following on Twitter has for a campaign. The study also compared Democrats versus non-Democrats. Significant differences within this variable could show a party-wide social media strategy. It is important to note that the terminology for this variable is important to note because of Alaska Senate candidate Lisa Murkowski and Florida Senate candidate Charlie Crist, two viable independent candidates. Because both were former members of the Republican Party, they were de facto placed in the same group as other Republicans.

Incumbency was examined to see if there was any incumbency advantage regarding Twitter strategies. Given that incumbents are usually able to raise more money than less-established candidates, they are more likely to hire the best media consultants, who theoretically have the best social media strategies. Candidates' ages were also compared, in which the youngest candidate in a race were compared to the older candidate(s) in the race. Because younger people in general are more likely to adapt to new technology quicker, it might follow that younger candidates might use Twitter differently than their older opponents. Finally, the amount that candidates spend was compared to the amount their opponents spend. Like with incumbents, candidates that are able to raise more money are more likely to hire better media consultants with theoretically better social media strategies. Data on this subject was taken from OpenSecrets.org.

There are also five race characteristics that are studied: total race spending above the median of all 2010 races versus total races spending below the median, races with winning margins within ten percentages versus races with winning margins greater than ten points, races with an incumbent versus open-seat races, the percentage of a state's population with access to the Internet above the national average versus the percentage of a state's population with access to the Internet below the national average, and the median age of a state above the national median versus the median age of a state below the national median. Examining the total spending in a race is important for the same reason that examining spending on a candidate level. More expensive races are more likely to attract top talent to work the campaign. And it is this top talent that is more likely to have better social media strategies. The competitiveness of a race was also examined. This is because a candidate in a very close race might employ a different strategy than a candidate that is sure to either win or lose. These differences could become visible in the types of tweets candidates in each category post. The reason for examining races with an incumbent compared to open-seat is because although comparing incumbents versus non-incumbents provides insight into any possible incumbency advantages, it groups challengers and open-seat candidates together. However, giving open seat races their own variable, the study could examine whether any significant trends emerge.

How connected a state's population is to the Internet is another important metric to study. Theoretically, a state with higher rates of Internet connectivity among its residents should theoretically mean a similarly higher percentage of residents that are Twitter users. Therefore, Twitter should be a more effective campaign tool for candidates in states with higher rates of connectivity. If candidates know this, then it might affect their strategy in using Twitter. These statistics were taken from the US Census Bureau. Likewise, candidates in states with younger

populations are more likely to have more residents who are Twitter users. Therefore, candidates in younger states are likely to realize the potential for Twitter as an effective campaign tool, and perhaps give it a higher priority. Age statistics were taken from the US Census Bureau's American Community Survey.

Once all of the candidates and races have been broken down into the ten dependent variables, the final step in analyzing the data is to perform a test of two hypotheses for each type of tweet within each dependent variable, and a difference of means test to compare the total number of tweets for each independent variable. Because of the high population of total tweets that the study examined, differences between the different independent variables were only considered significant if the resulting p-value was less than 5 percent. However, it was also noted if the p-value was less than 1 percent and less than 0.1 percent.

By completing these tests, trends will appear either supporting or refuting my hypotheses. I expect several different results in carrying out this research. First, I expect winners to tweet more and have more followers. This would indicate they had mobilized more activists to not only vote for them, but also work on behalf of them to persuade others. I would expect non-incumbents to engage in tweets that would spread name recognition. Thus I hypothesize they would have more tweets that mobilized volunteered, requested donations, interacted with other users, and higher numbers of tweets. If there is an incumbent in the race, I would expect more tweets attacking the incumbent. As for incumbents, I hypothesize that the tweets would be generally more positive, highlighting rallies and GOTV efforts, as well as higher numbers of followers. Given the generational divide online, I expect younger candidates to generally tweet more than older candidates, since they are more likely to be tech-savvy. I also expect the more the candidate spends, the more he or she tweets. If the candidate is spending more money, then

he or she is more likely to have a dedicated staffer working on social media to make the candidate as visible as possible. In addition, because higher spending candidates are more likely to be in closer races, I expect a higher percentage of tweets attacking opponents.

In analyzing races as a whole, I expect several additional trends to emerge. As with individual spending, the more candidates spend on a given race, the more likely there will be higher number of tweets and more attacks tweets, for the same reasons outlined above. In competitive races, I hypothesize more tweets, in addition to more tweets that attack the opponent, get out the vote, draw comparisons between candidates, and highlight endorsements and free media. In each case, these types of tweets will attempt to either push absolute vote totals up, or persuade potential voters to vote for one of the candidates. In races for an open seat, I would expect more attacks, more issue position statements, and GOTV tweets. Finally, in states with higher levels of education and younger populations, I would expect heavier twitter use and more followers. Younger, more educated people are more likely to be online, thus making Twitter a better outlet to reach voters. Many of these hypotheses should reflect Herrnson, Stokes-Brown, and Hindman's 2007 findings regarding candidate websites. I believe the research will ultimately show that candidates use Twitter as an extension of their websites, or as a content aggregator. They do not use Twitter to interact more with constituents, thus signaling no major shift in how candidates campaign online.

Data and Results

In the 60 days prior to the 2010 midterm elections, 74 major Senate candidates posted 12,008 tweets, or more than 200 tweets per day.¹ In sum, a plurality of tweets, 2851 and 23.74% of the total, fell into the Campaigning category. The category that received the next highest

¹ A complete chart that details each candidate's Twitter use, broken down by types of tweets, total tweets, and total followers can be found in the Appendix.

amount of tweets was Free Media, which had 2239 total tweets, and 18.65% of the total population. Mobilization tweets had the third highest amount of tweets, with 1866 total tweets and 15.54% of the population. No other category claimed more than a 15% share of the total population of tweets. Excluding miscellaneous tweets, User Interaction tweets had the lowest number of tweets, with only 946 total tweets, accounting for just 7.88% of the population. Issue taking tweets had only 29 more tweets than User Interaction, with 975 and 8.12% of the population.

The overall numbers reveal several interesting trends. First, the fact that Campaigning had the highest number of tweets suggests that as a collective body, candidates use Twitter mostly to advertise upcoming campaign stops and document life on the campaign trail. In addition, they are a free and easy way to show followers how hard the candidate is working on the campaign trail. By tweeting that he is meeting with many different groups, the candidate can show that he is in touch with the constituency and willing to work hard on behalf of everybody he would represent as a Senator. This statistic is equally interesting when the low number of User Interaction tweets is also considered. Given that Senate candidates interacted very little with other users on Twitter while tweeting more about the campaign trail at a three to one rate, the data suggests that candidates value face-to-face interaction with a constituent more than direct communication with the same potential constituent. This is despite the fact that directly engaging with another user on Twitter could potentially give the impression that the user has a one-to-one conversation with the candidate, rather than just listening to the candidate speak at a rally or shake the candidate's hand on a rope line.

The high number of Free Media tweets is also revealing. Seeing a candidate's name in the media, whether as the subject of a news article, receiving an endorsement, or going on

television or the radio as a guest, serves to elevate name recognition, which is one of the most elemental goals a candidate faces. Because the media serve as gatekeepers and to a certain extent as intermediaries between elected officials and the citizens they represent, anything or anyone they view as important enough to cover is elevated in the public eye. Candidates know this and the link-friendly format that Twitter presents allow candidates to easily pass along free media to followers. Furthermore, it is more effective at reaching voters than an “In the News” page would be on a campaign website, due to the fact that a visitor has to actively search out free media on a campaign website while Twitter allows for the free media to passively be delivered to a user. It is also noteworthy that compared to Personal Media, Free Media was a much more popular type of tweet. While there is much less work in producing free media (since someone else produces it), there are still many ways to create personal media, such as photo albums, even with a small budget. The best explanation for this is that although producing television advertisements is expensive, web advertisements still have production costs. Furthermore, photo albums may be ineffective in attempting to attract more potential voters.

Election Outcome

Figure 1

	Total Tweets	Total Followers	Attack	Campaigning /Rallies	User Interaction	Free Media	Issues	Misc.	Mobilization/Volunteering	Personal Media
Winners	4981	1,988	572	1237	338	852	471	263	844	486
n=35 candidates	Avg: 142.31		11.48%	24.83%	6.79%	17.10%	9.46%	5.28%	16.94%	9.76%
Losers	7027	1,572	980	1614	608	1387	504	266	1022	674
n=37 candidates	Avg: 189.92		13.95%	22.97%	8.65%	19.74%	7.17%	3.79%	14.54%	9.59%
Significance Scores ²	17.16***		3.96***	2.37*	3.74***	3.65***	4.51***	3.93***	3.58***	0.30
*p<.05 **p<.01 ***p<.001										

² All Significance Scores across all tables are absolute values

In comparing winning candidates and losing candidates several statistics jump out. Most notably, the two most significant statistics are Issues and Attack tweets. Winning candidates posted 471 Issue taking tweets, or 9.46% out of the total while losing candidates sent 504 total tweets. While losing candidates made more total tweets in this category, they accounted for a lesser percentage of their total at just 7.17%. The disparity between winners and losers resulted with a Z-Score of 4.51, the highest one within this grouping. Meanwhile, the second highest Z-Score resulted from Attack tweets. Winning candidates posted 572 Attack tweets, accounting for 11.48% of their total, while losing candidates posted 980 Attack tweets, accounting for 13.95% of their total. The resulting Z-Score was 3.96.

These numbers and their high significances are not surprising. If a candidate is leading in the polls and is clearly en route to winning the election, general election strategy dictates that he should not attack or engage his opponent. Doing so only increases name recognition for his opponent, who might respond in a way that makes the leading candidate look bad. Simply put, attacking an opponent who is down in the polls has very little benefits compared to the risks it brings. Thus, it makes sense that this electoral principle translates onto Twitter. Similarly, candidates losing in the polls often employ strategies designed to bait their opponents. By constantly attacking them, a losing candidate hopes the leading candidate will respond and get dragged into a war of words. Given that the losing candidate is already trailing, he has less to lose if this strategy does not work or backfires, but has much to gain if it works. Furthermore, research has shown that attacking an opponent does not persuade voters to switch their allegiances, but rather suppresses voter turnout. In a close race, a trailing candidate may attack

to suppress their opponent's base voters counteracting their opponent's get out the vote efforts. It is not surprising that this principle also translated to Twitter.

Another unsurprising statistic that resulted from this grouping was the difference in Mobilization tweets. Winners posted 844 Mobilization tweets, accounting for 16.94% of their total, while losers posted 1022 Mobilization tweets, accounting for 14.54% of their tweets. The resulting Z-Score was 3.58. Given that these types of tweets consisted of GOTV efforts, calls for volunteer hours and contribution solicitations, it is not surprising that winning candidates posted these more often. These calls to action are often viewed as the grinding, "dirty" work of a campaign, and oftentimes the candidates that executes this part of the campaign better wins the election. Although it would be foolhardy to attribute this difference as the key reason why losing candidates ultimately lost, the correlation still exists with significance. Simply put, the candidates that made more appeals for contributions, volunteers, and more urgings to get to the polls on Election Day and during early voting periods won more often than not.

It should also be noted that winning candidates had a higher median number of followers. Winning candidates had a median of 1988 followers compared to just a median of just 1572 followers. Thus, one can conclude that winning candidates were reaching more users, and thus better able to build grassroots support through Twitter. And assuming that a primary reason that candidates often win elections is because they have a better message than their opponents, winning candidates were able to spread their winning message to more people.

While nearly every independent variable in this grouping is statistically significant, there were some results that were puzzling. One such result was that losing candidates were more likely to interact with other users. Winning candidates interacted with other Twitter users in 338 tweets, accounting for 6.79% of the total, while losing candidates interacted with other users in

608 tweets, accounting for 8.65% of the total. The Z-score for this variable was 3.74, the third most significant result in this group. Considering that interacting with other users is one strategy for grassroots support because of the one-on-one nature described above, one might expect that winners harnessed this tool better to grow and engage their bases. Conversely, losing candidates might have believed this to be true, when in reality it plays little difference. Another puzzling result was that losing candidates made significantly more tweets than winning candidates did. While perhaps the quality of the tweets might be more valuable than the quantity of tweets, the reverse does not seem to hold true. Finally, it should be noted that tweets falling into the Campaign and Personal Media categories held no statistically significant differences between winning and losing candidates.

Party Identification

Figure 2

	Total Tweets	Total Followers	Attack	Campaigning /Rallies	User Interaction	Free Media	Issues	Misc.	Mobilization/ Volunteering	Personal Media
Democrats	5188	1,598	893	1134	309	800	481	218	846	535
n=35 candidates	Avg: 148.23		17.21%	21.86%	5.96%	15.42%	9.27%	4.20%	16.31%	10.31%
Non-Democrats	6562	1988	630	1632	635	1370	477	302	990	608
n=37 candidates	Avg: 177.35		9.60%	24.87%	9.68%	20.88%	7.27%	4.60%	15.09%	9.27%
Significance Scores	10.12***		12.20***	3.82***	7.37***	7.57***	3.94***	1.05	1.81	1.90
*p<.05 **p<.01 ***p<.001										

Quite simply, Democrats were “out-tweeted” by Republicans and Independents.

Democrats tweeted 5188 times during the sixty days prior to Election Day, for an average of 148.23 tweets per candidate. In contrast, non-Democratic candidates tweeted 6562 times during the same time, for an average of 177.35 tweets per candidate. This produced a significance score

of 10.12, a highly significant result. Furthermore, Democratic candidates had a median of 1598 followers while their Republican and Independent counterparts had a median of 1988 followers. Thus, non-Democrats had a stronger following on Twitter while simultaneously reaching out to them more often.

In addition to total tweets and total followers, Democrats also interacted with other Twitter users significantly less than their opponents. They posted 309 tweets in which they interacted with another user, accounting for 5.96% of their total. On the other hand, non-Democratic candidates interacted with other users in 635 tweets, or 9.68% of their total. This creates a Z-Score of 7.37 indicating a highly significant relationship. Perhaps one reason to explain why Republicans performed so well during these elections was their willingness to reach out to voters to try to persuade them.

Republicans and Independents also made better use of Free Media on Twitter than their Democratic counterparts. Non-Democrats posted 1370 Free Media tweets, accounting for 20.88% of their total while Democrats posted 800 Free Media tweets, accounting for 15.42% of their total. This created a Z-Score of 7.57, a highly significant result. This presents yet another reason for Republican and Independent successes in November 2010. Assuming that a candidate would only share such earned media on a social network or candidate website if it placed the candidate in a positive light, then Republicans and Independents did a better job of highlighting such media, whether they were television or radio appearances, news articles, or endorsements.

Non-Democratic candidates also placed a higher premium on Campaign Tweets. Non-Democratic candidates posted 1632 Campaign tweets, accounting for 24.87% of their total, while Democratic candidates posted 1134 Campaign tweets, accounting for 21.86% of their total. The resulting Z-score was 3.82. This result gives further credence to the earlier suggestion that

candidates place a high value on campaigning. Republicans and Independents performed better than Democrats as a whole and given that Republicans at the very least tweeted about campaign stops more often, this result seems to suggest that voters like to know where their candidates are and who they are meeting with and speaking to.

This grouping also produced one of the highest statistical significances in that Democrats attacked their opponents via Twitter more than non-Democrats. There were 893 Attack tweets posted by Democratic candidates, accounting to 17.21% of their total. In comparison, there were just 630 Attack tweets posted by non-Democratic candidates, accounting for 9.60% of their total. The Z-score for this variable was 12.20. One on hand, this can be explained as a byproduct of the behavior of losing candidates described above. The 2010 midterm elections were brutal to Democrats. Given that many of them consistently trailing in the polls in the final weeks of the campaign, it would make sense that they would attack their opponents more for the same reasons detailed above.

On the other hand, this result, combined with the statistically significant result that occurred regarding Issue taking tweets, contradicts one of the main narratives of the election season. In the sixty days prior to November 2, 2010, Democrats posted 481 Issue taking tweets, accounting for 9.27% of their total, while non-Democrats posted 477 tweets, accounting for 7.27% of their total. This produced a Z-score of 3.94, and shows that Democrats were more likely than Republican and Independent candidates to take distinct stances on various issues. And taking the attack tweets into consideration, the results also show that Democrats were more likely to attack their opponents. However, one of the media narratives that conservatives especially tried to push during the campaign was that Democrats ran from their record during the previous two years, trying to avoid their voting history on the stimulus bill, health care reform,

Wall Street reform, and other pieces of legislation. Yet these results seem to suggest that Democrats did not, in fact, run from their record and went so far as to attack counter proposals their opponents offered during the campaign. Finally, it should be noted that Mobilization and Personal Media tweets did not generate a statistically significant difference between the two groups.

Incumbency

Figure 3

	Total Tweets	Total Followers	Attack	Campaigning /Rallies	User Interaction	Free Media	Issues	Misc.	Mobilization/ Volunteering	Personal Media
Incumbents	3495	2,288	541	680	165	598	447	234	478	352
n=21 candidates	Avg: 166.43		15.48%	19.46%	4.72%	17.11%	12.79%	6.70%	13.68%	10.07%
Non-Incumbents	8513	1,562	1011	2171	781	1641	528	295	1388	808
n=52 candidates	Avg: 163.71		11.88%	25.50%	9.17%	19.28%	6.20%	3.47%	16.30%	9.49%
Significance Scores	0.81		5.35***	7.07***	8.23***	2.77***	12.00***	7.83**	3.61***	0.98
*p<.05 **p<.01 ***p<.001										

Comparing how incumbents and non-incumbents tweeted during the study period also brings up several significant differences. Most notable is the contrast with Issue taking tweets. Incumbents tweeted about a campaign issue in 447 tweets, accounting for 12.79% of their total, while non-incumbents tweeted about an issue in 528 tweets, accounting for just 6.20% of their total. The resulting Z-score is 12.00, indicating a highly significant difference. This is not surprising, given that many incumbent candidates have to defend their voting record while in office. This is especially true, considering how many controversial pieces of legislation were passed during the 111th Congress. Furthermore, many Republicans ran on a platform of wanting to curtail spending and reduce the deficit, both of which were issues that did not directly come before the previous Congress, but were two key reasons for Republican resistance.

The second most significant statistic that this grouping produced involved User Interaction. Incumbents interacted with other Twitter users in 165 tweets, accounting for 4.72% of their total, while non-incumbents interacted with other users in 781 tweets, accounting for 9.17% of their total. This produced a Z-score of 8.23. This is also not a surprising result, and can best be seen as a strategy by non-incumbents to increase name recognition and build grassroots support. A smart candidate can identify Twitter users who are activists and will similarly reach out to others. By directly engaging such a user thus not only has the possibility to bring in one supporter but rather bring in many more. Similarly, the increased use of Free Media tweets by non-incumbents suggests that by posting links to earned media in the press and on television and radio, non-incumbents are attempting to show that they are viable, serious candidates. Non-incumbents posted 1641 Free Media tweets, accounting for 19.28% their total while incumbents posted 598 Free Media tweets, accounting for 17.11% of their total. The resulting Z-score was 2.77, barely above the significance threshold at the $\alpha=0.01$ level.

This assertion is further supported by the fact that when viewed through the lens of name recognition, incumbents also have more followers. Incumbents have a median of 2228 followers while non-incumbents have a median of 1562 followers. Incumbents generally have greater name recognition than their opponents and thus likely do not feel the need to reach out to other users as often. Voters already know who they are and there is less of a need to build grassroots support.

Another significant result was the difference in how incumbents and non-incumbents tweeted about Campaigning and Rallies. Incumbents posted 680 tweets that fell into this category, accounting for 19.46% of their total, while non-incumbents posted 2171 Campaign tweets, accounting for 25.50% of their total. While the high percentages among both groups

indicate that these types of tweets were important, the greater percentage of tweets made by non-incumbents suggests that this was done to further build name recognition. Furthermore, the lower percentage of these tweets made by incumbents may be due to the fact that they were not in competitive races. For example, Iowa Senator Chuck Grassley was not in a competitive race, and wrote many Tweets that simply gave score updates for University of Iowa, Iowa State University, and University of Northern Iowa college football games. In short, why give the impression that you are in a competitive election if you don't have to? Senator Grassley's college football tweets implicitly told followers that he was not worried about possibly losing his re-election bid.

Candidate Age

Figure 4:

	Total Tweets	Total Followers	Attack	Campaigning /Rallies	User Interaction	Free Media	Issues	Misc.	Mobilization/Volunteering	Personal Media
Youngest Candidate	5324	1,505	768	1288	240	1007	478	220	906	499
n=36 candidates	Avg: 147.89		14.43%	24.19%	4.51%	18.91%	8.98%	4.13%	17.02%	9.37%
Older Candidates	6684	1,749	784	1563	706	1232	497	309	960	661
n=37 candidates	Avg: 180.65		11.73%	23.38%	10.56%	18.43%	7.44%	4.62%	14.36%	9.89%
Significance Scores	11.74***		4.37***	1.03	12.23***	0.67	3.07***	1.30	3.99***	0.95
*p<.05 **p<.01 ***p<.001										

The results from this comparison of the younger candidate in a race to the older candidate(s) were among the most surprising in the entire study. This demographic was chosen from the presumption that younger candidates would be more tech-savvy and willing to use Twitter more than their older opponents. This study hoped to find that younger candidates used Twitter in ways no one else had thought of before. However, the data shows that this was simply

not the case. Younger candidates wrote 5324 total tweets, for an average of 147.89 tweets per candidate, while older candidates wrote 6684 total tweets for an average of 180.65 tweets per candidate. This produced a significance score of 11.74, a highly significant result. Furthermore, older candidates had a median of 1749 followers while younger candidates had a median of 1505 followers.

The latter of these two statistics can probably be explained in that older candidates are more likely to be in the public eye for a longer period of time. For example, former Wisconsin Senator Russ Feingold has been an elected official Wisconsin for decades while his opponent Ron Johnson was a political neophyte. Thus it makes sense that Feingold would have more followers than Johnson.

However, the disparity among total tweets between the two groups is harder to explain. Conventional wisdom suggests that fresh blood should result in fresh ideas. But given that Twitter is one of the newest ideas in political campaigning, it is the “old guard” that using the new technology more. Furthermore, older candidates interact directly with other Twitter users more than younger candidates. Younger candidates interacted with other users in 240 tweets, accounting for 4.51% of their total, while older candidates interacted with other users in 706 tweets, accounting for 10.56% of their total. The resulting Z-score was 12.23. These results suggest that older candidates view their Twitter account as an interactive tool while younger candidates viewed their account as a billboard or a mere extension of their campaign website with which they posted new content, rather than embracing the social side of the platform. These results completely contradict my hypothesis that younger candidates will use Twitter more than older opponents and interact with other users more.

The second most significant statistic from this grouping was the difference in number of attack tweets. Younger candidates posted 768 Attack tweets, or 14.43% of their total while older candidates posted 784 Attack tweets, or 11.73% of their total. The resulting Z-score was 4.37. This can be best explained by the fact that younger candidates are less likely to be part of the “Washington Establishment” and more likely to attack it. Younger candidates are more likely to be challengers or non-incumbents, carrying slogans such as “We need to bring change to Washington and fix a broken system.”

Finally, younger candidates were more likely to post Mobilization tweets. They posted 906 such tweets, accounting for 17.02% of their total, while older candidates posted 960 tweets, accounting for 14.36% of their total. This evidence suggests that younger candidates seem to have more energy in a campaign, and are more enthusiastic in soliciting contribution, asking readers to volunteer with the campaign, and urging them to vote. This result is more in line with what I expected. It is not surprising that younger candidates, who are more likely to be political neophytes, bring more energy to a campaign. It should also be noted that several variables produced no statistical significances in this group, including Campaign, Free Media, and Personal Media tweets.

Candidate Spending

Figure 5

	Total Tweets	Total Followers	Attack	Campaigning /Rallies	User Interaction	Free Media	Issues	Misc.	Mobilization /Volunteering	Personal Media
High Spenders	5138	2288	599	1323	250	966	519	303	810	450
n=36 candidates	Avg: 142.72		11.66%	25.75%	4.87%	18.80 %	10.10%	5.90%	15.76%	8.76%
Low Spenders	6870	1,421	953	1528	696	1273	456	226	1056	710
n=38 candidates	Avg: 180.79		13.87%	22.24%	10.13%	18.53 %	6.64%	3.29%	15.37%	10.33%
Significance Scores	13.87***		3.58***	4.47***	10.60***	0.38	6.88***	6.89***	0.59	2.89
*p<.05 **p<.01 ***p<.001										

The disparities between high spending candidates and low spending candidates can best summed up in that low spending candidates use Twitter as a means to counteract the increased resources that high spending candidates enjoy. For example, low spending candidates tweeted 6870 times, leading to an average of 180.79 tweets per candidate while high spending candidates tweeted 5138 times, averaging 142.72 tweets per candidate, creating a significance score of 13.87. This indicates that despite have less resources, low spending candidates turned to Twitter, a platform that is free to create an account and use, to spread their message. While they may not have had the money or resources to match their opponents with each new television advertisement, Twitter allows for candidates to spread their message for free.

This conclusion is further supported by User Interaction statistics in this grouping. High spenders interacted with other users in 250 tweets, accounting for 4.87% of their total while low spenders interacted with other users in 696 tweets, accounting for 10.13% of their total. The resulting Z-score was 10.60, the highest Z-score among this grouping. Low spending candidates likely interacted with other users for the same reason that they tweeted more than high spending

opponents: Twitter presents a free and easy way to interact with potential voters. But what is puzzling about this relationship is that low spending candidates also tweeted more about Personal Media as well. High spending candidates posted 450 Personal Media tweets, accounting for 8.76% of their total, while low spending candidates posted 710 such tweets, accounting for 10.33% of their total. The resulting Z-score was 2.89, which is just above the significance threshold. If lower spending candidates used Twitter as an alternative to traditional media platforms to spread their message, then logic should dictate that their lower resources mean that they should have less paid media content. However, one possible explanation is that they tweeted links for their paid media multiple times to ensure maximum viewership. Furthermore, it is possible that while low spending candidates have less paid media content than high spending candidates, they can make up for this difference by posting links to photo albums or press releases.

One of the next highest significant results this grouping produced was with Issue taking tweets. Higher spending candidates made 519 Issue taking tweets, or 10.10% of the total while low spending candidates made 456 Issue taking tweets, or 6.64% of the total. This produced a Z-score of 6.88. Although there is a significant relationship, there is no obvious reason that says why it exists. Every candidate, regardless of how much money they have, will have issue positions. One possible explanation is that candidates that spend more money in an election are more likely to have developed platforms and legislation that they would introduce if elected. On the other hand, candidates that spend less money are less likely to be viable candidates and thus are more likely to attack opponents than put forth their own positions. This theory is supported by the data. High spending candidates made 599 Attack tweets, accounting for 11.66% of their total while low spending candidates made 953 Attack tweets, accounting for 13.87% of their

total. The resulting Z-score was 3.58, a significant result. Thus low spending candidates attacked their opponents via Twitter more than high spending candidates.

Finally, high spending candidates made more Campaign tweets than low spenders. High spending candidates made 1323 such tweets, accounting for 25.75% of their total, while low spending candidates made 1528 Campaign tweets, accounting for 22.24% of their total. The resulting Z-score was 4.47. This is an unsurprising result. Candidates with more resources are more likely to have the means to travel across their state, and given that candidates as a whole make these types of tweets the most, it makes sense those candidates that travel across their states holding more campaign events and rallies will post more of these types of tweets. Finally, Free Media and Mobilization tweets showed no significant differences between the two groups.

Race Spending

Figure 6

Candidate	Total Tweets	Total Followers	Attack	Campaigning /Rallies	User Interaction	Free Media	Issues	Misc.	Mobilization/ Volunteering	Personal Media
High Spenders	8620	3,135	1265	1955	759	1524	675	369	1374	809
n=39 candidates	Avg: 221.03		14.68%	22.68%	8.81%	17.68%	7.83%	4.28%	15.94%	9.39%
Low Spenders	3363	838	287	888	187	711	294	155	490	351
n=35 candidates	Avg: 101.91		8.53%	26.40%	5.56%	21.14%	8.74%	4.61%	14.57%	10.44%
Significance Scores	49.57***		9.00***	4.31***	5.92***	4.37***	1.64	0.79	1.86	1.75

Analyzing total spending by race was the first of five metrics that analyzed races as a whole, rather than by candidates. If the total sum that all candidates spent was above the national median, then all candidates were classified as high spenders, regardless of how much he or she individually spent. This variable produced several significant results. Perhaps the one result that stands out the most is the disparity in total tweets and total followers. Candidates in high spending races posted a total of 8620 tweets, averaging 221.03 tweets per candidate, while

candidates in low spending races posted a total of 3363 tweets, averaging 101.91 tweets per candidate. The resulting significance score was a very significant 49.57. Furthermore, candidates in high spending races had a median of 3135 followers, while candidates in low spending races had a median of 838 followers. The best possible explanation for this is that in a race that has high levels of spending, candidates are able to ensure that no stone is unturned. Simply put, they can afford to hire media consultants who are more likely to plan and implement comprehensive social media strategy. Furthermore, the more resources a campaign has, the more workers that they are able to hire leaving fewer tasks that the candidate is directly in charge of. In contrast, candidates in a race that spends less money are more likely to have more day to day job functions that they must complete or oversee.

Candidates in high spending races were also more likely to post Attack tweets than candidates in low spending races. Candidates in high spending races posted 1265 such tweets, or 14.68% of their total while candidates in low spending races posted 287 Attack tweets, accounting for 8.53% of their total. This produced a Z-score of 9.00, the most significant result in this grouping. This is not a surprising result. Candidates in high spending races are more likely to be in competitive races. Since the goal of attacking one's opponent is to dissuade the opponent's base voters from going to the polls, attacks in a close race, even if made over Twitter, are essential to victory.

This reasoning also explains why candidates in high spending elections were more likely to interact with users. As Table 6 shows, candidates in high spending races interacted with other users in 759 tweets, accounting for 8.81% of their total. The Z-score for this disparity was 5.92. Like with Attack tweets, candidates in close races are more likely to use whatever means necessary to achieve any advantage no matter how small it is. As discussed earlier, the benefits

to interacting directly with another user is that it makes the user the candidate is tweeting with feel like they are speaking with the candidate personally. Races with less spending are less likely to be competitive. Thus, with the outcome of the election all but certain, there is little incentive to interact with other users, especially if there are not many users on Twitter to express their support.

There were two results from this grouping that resulted in statistical significance in which candidates in low spending races tweeted more than candidates in high spending races. Candidates in low spending races made 888 Campaign tweets, accounting for 26.40% of their total, while candidates in high spending races made 1955 Campaign tweets, accounting for 22.68% of their total. The resulting Z-score was 4.31. In addition, candidates in low spending races made 711 Free Media tweets, accounting for 21.14% of their total, while candidates in high spending races made 1524 Free Media tweets, accounting for 17.68% of their total. The resulting Z-score was 4.37.

In the case of Campaign tweets, this can best be understood by process of elimination. If candidates in high spending races are more likely to attack opponents and interact with other users because they are seeking to gain slight advantages in races that are more likely to be competitive, then that leaves fewer tweets (from a relative viewpoint) that are allocated to other categories. After all, candidates in high spending races more than doubled the total number of Campaign tweets that candidates in low spending races posted. In the case of free media, the same theory may apply. But another possibility is that candidates in low spending races are more likely to highlight free media because, in short, it is free. If the campaign has few resources, it must do what it can to broadcast its message and increase name recognition. While it may not be able to produce many advertisements, it can still benefit from earned media.

Race Competitiveness

Figure 7

	Total Tweets	Total Followers	Attack	Campaigning/ Rallies	User Interaction	Free Media	Issues	Misc.	Mobilization/ Volunteering	Personal Media
Competitive	4401	4,405	746	730	519	940	276	132	750	418
n=17 candidates	Avg: 258.88		16.95%	16.59%	11.79%	21.36%	6.27%	3.00%	17.04%	9.50%
Uncompetitive	7607	1,390	806	2121	427	1299	699	397	1116	742
n=57 candidates	Avg: 135.84		10.60%	27.88%	5.61%	17.08%	9.19%	5.22%	14.67%	9.75%
Significance Scores	40.16*		10.00*	14.02*	12.11*	5.81*	5.64*	5.71*	3.46*	0.46
*p<.001										

More so than any other variable tested, the differences between candidates in competitive races versus candidates in uncompetitive races were the most significant nearly across the board. Furthermore, many of the trends that appear here further support theories suggested above. Most notably, candidates in competitive elections sent 4401 tweets, averaging 258.88 tweets per candidate. In comparison, candidates in uncompetitive elections sent 7607 tweets, averaging just 135.84 candidates. This created a significance score of 40.16, a very significant result. Furthermore, candidates in competitive elections had a median of 4405 followers compared to a median of 1390 followers for candidates in uncompetitive elections.

These results suggest two findings. First, the high number of tweets sent by competitive candidates suggests in a close election candidates realized how important Twitter was as a campaign tool. They likely realized that in order to win, they had to use every tool at their disposal and thus sent more tweets ensuring that they were exposed to the campaign more often. Second, the higher number of followers that candidates in close races had is most likely a result of high visibility. Close Senate races will not only garner heavy local or state-wide media, but also attract high national media coverage, especially in a midterm election when there is no

Presidential election. If a candidate is constantly in the news because he or she is in a close race, the candidate is more likely to attract more followers on Twitter.

In addition to total tweets and followers, there were several very significant statistics that emerged. First, while candidates in competitive elections posted 730 Campaign tweets, or 16.59% of their total, candidates in uncompetitive elections posted 2121 Campaign tweets, or 27.88% of their total. The resulting Z-score was 14.02, the highest Z-score in the study. The likely reason for this is the same reason described above in the Race Spending section. If a candidate is sure to win an uncompetitive election, then he or she is going to post more Campaign tweets to show that although he or she is sure to win, he or she is still engaging voters and meeting with various groups. By doing so, the candidate shows that he or she is still in touch with voters. Furthermore, such a candidate is also avoiding attacking and engaging his or her opponent. This is further supported by the fact that uncompetitive candidates took more issue positions on Twitter than competitive candidates. Candidates in competitive elections posted 276 Issue Taking tweets, accounting for 6.27% of their total while candidates in uncompetitive elections posted 699 Issue Taking tweets, accounting for 9.19% of their total. The resulting Z-score was 5.64. In comparison a candidate in a competitive election is likely to use a Twitter account for other purposes, such as highlighting free media and attacking their opponent, both of which had more tweets among candidates in competitive elections than Campaign tweets.

Second, candidates in competitive elections were more likely to interact with users than candidates in uncompetitive elections. Candidates in competitive elections interacted with other Twitter users in 519 tweets, accounting for 11.79% of their total, while candidates in uncompetitive elections interacted with other users in 427 tweets, accounting for 5.61% of their total. The resulting Z-score was 12.11. The reason for this disparity is likely the same reason for

the disparity in comparing candidates in high and low spending races. In competitive races, candidates are looking for any edge, and the possibility of expanding their base and attracting new supporters by directly engaging with them on Twitter is one such edge.

Third, candidates in competitive elections were more likely to attack their opponent(s) than candidates in uncompetitive elections. Candidates in competitive elections attacked their opponent(s) in 746 tweets, accounting for 16.95% of their total, while candidates in uncompetitive elections attacked their opponents in 806 tweets, accounting for 10.60% of their total. This produced a Z-score of 10.00. Again, as previously discussed, the best possible explanation for this disparity is that in close elections, attacks from one candidate levied against another is much more likely, especially from both candidates. Attacks can keep an opponent's base voters from going to the polls, and while inherently undemocratic, such a maneuver can mean the difference between winning and losing.

Fourth, candidates in competitive elections were also more likely to highlight free media than candidates in uncompetitive elections. Candidates in competitive elections posted 940 Free Media tweets, accounting for 21.36% of their total, while candidates in uncompetitive elections posted 1299 Free Media tweets, accounting for 17.08% of their total. This produced a significant Z-score of 5.81. The simplest explanation for this disparity is that since competitive elections attract more media attention, there was more earned media available to candidates in competitive elections. Thus, they were able to highlight such free media on their Twitter accounts in higher frequencies.

Fifth and finally, candidates in competitive elections were more likely than candidates in uncompetitive elections to post Mobilization tweets. Competitive candidates posted 750 such tweets, accounting for 17.04% of their total, while candidates in uncompetitive elections posted

1116 Mobilization tweets, accounting for 14.67% of their total. The resulting Z-score was 3.46, making the difference significant. This is not a surprising result. Given that the types of tweets that were coded as “Mobilization” were any that called readers to action, it makes sense that candidates in competitive elections would post a higher percentage of these tweets. To candidates, an extra solicitation or GOTV tweet may make the difference in a close election would take just a few minutes to send. Thus it could bring high benefits at almost zero costs.

Incumbent and Open-Seat Races

Figure 8

	Total Tweets	Total Followers	Attack	Campaigning/ Rallies	User Interaction	Free Media	Issues	Misc.	Mobilization/ Volunteering	Personal Media
Incumbent Races	7824	1,421	999	1614	663	1497	753	395	1161	742
n=45 candidates	Avg: 177.82		12.77%	20.63%	8.47%	19.13%	9.62%	5.05%	14.84%	9.48%
Open-seat Races	4184	2,127	553	1237	283	742	222	134	705	418
n=29 candidates	Avg: 144.28		13.22%	29.57%	6.76%	17.73%	5.31%	3.20%	16.85%	9.99%
Significance Scores	11.03**		0.70	10.97**	3.31**	1.88	8.25**	4.70**	2.9*	0.9
*p<.01 **p<.001										

This grouping examined races in which there was an incumbent running for re-election against a challenger and races in which candidates were running for an open seat. Grouping candidates this way produced several significant differences. The biggest difference between the two groups occurred in Campaign tweets. Candidates in races with an incumbent (hereafter “incumbent races”) posted 1614 Campaign tweets, accounting for 20.63% of their total, while candidates in open-seat races produced 1237 Campaign tweets, accounting for 29.57% of their total. The resulting Z-score was 10.97. This statistic analyzed on its own this might be explained by open-seat candidates’ general lack of name recognition. In a race with an

incumbent, at least the incumbent enjoys high name recognition. But in an open-seat race, it is likely that neither candidate has such an advantage, at least on a state-wide level.

However, if this were true, then incumbent candidates would likely have more followers. Yet candidates in incumbent races have a median of 1421 followers compared to a median of 2127 followers for open-seat candidates. These numbers suggest that open-seat candidates as a whole have a wider following on Twitter and perhaps more overall name recognition. A better explanation for the disparity in Campaign tweets is that open-seat candidates were more likely to be in competitive races and perceived as viable candidates. Therefore, they were more likely to meet with important local groups or hold big rallies, both of which they would surely want to tweet about to further build their state-wide profile. In contrast, nonviable candidates running against strong incumbents are less likely to hold such events.

The second most significant result from this grouping was in Issue Taking tweets. Candidates in incumbent races posted 753 Issue taking tweets, comprising of 9.62% of their total, while candidates in open-seat races posted 222 Issue taking tweets, accounting for 5.31% of their total. This produced a Z-score of 8.25. This result was unsurprising. In incumbent races, incumbents often have to defend their record against their challengers. It is not surprising that incumbents and challengers took a number of stands regarding health care, financial regulation, the stimulus via Twitter. In contrast, many times, open-seat candidates do not have to defend such a record.

Finally, open-seat candidates were slightly, yet still significantly, more likely to post Mobilization tweets. Open-seat candidates posted 705 such tweets, comprising of 16.85% of their total, while incumbents posted 1161 Mobilization tweets, accounting for 14.84% of their total. The resulting Z-score was 2.9. This result likely occurred because open-seat races tended

to be more competitive, meaning candidates were more likely to post GOTV tweets and tweets asking for volunteers. Furthermore, open-seat candidates are less likely to have established donor networks that incumbents often enjoy, and thus were looking to solicit contributions from a wider variety of sources. Comparisons of Attack, Free Media, and Personal Media tweets brought insignificant results.

Internet Use

Figure 9

	Total Tweets	Total Followers	Attack	Campaigning/ Rallies	User Interaction	Free Media	Issues	Misc.	Mobilization/ Volunteering	Personal Media
High Internet Use	7369	1,536	879	1755	680	1456	483	324	1062	730
n=44 candidates	Avg: 167.48		11.93%	23.82%	9.23%	19.76%	6.55%	4.40%	14.41%	9.91%
Low Internet Use	4639	1,805	673	1096	266	783	492	205	804	430
n=30 candidates	Avg: 159.97		14.51%	23.63%	5.73%	16.88%	10.61%	4.42%	17.33%	9.27%
Significance Scores	4.36*		4.10*	0.24	6.92*	3.95*	7.91*	0.06	4.30*	1.15
*p<.001										

By comparing candidates based on how connected the residents of their respective states are to the Internet, I expected to find significant differences in total usage, total followers, user interaction, and free and personal media tweets. Indeed, candidates in states with high Internet use (hereafter “high Internet use states”) had 7369 total tweets, for an average of 167.48 tweets per candidates while candidates in states with low Internet use (hereafter “low Internet use states”) posted 4639 tweets, for an average of 159.97 tweets per candidate. This produced a significance score of 4.36, a number that due to the high number of total tweets, is likely more statistically significant than it is substantially significant. Although the difference is small

between the two groups are small, high Internet use candidates still maintains an edge in total tweets, which is an expected result. However, examining total followers produced an unexpected result. High Internet use candidates had a median of 1536 followers while low Internet use candidates had a median of 1805 followers. Common sense would dictate that candidates that live in states with high Internet use should have more followers because, quite simply, they should have more constituents online. However, again the difference between the two groups is small, especially considering that the median of total followers for all candidates is 1660. Thus neither group is heavily skewed above or below the overall median.

Candidates in high Internet use states still took advantage of Twitter's social aspect more often than candidates in low Internet use states. High Internet use candidates interacted with other users in 680 tweets, accounting for 9.23% of their total, while low Internet use candidates interacted with other users in 266 tweets, accounting for 5.73% of their total. This produced a Z-score of 6.92. This result was much more in line with what I expected. It is not surprising that candidates in states with high Internet use would be more likely to interact with other users. This indicates that not only is the population of such a state more attuned to developments on the web, but that their elected (or prospective elected) leaders are as well.

Similar results were found in regards to Free Media tweets. Candidates in high Internet use states posted 1456 such tweets, accounting for 19.76% of their total, while candidates in low Internet use states posted 783 Free Media tweets, accounting for 16.88% of their total. The resulting Z-score was 3.95. Assuming that more people in a state that regularly connect to the Internet translates into more people who get their news from the Internet, it makes sense that candidates would post earned media on their Twitter accounts. This ensures that not only will a story about a candidate in a local newspaper be seen by print readers, but also online readers as

well. Similarly, an appearance on a television show will be seen not only by people who happen to be tuned into the right channel at the right time, but also by those who follow the candidate on Twitter and now can access the video online.

Finally, Personal Media tweets produced a statistically insignificant result. Candidates in high Internet use states posted 730 such tweets, accounting for 9.91% of their total, while candidates in low Internet use states posted 430 Personal Media tweets, accounting for 9.27% of their total. This produced a Z-score of just 1.15. The reason for this is that a disparity is likely to result not from a higher percentage of constituents online, but rather from other factors such as fundraising totals and the competitiveness of the race. It is likely standard practice for any candidate to post any new personal media to their Twitter accounts, just as they would to their campaign website.

Older States and Younger States

	Total Tweets	Total Followers	Attack	Campaigning/ Rallies	User Interaction	Free Media	Issues	Misc.	Mobilization/ Volunteering	Personal Media
Young States	4579	1,425	628	788	570	918	332	197	704	442
n=27 candidates	169.59		13.71%	17.21%	12.45%	20.05%	7.25%	4.30%	15.37%	9.65%
Old States	7429	1,805	924	2063	376	1321	643	332	1162	718
n=47 candidates	158.06		12.44%	27.77%	5.06%	17.78%	8.66%	4.47%	15.64%	9.66%
Significance Scores	3.76***		2.03*	13.21***	14.59***	3.10**	2.74**	0.43	0.39	0.02
*p<.05										
**p<.01										
***p<.001										

The reasons for examining the median ages of the entire population of candidates' given states is for much of the same reasons the study examined how connected these states are to the Internet. Presuming that younger states (which in this case means they have a higher percentage of younger people) are more likely and willing to adapt and use new technologies such as Twitter, the study examines if the leaders in these states also adopt them as well. Indeed, this

metric had many similar findings when compared with the findings in Internet use. First, candidates in young states had a higher average number of tweets per candidate. Such candidates sent 4579 total tweets, for an average of 169.59 tweets per candidate, while candidates in older states sent a total of 7429 total tweets, for an average of 158.06. This resulted in a significance score of 3.76. Again, although the result was statistically significant, the high population of tweets suggests that the result is less substantially significant. While the difference is small, it still indicates that candidates were willing to do whatever it takes to reach younger demographics. Furthermore, candidates in older states had a higher median of followers than candidates in younger states by an 1805 to 1425 margin. However, it should be noted that among the candidates in these older states are several that are popular nationwide. For example, South Carolina Senator Jim DeMint has broad nationwide appeal among conservatives, which is reflected among his high number of followers. Similarly, Christine O'Donnell of Delaware and Marco Rubio of Florida were considered to be "stars" of the nascent Tea Party. Finally it should be noted that once again, neither number differentiates highly from the overall median, making this difference noteworthy, but not as significant as other results.

Like with candidates in high Internet use states, candidates in younger states interacted with other Twitter users much more often. These candidates interacted with other users in 570 tweets, accounting for 12.45% of their total, while candidates in older states interacted with other users in 376 tweets, accounting for 5.06% of their total. This produced a Z-score of 14.59. This serves to offer more evidence that these candidates were indeed reaching out to their younger constituencies and using Twitter as an interactive social tool rather than just as an extension of their campaign website. Similarly, candidates in younger states were more likely to post free media on their Twitter account. Such candidates made 918 Free Media tweets, accounting for

20.05% of their total while candidates in older states made 1321 such tweets, comprising of 17.78% of their total. The resulting Z-score was 3.1. This disparity likely occurs for the same reason that it occurs in regards to a state's Internet use. Simply put, highlighting earned media via Twitter is one important way for candidates to reach out to a population that gets more of its news online.

The other statistical disparity that stands out is the difference between the two groups Campaign tweets. Candidates in older states sent 2063 Campaign tweets, comprising of 27.77% of their total while candidates in younger states sent 628 Campaign tweets, accounting for 13.71% of their total. The resulting Z-score was 13.21. This likely reflects the general perception that candidates, especially in older states, prefer meeting voters face to face and prefer meeting with various groups in person rather than simply interacting with them online. Furthermore, because older populations are less likely to be online, the voters are also more likely to prefer this as well. Therefore a tweet telling followers where the candidate is planning to be and who he or she is going to meet with is preferable to other types of tweets.

Conclusion

Although there was a wealth of studies and scholarship on the intersection of politics, campaigning and the Internet, there was no in depth study that attempted to explain how political candidates used Twitter, one of the newest developments in social media platforms. This research attempted to bridge that gap by attempting to explain how an entire collective of Senate candidates used Twitter as a campaign tool in the final two months of their respective campaigns.

In the final sixty days of the 2010 midterm elections, 74 major party candidates sent over 12,000 tweets through their Twitter accounts. Tweets related to candidates' day to day campaign activities and events consisted of the highest percentage of any other type of tweet, consisting of

nearly 24% of total tweets. This indicates that candidates' daily campaign activities have changed little since Fenno shadowed candidates in the 1990s and observed that they spent most of their time meeting with groups and holding rallies.

One of the biggest limitations to Twitter is that it is probably ineffective in persuading undecided voters. Because individuals must choose to follow a candidate, a candidate's followers are most likely to be his or her base voters, rather than an undecided voter trying to make up his or her mind. Druckman, Kifer, and Parkin found that the most frequent visitors to a candidate's website were their most ardent supporters. While the bounds of this study make it impossible to see if Druckman, Kifer, and Parkin's results translate to Twitter, the lack of issue tweets compared to mobilization tweets suggest that this is the case. Issue Taking tweets made up the 2nd lowest percentage of tweets overall, showing that candidates spent little time explaining their stances on various issues on Twitter. In contrast, Mobilization tweets, which are directly aimed at a candidate's most ardent supporters, comprised the third highest percentage of all of the given categories. Given that the candidates' issue positions help many voters decide who to vote for, the lack of tweets about issues suggest candidates spent little time trying to woo undecided voters.

Although never directly stated, many scholars who have examined online governing and campaigning have seemed to yearn for more candidates to embrace the "salmon and crackers" philosophy Fenno documented in the 1970s. The philosophy is essentially that voters can be won by direct, one-on-one communication. While the Internet has provided numerous examples to engage constituents more directly, politicians have been reluctant to do so. However, the social aspect of Twitter provided new hope for candidates to interact with other users. While many candidates indeed embraced this social aspect by interacting directly with other users on

Twitter, such tweets comprised of the lowest percentage compared to any other type of tweet, outside of miscellaneous tweets. So while Gulati and Williams would be pleased to see candidates' increased use of social media platforms, they would still be dismayed by the lack of over interactivity between candidates and constituents.

In analyzing candidates based on the different dependent variables, the findings largely reflect Herrnson, Stokes-Brown, and Hindman's findings regarding campaign website use by candidates from 1998-2000. They found that among candidates that used the Internet to campaign were more likely to be engaged in competitive races and had younger and more connected constituencies. In addition, candidates were more likely to be challengers or candidates for an open-seat. In 2010, US Senate candidates sent more tweets if they were in competitive elections and ran in younger states with higher Internet use rates. Incumbent candidates sent more tweets than non-incumbents, but only by an average of 3 per candidate. Furthermore, Gulati and Williams found that candidates who raised more money were more likely to campaign online. However, candidates who raised more money were less likely to tweet during the campaign. This is mostly likely due to the fact that Twitter is a free platform to use, making it extraordinarily useful to resource-strapped candidates who cannot afford to run traditional paid media campaigns.

Although this study intended to encapsulate how candidates used Twitter as a campaign tool, it should still be regarded as a starting point for future studies. One of the biggest limitations to the study was that due to time constraints in finishing the study, only tweets within sixty days of elections were examined. However, modern American campaigns last much longer than sixty days, and thus a longer study period from when a candidate enters a race through Election Day, for example, may result in more comprehensive data. Furthermore, a longitudinal

study across multiple elections could show how candidates adapt to changing technologies and adopt best practices over time. Finally, while the study examined Senate candidates because it provided a workable population, an ambitious scholar could examine House races or perhaps state legislature races on a hyper local level.

This study intended to fill a gap of scholarly knowledge and tell us how candidates integrate the latest technologies in mass communication into their campaigns, namely Twitter. The results tell us that candidates prefer to tell their followers who they are meeting with and who they are rallying on the campaign trail, as well as highlighting earned media they can link to online. While many relationships and results were as expected, several others were contradictory to my hypotheses. But perhaps the best explanation for any behavior is that campaigning is still a candidate-centered activity and each candidate is going to make different strategic decisions based on the circumstances in front of them, even if the decision is less than 140 characters.

Appendix A: Tables and Charts

Figure 1: Complete Data

State	Candidate	Total Tweets	Total Followers	Attack	Campaigning /Rallies	User Interaction	Free Media	Issues	Misc.	Mobilization/ Volunteering	Personal Media
PA	Joe Sestak	256	5,800	73	50	4	42	29	13	53	20
				28.52%	19.53%	1.56%	16.41%	8.20%	0.39%	20.70%	7.81%
PA	Pat Toomey	135	5,954	69	21	4	65	7	1	34	16
				51.11%	15.56%	2.96%	48.15%	2.22%	0.74%	99.26%	11.85%
IL	Alexi Giannoulis	8	1,983	1	0	0	1	3	0	3	0
				12.50%	0.00%	0.00%	12.50%	37.50%	0	37.50%	0
IL	Mark Kirk	313	4,405	51	34	95	65	23	1	24	20
				16.29%	10.86%	30.35%	20.77%	7.35%	0.32%	7.67%	6.39%
CO	Michael Bennet	115	2,288	5	14	0	5	1	3	73	14
				4.35%	12.17%	0.00%	4.35%	0.87%	2.61%	63.48%	12.17%
CO	Ken Buck	410	1,633	39	12	196	71	8	3	41	40
				9.51%	2.93%	47.80%	17.32%	1.95%	0.73%	10.00%	9.76%
WA	Patty Murray	207	928	1	79	3	26	32	14	40	12
				0.48%	38.16%	1.45%	12.56%	15.46%	6.76%	19.32%	5.80%
WA	Dino Rossi	82	2,544	0	49	1	5	5	4	13	5
				0.00%	59.76%	1.22%	6.10%	6.10%	4.88%	15.85%	6.10%
WI	Russ Feingold	242	12,668	36	56	11	64	5	5	37	28
				14.88%	23.14%	4.55%	9/34	2.07%	2.07%	15.29%	11.57%
WI	Ron Johnson	298	1,988	37	87	15	40	18	10	73	18
				12.42%	29.19%	5.03%	13.42%	6.04%	3.36%	24.50%	6.04%
AL	Richard Shelby		2,297	0	0	0	0	0	0	0	0
AL	William Barnes	42	1,342	8	2	0	7	9	5	7	4
				19.05%	4.76%	0.00%	16.67%	16.67%	11.90%	16.67%	9.52%
AK	Lisa Murkowski	336	718	21	81	37	95	18	15	45	24
				6.25%	24.11%	11.01%	28.27%	5.36%	4.46%	13.39%	7.14%
AK	Joe Miller	143	5,731	18	17	5	42	8	21	23	9
				12.59%	11.89%	3.50%	29.37%	5.59%	14.69%	16.08%	6.29%
AK	Scott McAdams	258	1,403	29	85	2	69	17	9	30	17
				11.24%	32.95%	0.78%	26.74%	6.59%	3.49%	11.63%	6.59%
AR	John Boozeman	131	1,132	4	41	1	13	29	2	31	10
				3.05%	31.30%	0.76%	9.92%	22.14%	1.53%	23.66%	7.63%
AR	Blanche Lincoln	479	1,686	178	32	0	74	115	37	14	29
				37.16%	6.68%	0.00%	15.45%	24.01%	7.52%	2.92%	6.05%
AZ	John McCain	165	1,714,963	0	60	8	26	23	34	2	12
				0.00%	36.36%	4.85%	15.76%	13.94%	20.61%	1.21%	7.27%
AZ	Rodney Glassman	116	1,147	13	23	27	6	8	9	22	8
				11.21%	19.83%	23.28%	5.17%	6.90%	7.76%	18.97%	6.90%
CA	Barbara Boxer	90	23,808	13	13	0	22	6	3	21	12
				14.44%	14.44%	0.00%	24.44%	6.67%	3.33%	23.33%	13.33%
CA	Carly Fiorina	519	309,999	47	75	57	142	33	17	102	46

				9.06%	14.45%	10.98%	27.36%	6.36%	3.28%	19.65%	8.86%
CT	Richard Blumenthal	109	1,942	35	28	2	19	4	0	13	8
				32.11%	25.69%	1.83%	17.43%	3.67%	0.00%	11.93%	7.34%
CT	Linda McMahon	366	12,350	34	181	2	44	12	8	32	53
				9.29%	49.45%	0.55%	12.02%	3.28%	2.19%	8.74%	14.48%
DE	Chris Coons	219	2,271	14	61	37	27	15	3	41	21
				6.39%	27.85%	16.89%	12.33%	6.85%	1.37%	18.72%	9.59%
DE	Christine O'Donnell	391	11,985	81	29	21	127	31	14	53	35
				20.66%	7.40%	5.36%	32.40%	7.91%	3.57%	13.52%	8.93%
FL	Marco Rubio	2	17,545	0	0	0	0	0	0	0	2
				0	0	0	0	0	0	0	100%
FL	Charlie Crist	90	7,443	0	50	3	15	3	13	4	2
				0.00%	55.56%	3.33%	16.67%	3.33%	14.44%	4.44%	2.22%
FL	Kendrick Meeks	218	6,034	3	99	16	47	11	7	18	17
				1.38%	45.41%	7.34%	21.56%	5.05%	3.21%	8.26%	7.80%
GA	Johnny Isakson	95	963	0	30	0	17	5	4	19	20
				0.00%	31.58%	0.00%	17.89%	5.26%	4.21%	20.00%	21.05%
GA	Mike Thurmond	13	11	0	0	0	3	2	3	5	0
				0	0	0	23.08%	15.38%	23.08%	45.45%	0
HI	Daniel Inouye	123	401	1	56	3	12	3	10	16	22
				0.81%	45.53%	2.44%	9.76%	2.44%	8.13%	13.01%	17.89%
HI	Cam Cavasso	132	220	1	62	8	8	17	7	19	10
				0.76%	46.97%	6.06%	6.06%	12.88%	5.30%	14.39%	7.58%
ID	Tom Sullivan	91	54	2	33	1	16	11	9	7	12
				2.20%	36.26%	1.10%	17.58%	12.09%	9.89%	7.69%	13.19%
ID	Matt Crapo	19	0	0	1	0	12	1	0	0	5
				0.00%	5.26%	0.00%	63.16%	5.26%	0.00%	0.00%	26.32%
IN	Dan Coats	107	1,058	10	33	9	28	5	1	8	13
				9.35%	30.84%	8.41%	26.17%	4.67%	14.29%	7.48%	12.15%
IN	Brad Ellsworth	37	1,134	3	10	9	9	0	0	6	0
				8.11%	27.03%	24.32%	24.32%	0.00%	0.00%	16.22%	0.00%
IA	Chuck Grassley	96	22,561	0	23	4	4	12	52	0	1
				0.00%	23.96%	4.17%	4.17%	12.50%	54.17%	0.00%	1.04%
IA	Roxanne Conlin	191	1,438	20	72	9	37	12	4	20	17
				10.47%	37.70%	4.71%	19.37%	6.28%	2.09%	10.47%	8.90%
KS	Jerry Moran	100	1,025	0	57	0	0	9	12	11	11
				0.00%	57.00%	0.00%	0.00%	9.00%	12.00%	11.00%	11.00%
KS	Lisa Johnston	19	170	0	6	3	1	0	0	7	2
				0	31.58%	15.79%	5.26%	0.00%	0.00%	36.84%	10.53%
KY	Rand Paul	89	9,291	13	6	0	24	8	2	21	15
				14.61%	6.74%	0.00%	26.97%	8.99%	2.25%	23.60%	16.85%
KY	Jack Conway	211	2,470	47	42	7	21	6	1	79	8
				22.27%	19.91%	3.32%	9.95%	2.84%	0.47%	37.44%	3.79%
LA	David Vitter	164	8,017	20	36	0	17	47	13	22	9
				12.20%	21.95%	0.00%	10.37%	28.66%	7.93%	13.41%	5.49%
LA	Charlie Melancon	249	1,806	34	41	19	43	13	22	57	20
				13.65%	16.47%	7.63%	17.27%	5.22%	8.84%	22.89%	8.03%

MD	Barbara Mikulski	115	1,157	0	41	3	14	32	9	13	3
				0.00%	35.65%	2.61%	12.17%	27.83%	7.83%	11.30%	2.61%
MD	Eric Wargotz	71	310	7	4	8	14	1	0	6	31
				9.72%	5.56%	11.11%	19.44%	1.39%	0.00%	8.33%	43.06%
MO	Roy Blunt	308	7,803	2	142	5	29	8	13	80	29
				0.65%	46.10%	1.62%	9.42%	2.60%	4.22%	25.97%	9.42%
MO	Robin Carnahan	338	2,475	49	97	17	27	7	10	59	72
				14.24%	28.20%	4.94%	7.85%	2.03%	2.91%	17.15%	20.93%
NV	Harry Reid	782	6,279	258	38	80	120	61	13	92	120
				32.78%	4.83%	10.17%	15.25%	7.75%	1.65%	11.69%	15.25%
NV	Sharron Angle	207	8,454	48	19	9	66	2	0	46	17
				23.65%	9.36%	4.43%	32.51%	0.99%	0.00%	22.66%	8.37%
NH	Paul Hodes	146	1,510	15	45	0	17	9	3	32	25
				10.27%	30.82%	0.00%	11.64%	6.16%	2.05%	21.92%	17.12%
NH	Kelly Ayotte	36	1,562	6	5	0	15	1	0	5	4
				16.67%	13.89%	0.00%	41.67%	2.78%	0.00%	13.89%	11.11%
NY	Charles Schumer	0	3,922	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0
NY	Jay Townsend	169	413	43	34	7	50	15	5	8	7
				25.44%	21.25%	4.14%	29.59%	8.88%	2.96%	4.73%	4.14%
NY-S	Kirsten Gillibrand	113	7,012	1	37	7	8	29	11	18	2
				0.88%	32.74%	6.19%	7.08%	25.66%	9.73%	15.93%	1.77%
NY-S	Joe DioGuardi	767	1,049	45	187	115	164	51	13	118	74
				5.87%	24.38%	14.99%	21.38%	6.65%	1.69%	15.38%	9.65%
NC	Richard Burr	163	5,413	7	39	5	29	27	2	37	17
				4.29%	23.93%	3.07%	17.79%	16.56%	1.23%	22.70%	10.43%
NC	Elaine Marshall	169	1,692	33	22	17	23	34	7	18	15
				19.53%	13.02%	10.06%	13.61%	20.12%	4.14%	10.65%	8.88%
ND	John Hoeven	44	343	0	18	3	9	0	3	8	3
				0.00%	40.91%	6.82%	20.45%	0.00%	6.82%	18.18%	6.82%
ND	Tracy Potter	9	8	1	1	2	2	0	1	1	1
				11.11%	11.11%	22.22%	22.22%	0.00%	11.11%	12.50%	11.11%
OH	Rob Portman	183	3,135	1	61	9	22	8	19	53	10
				0.55%	33.33%	4.92%	12.02%	4.37%	10.38%	28.96%	5.46%
OH	Lee Fisher	254	1,805	26	101	26	36	10	5	31	19
				10.24%	39.76%	10.24%	14.17%	3.94%	1.97%	12.20%	7.48%
OK	Tom Coburn	72	207	0	17	4	10	18	2	11	10
				0.00%	23.61%	5.56%	13.89%	25.00%	2.78%	15.28%	13.89%
OK	Jim Rodgers	0	N/A	0	0	0	0	0	0	0	0
				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OR	Ron Wyden	24	1,227	0	0	0	13	4	1	2	4
				0	0	0	54.17%	16.67%	4.17%	8.33%	16.67%
OR	Jim Huffman	124	425	19	15	0	51	7	1	18	13
				15.32%	12.10%	0.00%	41.13%	5.65%	0.81%	14.52%	10.48%
SC	Jim DeMint	25	57,580	0	8	0	4	6	5	2	0
				0.00%	32.00%	0.00%	16.00%	24.00%	20.00%	8.00%	0.00%

SC	Alvin Greene	25	819	4	0	1	0	1	8	11	0
				16.00%	0.00%	4.00%	0.00%	4.00%	32.00%	44.00%	0.00%
UT	Mike Lee	88	1,447	0	44	4	18	6	3	13	0
				0.00%	50.00%	4.55%	20.45%	6.82%	3.41%	14.77%	0.00%
UT	Sam Granato	63	857	16	9	5	14	4	0	14	1
				25.40%	14.29%	7.94%	22.22%	6.35%	0.00%	22.22%	1.59%
VT	Patrick Leahy	70	142	0	19	0	26	2	1	14	8
				0.00%	27.14%	0.00%	37.14%	2.86%	1.43%	20.00%	11.43%
VT	Len Britton	122	258	7	54	0	29	5	2	8	17
				5.74%	44.26%	0.00%	23.77%	4.10%	1.64%	6.56%	13.93%
WV	Joe Manchin	45	587	3	7	0	18	3	1	2	11
				6.67%	15.56%	0.00%	40.00%	6.67%	2.22%	4.44%	24.44%
WV	John Raese	0	NA	0	0	0	0	0	0	0	0
				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Totals	12008		1552	2851	946	2239	975	529	1866	1160
		Avg: 162.27	Med: 1,660	12.92%	23.74%	7.88%	18.65%	8.12%	4.41%	15.54%	9.66%

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