Examining the Use of Social Media by United States Senators

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By   Jeffrey Stanton

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Dr. Steven Schneider

Thesis Advisor

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Dr. Russell Kahn

Abstract

The introduction of Web 2.0 in 2004 and its related social media platforms have provided United States Senators with a variety of new ways to interact with their audience and influence that audience's opinion and actions. In this content based study, using data I have compiled from a variety of social media platforms, I examine to what extent United States Senators are making use of the various social media platforms from their official United States Senate Web Site. This study examines when they joined various social media platforms, what social media platforms are being utilized, and their level of activity, as well as examine and report upon their usage based upon gender, party affiliation, age and the number of years they have served in the Senate. My analysis indicates that the gender, male means being higher than female in most of the tables, has the most influence over social media usage, followed by age, political party, and years in the Senate.

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Introduction

The United States Senate is one of the branches of government that regulates and legislates the laws we live by as a society. The social media platforms brought about by Web 2.0, such as Twitter and Facebook, have become very powerful and influential in society today because of their ability to reach many people very quickly and allow those people to react as a group. The United States Senate's adoption and use of these social media platforms is changing the face of politics today and how senators interact with their followers.

The purpose of my content based study is to gain an understanding of the extent United States Senators are making use of social media platforms by examining their variables of age, gender, political affiliation and the years they have served in the Senate and the social media platforms they are using.

The Literature Review

This literature review section provides a survey of research studies and articles related to the four core areas of my research paper. The first part of this section is about reviewing documents related to how the social media aspect of Web 2.0 has changed the Web. I feel it is important to provide some background and history of what Web 2.0 is. With that knowledge the reader of this paper will be able to better understand how revolutionary the social media aspect of Web 2.0 has been to Web users as well as how important it can be to politicians, like United States Senators.

The next section is about research on usage of social media by Internet users as analyzed by their age, gender and political party. I will use some of the statistics reported here to contrast and compare with the results of my analysis.

Next, I present studies related to the use of new media by United States Politicians. Some background information is provided as to when the official government web sites were created for Congress and the Senate. I then report on a few studies that illustrate the effect social media has had in elections, such as the Presidential Election in 2008. These studies document the value of social media to politicians and their impact on elections.

Finally, I provide some examples of studies related to the value of communication between a politician and their audience. Understanding the impact of direct communication between politicians and their followers is a key part of understanding the importance of this social media aspect in politics. Studies of the Obama Campaign's usage of social media and Cory Booker's usage in his bid to be mayor of New Jersey are documented in this section.

How Social Media Has Changed the Web

When thinking of the Web, we used to think of relatively inflexible web pages that provide information, but generally lack much interactivity. They were designed to present static information with limited ways to communicate beyond email or listing of phone numbers to call. The social media aspect of Web 2.0 is all about creating the ability to be interactive. According to Merriam-Webster (2014), social media is defined as the "forms of electronic communication (as web sites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (as videos)." The first use of social media was in 2004 and since then its usage has grown rapidly. It is very

important for any web user, including politicians, to understand the progression if they are to effectively use social media.

Another key change Web 2.0 brought to the Web was the flexibility of using multiple types of devices to access the Web. As Wikipedia (2014) states about social media and Web 2.0, "Furthermore, social media depend on mobile and web-based technologies to create highly interactive platforms through which individuals and communities share, co-create, discuss, and modify user-generated content. They introduce substantial and pervasive changes to communication between organizations, communities, and individuals." In other words, Web users were no longer restricted to accessing the Web by using personal computers. The ability to access the Web was now possible by a device that could be held in their hand, such as a smart phone.

Instead of traditional methods of reaching out to their constituents, Susan Brudno (2012) addresses the value of politicians using social media directly in her article, "Of Voting and Social Media." Brudno reports on a study done in September 2012 indicating that traditional methods of contacting voters, (door to door and phone calls), produced minimal results in getting people motivated enough to get out to vote. Brudno (2012) writes, "The study noted that previous methods used to contact voters have shown little to no effect on voter turnout, with results ranging from a 1% to 10% response."

Prior to Web 2.0 and social media, the Web, which has been around since the 1990's, would have fallen into that category of methods that have been around for years, but due to their lack of interactivity with their users, their value in motivating people has always been limited. A politician's followers could go to a site to read articles and get information about the politician

and their views, but there was nothing there that made them feel like they were an active part of the political machine.

Brudno (2012) notes the difference between a static web site and incorporating social media when she writes, "On the other hand, social media creates opportunities to reach a large number of people quickly and easily, so even a relatively small percentage shift could have an impact on elections." The ability of social media, such as Facebook and Twitter, to involve people in politics is noted by Brudno (2012) when she writes; "The study findings noted that when users could see the faces of their friends who had voted, they were more likely to vote themselves. The effect of the photos was more significant for friends with strong ties or who interacted frequently."

An interesting point Brudno makes is in explaining the difference between the Web with social media and the Web without social media and in explaining how powerful social media has been in the changes it has brought to the Web. Brudno's article was written based upon studies of the 2008 elections. Knowing now how social media can increase the number of people who vote, one has to wonder about how things could have been different in 2004 had social media been used more effectively by the "Gore for President" Campaign. For instance, perhaps with a little more social media presence, Al Gore might not have lost Florida by only 537 votes.

Borau, Luo, Xiahong, Shen L., Shen R. and Ullrich (2012) write about some of the changes to the Web brought about by the enhancements of social media in their paper, "Why Web 2.0 is Good for Learning and for Research: Principles and Prototypes." In this paper, Borau, Luo, Xiahong, Shen L., Shen R. and Ullrich (2012), analyze the effects of Web 2.0 concepts and their impact on learning. In doing so, their analysis of Web 2.0 concepts helps to illustrate, for my paper, the changes social media has brought to the Web. The changes can be well

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summarized by their statement, "in the last years the Web changed from a medium to a platform, from a read-web to a read-write-web."

Borau, Luo, Xiahong, Shen L., Shen R. and Ullrich (2012) note that prior to social media, the Web was comprised of static web pages that provided information with no interactivity. With the introduction of social media, that has all changed. They write, "Web 2.0 applications and services allow publishing and storing of textual information, by individuals (blogs) and collectively (wikis), of audio recordings (podcasts), of video material (vidcasts), of pictures, etc." The very nature of these changes revolutionized user interaction with the web pages and the Web in general. Web 2.0 and social media have greatly changed how we view the Web because of the value added to the users experience. The Web has become much more user friendly and encourages active participation.

That increased participation is what impacts the effect and power of social media. Increased participation is critical to the effective use of social media by United States Senators. By increasing the participation of their followers, senators add value to their message and encourage more involvement. When people feel they have input and are being heard they are more likely to get involved.

In contrasting the originally designed Web, or Web 1.0, with Web 2.0, and it's social media enhancements, Borau, Xiahong, Shen L., Shen R. and Ullrich (2012) write, "A traditional static website does not improve when visited by large amounts of surfers since it presents its content the same static way. In contrast, Web 2.0 sites use information provided by the visitors explicitly (user contributions build up the site or part of it) or implicitly (user activities on the site are used for adapting its content or presentation)." Perfect examples of the power of user participation, they write, are the web sites Amazon and Wikipedia. In each case, the users

contribute to the page. The authors write, "In the online encyclopedia Wikipedia, the users explicitly contribute to the encyclopedia by adding and editing articles. In the online shop Amazon, collaborative filtering based on the shopping behavior is used for making suggestions to the customers."

Borau, Xiahong, Shen L., Shen R. and Ullrich (2012) further write about the unprecedented access to all forms of data because of social media and Web 2.0. Such things as notations in Google Maps and photos on Flickr are all attributed to user involvement. Another key advantage of social media is the flexibility to access large amounts of data from many types of devices. The authors add that social media tools, "allow access from and dissemination of data to devices such as mobile phones, PDAs, game consoles, etc. By offering multiple sources of input, this principle increases potential participation of the user."

Gender, Age, Political Party and Social Media

In their paper, "The Demographics of Social Media Users – 2012", from the Pew Research Center, Maeve Duggan and Joanna Brenner (2013) provide detailed statistics related to general social media usage on the Internet. They provide statistics that illustrate and analyze overall social media usage based upon age, gender and ethnicity. They then provide similar statistics for the specific social media platforms, Twitter, Pinterest, Facebook, Instagram and Tumblr. For my study, I am interested in the statistics related to gender and age, so I can do some general comparisons between their results and the results of my study.

Duggan and Brenner (2013) report that 62% of all adult males use the Internet and 71% of females use the Internet. According to Duggan and Brenner there is a direct relationship between age and social media usage. Social media usage decreases as age increases. The usage

ranges from 83% of those who are in the 18 – 29 age group to only 32% of those over 65 years of age.

According to Duggan and Brenner (2013), in 2012, the percentage of Internet users who used Twitter was only 16%. Usage of Twitter was fairly even between women and men, being 15% and 17%, respectively. Duggan and Brenner's study showed that Twitter was more often used by the younger group, and Twitter usage decreased with age. The younger group, being the 18 – 29 year age group, had a Twitter usage rate of 27%. Twitter usage in the 65+ age group was only 2%. This was consistent with most studies that showed Twitter to be used more by younger Web users than older users.

Duggan and Brenner's paper reported 67% of adult Internet users used Facebook. The majority of users were female, and Facebook was more often used by younger adults than older ones. According to Duggan and Brenner (2013), the percentage of female Internet users who frequented Facebook was 72% and 62% for males. Facebook usage also declined as age increased. Of Internet users in the 18 - 29 age group, 86% used Facebook while in the over 65+ age group usage was 35%.

A Netpop Research study of 2,365 socially networked adults, as reported on in the article, "Age, Not Gender, Drives Most Social Media Use", retrieved from Marketingprofs Website (2012), notes that Facebook is the most adopted form of social media platform in use as of April 23, 2012. The report states, of the total number of socially networked adults, Facebook usage is 90%, the highest percentage of all the social media platforms. That percentage was fairly consistent across all age groups and genders.

Their study analyzed usage over a one week period of the social media platforms Facebook, YouTube, Wikipedia, Twitter and Yelp. In the week studied, Facebook was

consistently used by 92% of the women in all age groups. For men, the percentage was the same in the younger age group, but decreased slightly as the age increased.

Age made much more of a difference in the YouTube and Twitter usage, both much more utilized by the younger age group. Total YouTube usage by social media users was 56% for the period studied. YouTube usage was much higher for young males than young females with percentage of usage being 83% for young males, compared to 66% for young females. As with other social media platforms, usage decreased as the age group increased. Females over 35 had a usage level of 37%, and males remained higher at 52%.

Twitter usage was much lower in all the age groups according to Duggan and Brenner. During the week of their study, only 20% of social media users reported using Twitter. Once again, it was utilized more by the younger age groups, and more by males than females. Only 24% of young females reported using Twitter while the percentage of young males was 34%. The percentage of use was less than half that for each group in the over 35 age group.

According to the report, some 146.5 million adults (79% of the adult population) use social networks. Age does play a part in how adults utilized their online time. Young social networkers, aged 18 - 24, spend 25% of their time online and only 17% of their time on emails. Older social networkers, those aged 35 - 44, spent 17% of their time on their social networks and 26% on email.

This study also analyzed each of the four age groups to determine the percentage of time used by each group to gather information using social media. The report states that 16% of females and 20% of males aged 18 - 34 used social media to gather information. The percentages were slightly higher in the over 35 age group

In "Pew Breaks Down Social Media Demographics by Age, Gender, and Race", by

Jennifer Beese, Beese (2013) writes that 67% of Internet users use Facebook, but only 16% use

Twitter. In the Pew Research Center Report, Beese (2013) writes about the majority of Facebook

users that fall into the 18 - 29 year old age group, which are primarily female. Beese (2013)

stated that, for female Internet users who use social media, the frequency of social media

platforms used by percentage, are Facebook, 72% and Pinterest, 15%. For males, the break down

was Facebook, 62%, and Pinterest, 5%. Usage for Tumblr, Instagram and Twitter was about the

same for both genders.

Beese reports the usage level of each social media platform decreased as the age

increased. In the case of Facebook, the usage for the 18 - 29 age group was 86% and decreased

gradually to only 35% in the over 65 age group. Twitter usage by the 18 – 29 age group was 27%

and decreased steadily to only 1% in the over 65 age group.

Matt McGee addresses the issue of political party and social media in his article,

published on the marketing Land web site, titled "Democrats like to Mix Politics & Social Media

More Than Republicans and Independents", Sep. 4, 2012. Citing data from a Pew Internet and

American Life Project, McGee (2012) writes that when it comes to online political activity,

"Democrats are more likely than Republicans and Independents to say that social networking

sites are important. And they're also more likely to say that they've become more active

politically because of their interactions on social media sites."

According to the study, McGee (2012) states that 74% of those who consider themselves

liberal use social media. Of those who identify themselves as moderates, 70% use social media

and only 60% of those who claim to be conservative use social media. According to McGee,

almost half of the liberals surveyed said social media is an important way to keep up with current political events, compared to only about one third of moderates and conservatives.

Figure 1 is an example of the Pew results McGee refers to and was retrieved from:

http://marketingland.com/politics-social-media-pew-study-20444.
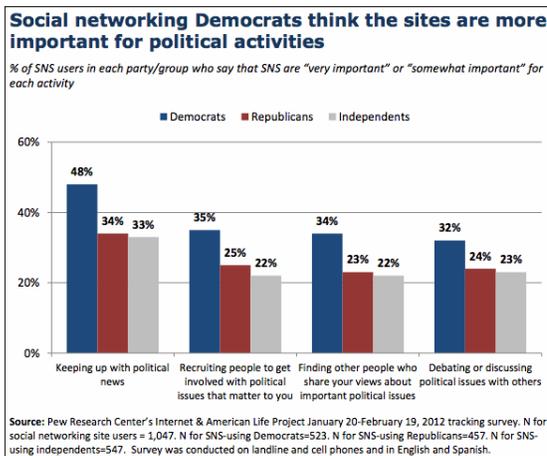
Figure 1 Political Parties and importance of social networking

McGee (2012) writes that the Pew Study also states that most online users surveyed stated that online social media had little actual impact on their political views. McGee states that only "16 percent of social media users say they've changed their views about a political issue because of their activity on social sites."

Furthermore, McGee (2012) wrote that only 25% of social media users claimed that they became more involved in a political issue based upon their online social interactions. According to McGee, of those that do get involved, the majority are Democrats/Liberals.

Figure 2 illustrates the level of involvement from the Pew Study, cited by McGee (2012), based upon political party affiliation and was retrieved from:

http://marketingland.com/politics-social-media-pew-study-20444.

Democrats and liberals who use social networking sites are the most likely to say they have become more involved in an issue because of the interactions they have on the sites

% of SNS users in each group who say they have become more active on a political issue after discussing it or reading posts about it on SNS

Source: Pew Research Center's Internet & American Life Project January 20-February 19, 2012 tracking survey. N for social networking site users = 1,047. N for SNS-using Democrats=523. N for SNS-using Republicans=457. N for SNS-using independents=547. N for SNS-using liberals=260. N for SNS-using moderates=375. N for SNS-using conservatives=327. Survey was conducted on landline and cell phones and in English and Spanish.

Figure 2 Political Parties and social involvement

The interesting conclusion McGee (2012) draws from this Pew Study is that "The big takeaway from the Pew survey appears to be that most social media users just aren't all that active or interested in politics when they're using these sites."

Use of Social Media by United States Politicians

Various Government Agencies have participated actively in the Internet since it's earliest days. According to the Internet Archive Wayback Machine Website (2014), the official website for the United States Congress, House.gov was created on December 22, 1996. The official website for the United States Senate, Senate.gov, was created January 21, 1997, according to the same website. Since those early days, the websites House.gov and Senate.gov have continued to evolve and incorporate new ideas and technologies as they were developed. Each senator, or their staff, maintains their own website within Senate.gov and have, to varying degrees, incorporated the social media concepts of Web 2.0 into their sites.

The concept of Web 2.0 was introduced in 2004, according to TechTerms.com (2008). Web 2.0 is a term that refers to a series of technological improvements. These improvements

were designed to make the Web more interactive. Among those improvements are blogs, Wikis, social networking and web applications that, "a broad range of new applications make it possible for users to run programs directly in a Web browser", says TechTerms.com (2008). It is my opinion that the usage of social media is important to all politicians today. To illustrate my point of the value of social media to politicians, I note the sources below.

In "Social Machine Politics Are Here to Stay", Kieron O'Hara (2013) makes the point that social media in politics does make a difference and is here to stay. O'Hara cites studies related to the effect of social media usage in the 2008 and 2012 United States Presidential Elections. O'Hara maintains that in the 2008 and 2012 elections, the Democrats were more effective at using social media than Republicans were. "The candidates were falling over themselves to use social media" states O'Hara (2013). O'Hara cites several sources that have studied the 2012 Presidential Election between Obama and Romney in great detail and contrasts the effectiveness of the Obama election machine to Romney's election machine. O'Hara (2013) states, "Romney used the same technologies but to less effect. The Orca analytics system, used by Romney, performed unsatisfactorily, partly because of basic mistakes in IT training and deployment. "Obama, meanwhile, kept his analytics fashionably in the cloud" according to O'Hara (2013). O'Hara believes the autopsy of the 2012 Presidential Election, and the effective use of social media by the Obama campaign may very well push politicians to shift toward focusing on utilizing social media in future elections and less on traditional campaign tactics.

In, "The Digital Candidate, Jess Meyer Maria (2012) writes about the progression of the primary types of media politicians have used in recent years. In the 1960's, television came into it's own. Many people remember or have heard about how the Kennedy/Nixon debates made a star of Kennedy and derailed Nixon's aspirations at the time because of how each of them

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performed in front of a camera. Kennedy appeared calm and confident while Nixon was uncomfortable and sweated quite a bit. Maria writes how the 1970's saw direct mailing and the 1980's introduced barcoded absentee voting. Politicians made good use of the Web after 2000 to raise money, and after 2008, as Maria writes, it's all about social media. There are several sections of interviews with politicians that illustrate how politicians are becoming very aware of the importance of social media. An important point made by Maria is that, while fundraising and social media is being utilized more, it still has a way to go and it's important for politicians to not just provide links, but to build their own brand and become more effective at using social media to get their message out.

Chang Sup Park (2013) wrote a very interesting paper titled, "Does Twitter motivate involvement in politics? Tweeting, opinion leadership, and political engagement". The opinion expressed by Park (2013) is summarized best as "this study finds that Twitter opinion leadership makes a significant contribution to individuals' involvement in political processes, while Twitter use itself or media use motivation does not necessarily help individuals' political engagement."

Park makes several important points about Twitter in his paper. Early on, Park notes a key issue that makes Twitter a much more powerful tool than Facebook when he writes, "Unlike Facebook, which defaults to restricted, in-network exposure to other users' posts, Twitter posts are disseminated publicly and can be easily viewed by all users. The open system of Twitter creates a venue for users to respond to other users, thereby making it a vibrant forum for public discourse. "That is a very important point in illustrating the value of Twitter in the political process.

An important focus of Park's paper is the opinion leader. The opinion leader is a person in a position in social media where they can influence the opinion of many people. According to

Park (2013), the opinion leader does not have to be the most educated, but they generally do have the following characteristics, "opinion leaders (1) are more exposed to all forms of external communication, (2) have somewhat higher socioeconomic status, (3) are more innovative, and (4) are at the middle of interpersonal communication networks (Rogers, 1983)". Furthermore, Park (2013) writes, "On Twitter those who are well-connected play a more potent role in creating and distributing information through a multi-step flow than those with less connection".

Park makes the point that, in order to be effective in Twitter, a person needs to be perceived to be a leader. Park (2013), through his research, proves the point that "Opinion leaders on Twitter did not depend more on traditional or online media content than non-leaders. This is maybe because dominant Twitter users are younger and depend less on the media". It's therefore important for politicians to be engaged and in a leadership roles in posting to Twitter in order to effectively make use of Twitter.

In his article, "Infographic: Politics in the Age of Social Media", Damon Poeter (2012) writes about the significance and growth of social media in the 2008 and 2012 United States Elections. The Democrats were much more effective in using social media in the 2008 elections and won landslide victories and then in 2010 the Conservatives returned the favor through the Tea Party ground swell usage of social media that swept many Conservatives into office.

To illustrate how effectively social media has become a dominant force in politics today, Poeter (2012) wrote in January 2012, "Now nearly half of all U.S. voters between the ages of 34 and 55 say they'll be using social networking sites to find news, information, and discussions about the presidential campaigns."

Politicians Using Social Media to Communicate

Directly With Their Followers

Encouraging follower involvement is critical to the successful use of social media by any politician. A study by Halpern and Katz proved there is value in social media to government agencies, as long as those agencies don't overwhelm their target audience. That same principle is key to establishing a direct channel of communication from a politician to their followers.

In "From e-government to Social Network Government: Towards a Transition Model", Daniel Halpern and James Katz (2012) discuss the value of utilizing social media to governments. Their study, which focused on Facebook usage by several Federal Government Agencies, was to determine if using social media tools, such as Facebook, encouraged more participation by users.

Halpern and Katz (2012) maintain that e-Governments, their term for government entities that utilize social media, are more effective at ascertaining their citizen's opinions and using that to provide better governance. The idea being that, "facilitating interaction with citizens, governments can seek out voters on particular issues to guide policy-making." Through the use of new media, such as Facebook, governments create a participative model where, according to Halpern and Katz (2012), "citizens actively engage in defining the process and content of policy-making, focusing on the development of stable grassroots policies."

Halpern and Katz (2012) write about a fundamental value of utilizing social media by public officials and governments when they say, "Web 2.0-based applications allow horizontal communication, enabling users to integrate their own social media contacts (friends, viewers, followers or fans) through their system profiles, which facilitates interaction between users in

multiple ways." By enabling people to form those social bonds and apply those bonds to social media, it is a key point to how politicians can motivate their constituents. Halpern and Katz (2012) write, "Other studies have noted that larger networks tend to introduce more mobilizing information for participants, such as details on an upcoming neighborhood meeting or an online protest against a multinational company that violates labor rights."

The point of Halpern's and Katz's paper was to apply the above concepts and prove social media, when used by Government Agencies, does encourage more user participation. Halpern's and Katz's (2012) research determined that, "overall, results show a very strong relationship between horizontal communication and vertical participation, as revealed by the meaningful percentage of variance explained by the regression models (11%)".

Paul Dempsey (2010) addresses the value of direct communication between a politician and their followers in his article, "Peer to peer to Power." Web sites fall under the category of traditional political dialogue, according to Dempsey. Like television and radio, web sites provide politicians with the ability to deliver their message directly to the people, but from a distance. There is no interactivity and very little connection between the politician and the people to which they are reaching. According to Dempsey (2010) , "It's no longer just about communicating with voters through online tools; it's about communicating with voters who communicate with other voters. Peter Slutsky, strategic relationships manager for social networking platform Ning, says. We call it 'organizing the organizers'."

Dempsey looks at the effective use of social media by the Obama Campaign in 2008 and throughout various policy battles they have waged. Dempsey (2010) points out a key difference between traditional web sites and new media when he quotes Chris Nolan, a political advertising consultant of Spot-On.com, "People have looked at new media as they would an old-style

communication channel, but this is about advocacy and organization, and also empowering your volunteers." Nolan adds "It isn't just about sending the message; it's about getting people to do that for you and – the part that gets forgotten – getting information back from them about what voters are thinking." To reach that end, the Obama campaigns have utilized multiple Web 2.0 tools, such as embedded videos, online event systems, Google Voice, letter-to-the-editor tools and Twitter to create an organization that is quick to react, spread information and stay involved. All of these tools allows the organizations to empower their members or volunteers. None of these actions are achievable when utilizing a stagnant web site.

In the article,. "Five Ways Web 2.0 is Changing The Face of American Politics" by Matthew Fraser and Soumitra Dutt (2009), the authors examine five features of Web 2.0 that are changing American politics in ways that the Web itself could never do. The authors use the 2008 Presidential Election between Obama and McCain to illustrate their points. The focus of their article is documenting how well the Obama Team utilized social media so expertly in ways that allowed them to produce a grassroots movement that would have been very hard to beat.

Web 2.0 allowed the candidates to bypass the main media sources in order to get their messages out. Fraser and Dutt (2009) point out that, through the use of social media, such as Twitter, Obama had a very organized and effective social media structure in place that could quickly and easily reach a large number of followers instantly. McCain's social media organization was never any where near as effective as Obama's. Reaching people that quickly and effectively is not possible using a stagnant web site by itself.

The other features of Web 2.0 that the Obama Campaign used so well, that are not as easily exploited using the Web itself, include the ability to raise money through a grassroots structure. It's cheap and cost effective, makes for easy and quick mobilization of followers, and it

facilitates civil involvement. The civil involvement feature is a very important feature of utilizing Web 2.0 concepts. As Fraser and Dutt (2009) write, "However, citizens show more loyalty to a political system, and feel more compelled to engage in civic activity, when they have confidence that their voice is heard and represented.".

In, "How the Web, Social Media and Big Data are Changing the Political Landscape", Jess Meyer Maria (2012) writes about Newark, New Jersey mayor, Cory Booker. Maria writes how Booker is a young politician who has effectively mastered the effective use of social media, in particular Twitter, to get elected and maintain a large number of followers. Maria (2012) writes, "Booker, who took office in 2006 following a landslide win and was re-elected in 2010, is a political Twitter phenomenon", and has over a million Twitter followers and has posted over 16,000 tweets.

According to Maria (2012), Booker is quoted as defining the importance of social media to a politician today when he said, "Social media creates that intimate window and gives voters a chance to really see your humanity and the substance of your spirit," and "It creates a different kind of loyalty than with traditional engagement." Cory Booker is a leader in using social media to communicate directly with his constituents and has been rewarded with a large number of followers and supporters.

Research Questions

Is there a relationship between a senator's age, gender, party affiliation and the number of years they have served in the Senate and their usage of social media?

What social media platforms are senators linking to from their Official Senate Websites?

How active are the senators at their Facebook and Twitter pages and in their RSS Feeds? Additionally, I am interested in determining if they are more active in Twitter or on Facebook.

Are the senators generating much interest on Twitter and Facebook among their audience?

Research Objectives

There are four main objectives in my content analysis study of the United States Senators usage of social media platforms from their official government web sites. First, I want to determine if there is any correlation between age, gender, party affiliation and the years they have served in the Senate for these senators and their usage of social media.

Second, I want to determine how many of the senators provide links to the social media platforms Twitter, Facebook, Email, You Tube, Flickr, RSS Feeds, Google Plus, Instagram, Tumblr, C-Span Video Library, Podcasts, Storify, Foursquare and Soundcloud from their official United States Senate website, found at http://www.senate.gov/, so I can assess their level of social media usage.

Third, I want to analyze the data I collect from their Twitter, Facebook and RSS Feed pages to determine how long they have been using these social media platforms, and how active they were in the week I studied. I want to also determine if senators are more active on Facebook or on Twitter.

Fourth, I want to determine if their level of activity on Twitter and Facebook generate interest in their followers.

The results of this study would be of interest to politicians and political scientists in being able to determine which of the social media tools are most used by senators and how much

interest is being generated by their social media activity. I will collect data from their Facebook, Twitter and RSS Feed pages for my study.

To achieve this goal, four key objectives have been identified:

To collect and analyze specific data about each Senator, age, gender, party affiliation and years in the Senate to determine if any of these factors correlate to higher or lower social media usage.

To determine how many and which social networking tool each senator is accessing directly from their official United States Senate website.

To collect and analyze data related to their Twitter and Facebook accounts and RSS Feeds for analysis to gauge level of activity. I am also interested in determining whether Facebook or Twitter is being utilized more by the senators.

To collect and analyze data related to their Twitter and Facebook accounts and RSS Feeds for analysis to gauge level of effectiveness in generating follower interest. For my study, effectiveness will be measured by number of "likes" and "talking abouts" in Facebook and followers, tweet replies, tweets with mentions, tweets with hashtags and retweets in Twitter. The numbers will tell me if they are generating follower interest, thus, to some degree, effectively getting their message out.

Definition of Terms

RSS Feeds - refers to "really simple syndication", is a way for a web site to display all their recent postings in one area for easy access. If a viewer subscribes to the RSS Feed they will receive the latest updates from the site or the site's blog.

Social Media - are electronic forms of communication, such as Twitter and Facebook, that allow users to create their own online communities for the sharing of ideas, information, video, messages and information. Social media is the foundation of the concept knows as Web 2.0.

SOFA - The name is short for Statistics Open For All. Sofa is user-friendly, open-source statistics, analysis and reporting package.

Twitter - is an online social media service that allows for the communication of information via messages up to 140 characters long.

The Research Methodology

Data Collection

The first step in my data collection was to create a spreadsheet within Google Spreadsheets, called "Senators Data", that contains 100 rows. I created a row in the spreadsheet for each senator with their first name in the first column and the last name in the second column. Upon entering the names of the 100 senators into the spreadsheet, I used what information I could gather from their official Senate website, supplemented by Google searches of web sites such as Wikipedia, to collect data about each senator's year of birth, gender, the state they represent, their political party affiliation, and the years they have served in the Senate. Each of those elements were entered into a column in the spreadsheet. All of these elements were used in the data analysis stage of my study to sort and group the data for further analysis.

I added the feature Scrapbook to my Firefox Browser to save the web pages from where I would be collecting data. Scrapbook allows a user to save the web page as it exists, at the time of

capture, into defined scrapbooks. For this study, all the pages for all the scrapbooks were captured within a one week time period, 2/23/2014 - 3/2/2014. It was imperative that my capturing of the pages be done quickly and in a limited time span so I would have data from the same time frame for all the senators, since I would be using the data for comparison between the senators.

In this study, for each type of web page I am collecting page images for, I created 9 folders within Scrapbook. The scrapbooks are titled Senator Soundcloud Sites, Senator Foursquare Sites, Senator Storify Sites, Senator Instagram Sites, Senator Web Sites, Senator Twitter Sites, Senator Facebook Sites, Twitter Analytics, and Senators RSS Feeds. For my study I used data for the period 2/15/2014 - 2/22/2014, obtained from my scrapbook folders.

On Sunday, 2/23/2014, I visited the official Unites States Government Senator web site at www.senate.gov and collected each Senator's web page into my Senator Web Site scrapbook.

I used the senator's Official Government Web Site entry page as the focus point for my data collection. I visited each senator's web site many times and clicked on their links to determine social media platform usage. Their usage is listed as columns in my spreadsheet. In my spreadsheet, I used a "1" or a "0" in the column under each social media platform name to denote if the senator had a link from their official web site entry page to that social media platform. The senator received a "1", if they had a link, or "0" if they did not have a link. A requirement I used was that the social media platform site had to be accessed directly by clicking an icon on the main web page. For example, if a user clicked on an email icon and the next page displayed was a form to fill out and email to the senator, they received a "1" in the email column. If there was not an email icon or if a user had to click through 2 or more pages that required additional selection criteria to get to the email form, they received a "0" in the email column.

I applied the same criteria to my determination of whether or not a senator received credit for having a link to each social media platform. On a few Facebook pages, when I clicked the Facebook icon, I was taken to a page that required that I like the senator's Facebook page before I was allowed to access it. While annoying, it did take you directly to the Facebook page, which was when I first gained access. In this case, I gave the senator a "1" in the Facebook column so they received credit. It needs to be kept in mind, though, that for those 3 or 4 Senators, unless a user "unliked" the Facebook page when they left the page, the number of likes for those senator's pages could be slightly skewed higher than they should be. I do not feel the numbers would be high enough to impact my results, so I did take them into consideration.

During the following week, 2/24/2014 – 3/2/2014, I saved pages to the appropriate scrapbook for all of the remaining social media platforms. For those senators with a link to Twitter, I went to their Twitter site and collected their Twitter page in the Senator Twitter Site Folder. For those with a Facebook Link, I visited their Facebook page and saved it to the Senator Facebook Site Folder. I then used the senator's Twitter name, obtained from the first page of their Twitter page, as input to the Twitter Analytics Tool found at http://foller.me/. The Twitter Analytics Tool provides statistics about each Twitter Account. I saved the page returned by Twitter Analytics into my Twitter Analytics Folder. I performed the same function for the social media platforms Soundcloud, Foursquare, Storify, Instagram and RSS Feeds.

I then reviewed the data within the Senator Twitter Site Scrapbook. For each senator with a link to a Twitter Account, I visited that page and recorded the number of tweets that were posted within the last week. I used this statistic to determine level of Twitter activity. This data was added to the spreadsheet as "Number of Tweets" within the week of 2/15/2014 - 2/22/2014.

I then reviewed the data within the Twitter Analytics Scrapbook. For each senator, I recorded when they joined Twitter, the number of total tweets, the number of followers, and the number following. To be able to measure the activity being generated by the senator's tweets, I recorded the number of replies, mentions, hashtags and retweets per one hundred original tweets. The average number of replies per hundred reflects the actual number of direct responses a senator receives per one hundred tweets. Replies can only be seen by people who are following both the senator and the person issuing the reply. The average number of tweets with @mentions reflects the number of responses that are being posted in response to a senator's tweet, and everyone following the tweet poster and the senator can see the tweet. An @mentions is not limited to just those following both the senator and the tweet poster, like a reply is. The number of tweets with hashtags reflect the number of references being made to the senator's tweet by other user's tweets. They are not replies to the senator's tweet. Retweets reflect direct forwarding of the senator's tweet, by other tweeters, to that tweeter's followers.

Each of these pieces of data were entered into the spreadsheet with appropriate headers. The column headings are Date Joined Twitter, Total Tweets, Twitter Followers, Twitter Following, Number of Twitter Replies Per Hundred, Number of Tweets With Mentions Per Hundred, Number of tweets With Hashtags Per Hundred and Retweets Pre Hundred.

I then reviewed the data with the Senator Facebook Site Scrapbook. For each senator with a link to a Facebook page, I visited that page and recorded the number of Facebook Likes and the Number Talking About This in separate columns in my spreadsheet. The Number Talking About This is a metric used by Facebook to gauge how much conversation is being generated by someone's Facebook page. This is a number I will use to measure effectiveness of the senator's Facebook page. I also viewed each page and noted whether or not there has been

any posting by the senator within the period of 2/15/2014 - 2/22/2014. If there was activity, I placed a "1" in the Facebook Activity between 2/15 - 2/22 column, if there was not, I placed an "0". The number of likes and the number talking about this will be the next two columns in the Google Spreadsheet. I labeled the next column Facebook Current, and placed a "1" if the senator has posted anything to Facebook within the week of 2/15 - 2/22, and an "0" if they have not. This will be a gauge indicating if the senator is currently active within Facebook.

I then determined when the senator joined Facebook. I obtained that date by clicking on the about icon on the primary Facebook page. In some cases, there was a listing of information, and one of those values was the date they joined Facebook. If that was the case, I used that value and added it to my spreadsheet Date Joined Facebook. In the majority of cases, the date was not listed and I needed to find it. I clicked on the timeline option and scrolled through their timeline until I found the actual entry that said the date they joined Facebook. In many cases, when I had to scroll through several years, it was very time consuming. Once I found the date, I added it to the column in my spreadsheet.

Finally, I examined the RSS Feeds Scrapbook. I set up two more columns in my spreadsheet. The first column is titled RSS Feed and is populated with a "1" if they have a link or "0" if they do not. The next column is titled, Number of RSS Feed Entries 2/15 - 2/22. That value reflects the number of entries that were added to the RSS Feed within the period of 2/15/2014 - 2/22/2014. This will help me determine level of usage when I do my metrics analysis. It should be noted that for my research I only gave credit for having an RSS Feed to senators that actually had a link that went directly to a feed. In some cases, when I clicked on RSS Feed, I was brought to a page that had options on what to include in the RSS Feed. In effect, I was building the RSS

Feed based upon my entries, and I did not include them based upon my criteria requiring a single click to access the social media platform.

To do a proof of concept for my Thesis project, I created a sample spreadsheet of 8 randomly selected senators. For each senator, I collected all the data described above for review by my advisor. After the review with my advisor, I incorporated some fields in the spreadsheet that reflect the results of calculations made using data from within the spreadsheets. Those calculated fields will be reported on in my section addressing effectiveness of social media usage by the senators.

Once I had completed my data collection, I began the data analysis. Using a statistical analysis package called SOFA, Statistics Open For All, I began my analysis of personal characteristics. I want to determine if any of the variables I have collected, in particular age, gender, political party or the number of years they have served in the Senate, reflect more or less usage of types of social media and their level of activity with Twitter, Facebook and RSS Feeds. The results of my analysis are reported in my study via tables and charts.

I reported the number of senators who use each of the types of social media on which I collected data.

I also wanted to report the statistics I collected at the Foller.me web site, reflecting Twitter data, so that will be reported via a chart, graph or table. Thirdly, I wanted to Report Facebook Data and RSS Feeds data via charts. Each chart and graph with have accompanying commentary.

In conducting my literature review, several web sites were visited, including the ACM Digital Library, where the articles and research papers were collected. A variety of forward and backward searches were conducted using Google Search and the various search engines within

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the various academic sites I visited. Examples for search words were "social media and the web", "social media and politics", "differences web social media", and "politicians and social media web". Initial sources found were reduced by analyzing their titles first and then reviewing their abstract for relevancy. The resulting selections form the basis of my literature review.

Using the data I collected, I calculated some additional values that I added to my spreadsheet that I will use for my analysis. The column Followers/Following represents the ratio of Followers to Following in Twitter, and was calculated by dividing the number of Followers by the Following value. According to Twitter, that calculation, which they refer to as the Follower's ratio, can be a useful tool in measuring the true number of followers because a high ratio means that more people are following the senator out of good will, not follow-back.

I calculated the number of years each senator has been using Twitter and Facebook by subtracting the year they joined from 2014. The column Tweets/Year represents the average number of tweets per year based upon taking their total number of tweets and dividing by the Years on Twitter value.

I calculated each senators age by subtracting their year of birth from 2014. I determined I needed to group some of the data in order to be able to analyze the data in fewer groups. I created a field in my spreadsheet titled Decade which represents the decade of the senator's age. With that column I can do age comparison using just 5 groups. The groups are defined by 10 year increments and start with the decade. For example, the senator's aged 40 - 49 will be reported in the 40 - 49 group. Those aged 50 - 59 are reported on in the 50 - 59 group and so on.

I then determined I needed a way to group the number of years a senator has been in office. I created a field in my spreadsheet called Years of Service. Those senators with 9 or less

years of service are within the grouping 10. Those with 19 or less years of service are within the 20 group, and so on.

Next, I installed the data analytical software package, SOFA, Statistics Open for All, on my computer. I then imported my Google Spreadsheet, Senator Data Working Copy, into SOFA. I used SOFA to create graphs, charts and tables for my this paper. I used that data to answer the question, is there a relationship between senator's personal data, age, gender and party affiliation and their usage of social media?

I will use the spreadsheet data and the built in functions of SOFA to create a chart reflecting the number of senators using each of the 14 social media platforms. This will address my second research question which is, what social media platforms are senators linking to from their Official Senate Websites?

I used the data in my spreadsheets and various SOFA built in charting tools to create charts and tables to address my third research question, how active are the senators on their Facebook and Twitter pages? I also reported on whether Facebook or Twitter is being used more by the senators.

Finally, I used the data in my spreadsheets and SOFA's built in charting tools to create charts and graphs to address my last research question. That question is, are the senators generating much interest on Twitter and Facebook among their followers? I used the number of followers on Twitter and the number of likes in Facebook as my gauge of determining if they are generating interest in their followers.

Results

This results section of my paper presents the results of my analysis in 4 distinct sections. The sections presented are those variables on which I focused my paper. The sections are age, gender, political party, and the number of years they have served in the Senate and includes analyzing effectiveness in generating follower interest based upon the number of Facebook likes and Twitter followers.

Age

In Table 1, the rows are the senator's age grouped in 10 year increments. The columns are for the mean number of social media platforms used for that age grouping and the N is the number of senators in that grouping.

Table 1 Number of platforms and age

Number of Social Media Platforms	Mean	N
Age range 40 - 49	5.11	9
Age range 50 - 59	4.52	29
Age range 60 - 69	4.83	35
Age range 70 - 79	4.38	21
Age range 80 - 89	4.50	6
TOTAL	4.65	100

Conclusion : Age does not influence the number of social media platforms used by senators

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In Table 2, the rows are the senator's age grouped in 10 year increments. The columns are for the mean number of years they been on Facebook and Twitter and the N is the total number of senators in each age group.

Table 2 Age and years on Facebook and Twitter

	Years on Facebook		Years on Twitter	
	Mean	N	Mean	N
Age range 40 - 49	2.33	9	2.89	9
Age range 50 - 59	2.79	29	3.07	29
Age range 60 - 69	3.54	35	3.94	35
Age range 70 - 79	2.90	21	3.76	21
Age range 80 - 89	4.00	6	4.50	6
TOTAL	3.11	100	3.59	100

Conclusion: Age does not influence the number of years a senator has been on Facebook but shows a slight influence on older senators using Twitter a little longer.

In Table 3, the rows are the senator's age grouped in 10 year increments. The columns are for the mean number of total tweets and the average number of tweets posted each year for Twitter. The N is the total number of senators in each age group.

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Table 3 Total tweets and average tweets per year per age group

	Total Tweets		Tweets / Year	
	Mean	N	Mean	N
Age range 40 - 49	5378.33	9	1227.89	9
Age range 50 - 59	1182.62	29	389.93	29
Age range 60 - 69	1795.46	35	456.29	35
Age range 70 - 79	2184.33	21	590.57	21
Age range 80- 89	1701.67	6	409.33	6
TOTAL	2016.23	100	531.87	100

Conclusion: Those in the 40 - 49 age group post many more tweets, both in average per year and total tweets, than the other age groups. Other than the elevated numbers for the 40 - 49 age group, age group does not influence the total number of tweets or tweet per year.

In Table 4, the rows are the senator's age grouped in 10 year increments. The columns are the mean for the number of Facebook likes and Twitter followers. The N is the total number of senators in each age group.

Table 4 Facebook likes and Twitter followers by age

	Facebook Likes		Twitter Followers	
Age range	Mean	N	Mean	N
40 - 49	109471.11	9	215515.67	9
50 - 59	25232.48	29	14209.45	29
60 - 69	19644.40	35	23106.14	35
70 - 79	69772.52	21	124117.71	21
80 - 89	15306.17	6	26272.67	6
TOTAL	39615.96	100	59245.38	100

Conclusion: Age is a factor in the number of Facebook likes and Twitter followers. The means are much higher in the 40 - 49 age group than any other. The 70 - 79 age group also exceed the mean in likes and followers.

Gender

Table 5 illustrates, for each gender, the mean number of platforms used and the N represents the number of senators for each gender in that row.

Table 5 Gender and social media platforms

Gender	Mean	N
F	4.60	20
M	4.66	80

TOTAL	4.65	100

Conclusion: Gender does not influence the number of platforms used by senators.

Table 6 illustrates, for each gender, the mean number of years on Facebook and Twitter. The N represents the number of senators for the row.

Table 6 Gender and years on Facebook / Twitter

Gender	Years on Facebook		Years on Twitter	
	Mean	N	Mean	N
F	2.35	20	3.10	20
M	3.30	80	3.71	80
TOTAL	3.11	100	3.59	100

Conclusion: Males have been using Facebook and Twitter slightly longer than females.

Table 7 illustrates, for each gender, the mean number of total tweets and the mean for the average number of tweets per year. The N represents the number of senators for the row.

Table 7 Gender with total tweets and average tweets per year

Gender	Total Tweets		Tweets / Year	
	Mean	N	Mean	N
F	1445.35	20	493.45	20

M	2158.95	80	541.48	80
TOTAL	2016.23	100	531.87	100

Conclusion: Males have sent more tweets in total and on a yearly basis than females.

Table 8 illustrates, for each gender, the mean number of total senators using Facebook, Twitter and You Tube. The mean in this table represents a percentage. For example, 70% of the total of 20 female senators use Facebook. The N represents the number of senators for that row.

Table 8 Gender and usage of Facebook, Twitter and You Tube

Gender	Facebook		Twitter		You Tube	
	Mean	N	Mean	N	Mean	N
F	0.70	20	0.85	20	0.90	20
M	0.82	20	0.94	80	0.95	80
TOTAL	0.80	100	0.92	100	0.94	100

Conclusion: A higher percentage of male senators are making use of the social media platforms Facebook and Twitter, and You Tube at a slightly higher level than females.

Table 9 illustrates, for each gender, the mean number of Facebook likes and Twitter followers. N represents the number of senators for that row.

Table 9 Gender with Facebook likes and Twitter followers

	Facebook Likes		Twitter	

			Followers	
Gender	Mean	N	Mean	N
F	25531.00	20	18712.95	20
M	43137.20	80	69378.49	80
TOTAL:	39615.96	100	59245.38	100

Conclusion: Gender does affect the number of likes and followers with the numbers for males being much higher than it is for the females in both of the number of Facebook likes and Twitter followers.

Political Party

Table 10 illustrates the mean of all social media platforms being used by senators based upon political party. The N represents the total number of senators for that row.

Table 10 Social media platform use by political party

Political Party	Mean	N
D	4.77	53
I	5.00	2
R	4.49	45
TOTAL	4.65	100

Conclusion: Political party does not significantly influence the number of platforms used by senators, although Democratic and Independent usage is slightly higher than Republican.

Table 11 illustrates the mean of all social media platforms being used by senators based upon political party. The N represents the total number of senators for that row.

Table 11 Political Party and years on Facebook and Twitter

	Years on Facebook		Years on Twitter	
Political Party	Mean	N	Mean	N
D	2.87	53	3.51	53
I	3.00	2	3.00	2
R	3.40	45	3.71	45
TOTAL	3.11	100	3.59	100

Conclusion: Republicans have been using Facebook and Twitter, as a whole, slightly longer than the Democrats and Independents.

Table 12 illustrates the mean of Total tweets and the mean for the average tweets per year for senators grouped by political party. The N represents the number of senators for each row.

Table 12 Political party and total tweets and average tweets per year

	Total Tweets		Tweets / Year	
Political Party	Mean	N	Mean	N
D	2306.66	53	586.11	53
I	4751.00	2	1258.00	2
R	1552.62	45	435.71	45
TOTAL	2016.23	100	531.87	100

Conclusion: Democrats and Independents average more total tweets and average tweets per year than Republicans.

Table 13 illustrates, for each political party, the mean number of total senators using Facebook, Twitter and You Tube. In this table, the mean represents a percentage. For example, the 0.75 under Facebook Mean and across from the "D" means 75 percent of the total 40 Democratic Senators are using Facebook. Sum represents the total number of senators for that row.

Table 13 Political party and Facebook, Twitter and You Tube usage

Political	Facebook		Twitter		You Tube	
Party	Mean	Sum	Mean	Sum	Mean	Sum
D	0.75	40.0	0.92	49.0	0.92	49.0
I	1.00	2.0	1.00	2.0	1.00	2.0
R	0.84	38.0	0.91	41.0	0.96	43.0

Conclusion: Republicans, as a whole, use Facebook and You Tube at a slightly higher level than Democrats. The 2 Independent Senators are making use of all 3 social media platforms.

Table 14 illustrates, for each political party, the mean number of Facebook likes and Twitter followers. N represents the total number of senators for each row.

Table 14 Political Party and Facebook likes and Twitter followers

	Facebook Likes		Twitter Followers	
Political Party	Mean	N	Mean	N
D	16233.68	53	49583.89	53
I	193509.50	2	103551.00	2
R	60315.38	45	68655.33	45
TOTAL	39615.06	100	59245.38	100

Conclusion: Political party does seem to affect the number of Facebook likes and Twitter followers. Independents have the highest number, by a large margin, in both categories followed by Republicans.

Years in the United States Senate

Table 15 illustrates, for each Years in Senate Group, the mean for the number of social media platforms they are using. In this table, the groups for years in the Senate are ranges. For example, the grouping 10 represents senators with up to 10 years of service. The group 20 represents senators with between 11 and 20 years of service, and so on. This grouping of years of service applies to all the table sin this section. N represents the total number of senators for that row.

Table 15 Years in Senate and social media platforms

Years in the Senate	Mean	N
10.0	4.71	62

20.0	4.60	25
30.0	4.60	10
40	4.00	3
TOTAL	4.65	100

Conclusion: The number of years in the Senate did not influence the number of social media platforms used.

Table 16 illustrates, for each Years in Senate Group, the mean number of years using Facebook and Twitter. N represents the total number of senators for the row.

Table 16 Years in the Senate and years on Facebook and Twitter

	Years on Facebook		Years on Twitter	
Years in Senate	Mean	N	Mean	N
10.0	3.02	62	3.47	62
20.0	3.40	25	3.68	25
30.0	3.10	10	3.90	10
40.0	2.67	3	4.33	3
TOTAL	3.11	100	3.59	100

Conclusion: The number of years in the Senate has little impact on the years on Facebook but reflects a gradual increase in the years on Twitter.

Table 17 illustrates, for each Years in Senate Group, the mean number of total tweets and mean number of tweets per year. N represents the number of senators for the row.

Table 17 Years in Senate with total tweet and average per year

	Total Tweets		Tweets / Year	
Years in Senate	Mean	N	Mean	N
10.0	1533.47	62	441.37	62
20.0	2880.12	25	662.56	25
30.0	2750.30	10	748.10	10
40.0	2347.33	3	592.33	3
TOTAL	2016.23	100	531.87	100

Conclusion: The number of years in the Senate does seem to have a slight influence on the number of total tweets and tweets per year. The numbers are highest in the grouping of senators with between 11 and 29 years in the Senate.

Table 18 illustrates, for each Years in Senate Group, the mean number of total Facebook likes and Twitter followers. N represents the number of senators for the row.

Table 18 Years in Senate with Facebook likes and Twitter followers

	Facebook Likes		Twitter Followers	
Years in Senate	Mean	N	Mean	N
10.0	42208.29	62	26200.77	62
20.0	10588.32	25	77315.08	25

30.0	104599.00	10	226133.40	10
40.0	11328.00	3	35293.00	3
TOTAL	39615.96	100	59245.38	100

Conclusion: Years in the Senate does seem to influence the number of Facebook likes and Twitter followers for the senators with 20 - 29 years in the Senate. That group's numbers are much higher for the senators in the 20 - 29 years of service in the Senate group.

Discussions

Age

When I started doing the research for this project I assumed age would be a substantial factor in determining which senators made more use of the various social media platforms. I anticipated the social media platforms would be used significantly more by the younger senators. This was especially true of the social media platform Twitter, that most studies have shown to be most popular with younger social media users. The results of my study showed that age didn't prove to be as big of a factor as I thought it would be, although it was a factor in a few cases.

Table 1 illustrates that point quite well. Age did not have much effect on the number of social media platforms being used. The usage was fairly equal across all age groups. Table 2 illustrates that there was almost no effect on the number of years a senator had been using Facebook. The mean number of years was fairly consistent across all the age groups. There was a slight increase in the number of years a senator had been using Twitter in the older age group, but it was not by a significant amount.

Table 3 shows there were more tweets posted in Twitter for the 40 - 49 age group, but that the mean numbers were fairly consistent across the other age groups. In Table 4 there are far more Facebook likes and Twitter followers in the 40 - 49 age group, and slightly more in the 70 - 79 age group.

Based upon those figures, I conclude that, while there is some slight impact, age does not play a substantial part in determining whether or not a senator is using the various social media platforms. I would suspect the nature of politics overrides the results I had suspected I would find related to the age factor. My research has proven there is some value to a politician in using social media, and that because of that added value, each senator would be more inclined to use as many platforms within social media that they believe will be of benefit to them. I suspect many senators use more social media platforms in their official capacity as a United States Senator than they would in their private lives.

Gender

Based upon my literature review data, I had originally assumed I would see more substantial differences between how male and female senators made use of the various social media platforms. I made the assumptions that female senators would make more use of Facebook than males, and that male senators would post more to Twitter than females would. My assumptions were wrong.

In reviewing the data in Table 5, there was no difference between the genders in the number of social media platforms they used. Their mean numbers were almost the same. In Table 6, I was surprised to see males actually have been using Facebook and Twitter slightly longer than females. I suspected that would be true with Twitter, but not Facebook.

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Males sent more tweets in total and on average yearly than females did, as illustrated in Table 7. In Table 8, it can be seen that a slightly higher percentage of male senators use Facebook, Twitter and You Tube than female senators.

In Table 9, the biggest difference between the genders can be seen. Male senators had many more Facebook likes and Twitter followers than the female senators did, which I found surprising. I expected it to be equal, and I'm not sure why the difference is so large.

Political Party

The literature review pointed toward higher usage of politically related social media by Democrats. In reviewing the writings in my literature review about political campaigns and the effective use of social media in the Obama and Booker Campaigns, I expected to see Democratic Senators to be using social media at a much higher percentage than Republicans, however, that was not the case.

In Table 10, it is evident that there is a slightly higher mean for the number of social media platforms used by Democrats and Independents over the Republicans, but it is not a significant difference. Table 11 illustrates that Republicans have been using Facebook and Twitter, on average, slightly longer than Democrats. I expected that the Democrats would have been using both longer and was surprised by these results.

In Table 12, the two Independent Senators far exceed the mean number of total tweets and tweets sent on average per year than either of the other two parties. Democrats also exceed the Republicans in both categories. The numbers associated with the two Independents were surprising, considering how substantial they were, but the numbers associated with the Democrats were not. I expected the Democratic numbers to be higher in the number of tweets.

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Table 13 illustrates that the percentage of Republicans using Facebook and You Tube is slightly higher than Democrats, but that the percentage of Democrats using Twitter is slightly higher than the Republicans. Based upon my literature review, I expected to see Democrats at a higher percentage of use for all social media and was surprised to see that was not the case.

Table 16 provided the most surprises. The two Independent Senators far exceeded the number of Facebook likes and Twitter followers than either the Democrats or the Republicans. The Republicans exceeded the Democrats in both Facebook likes and Twitter followers by a significant amount. I expected those numbers for the Republicans and Democrats to be reversed based upon the literature review and emphasis on social media by the Democrats.

Years in the Senate

I wasn't exactly sure what data I would find when I analyzed the number of years a senator has been in office in relation to their social media use. The majority of senators have less than 10 years of service.

Table 15 illustrates the fact that the number of years serving in the Senate did not influence the mean for the number of platforms used to any extent. It was fairly consistent across all the groups. Table 16 illustrates that there is no difference across the various years of service groups and the mean number of years on Facebook. However, there is a slight increase in the mean number of years using Twitter in each group as the number of years of service increases.

Table 17 illustrates that the two groups comprising senators with 11 - 29 years of service did send more tweets, and had an average number of tweets per year that exceeded the other two groups. In Table 18, the group of senators with 20 - 29 years of service far exceeded the number of Facebook likes and Twitter followers than any other group.

Conclusions

Analyzing social media usage is complex and very time consuming, but is necessary to be able to truly understand the value of social media, especially to a specific group of people, such as United States Senators. My study brought me to the realization that many assumptions I made prior to my study turned out not to be correct.

I learned it is not easy to apply the knowledge and results acquired by other research related to the use of social media by Internet users because of variables such as motivation. I was so used to the concept that people used those social media platforms that they enjoy the most, or see the most value in, that I initially assumed the same would apply to a group such as United States Senators.

While analyzing the data I had collected, I realized I had failed to take into account the fact that politicians have a vested interest in using as many social media platforms as possible to reach as many people as possible. Therefore, their presence in social media platforms may be higher than most social media users because they are motivated by need as opposed to using it for pleasure.

I had assumed that, in the case of Twitter and Facebook, there would be a strong connection between a senator's level of activity and years using the various types of social media platform and the number of likes and followers they have. Surprisingly, the data I collected indicated that if there is a connection, it is a very minor. The data I collected related to the Twitter followers who forwarded or referred to a senator's tweet was also lower than expected. That calls into question the value of Twitter to motivate followers, at least in the case of United States Politicians. We know from events in Egypt and elsewhere around the world that Twitter

can have a huge impact on what people do, but my research indicates that social media platforms, such as Twitter and Facebook, have limited value in motivating followers.

My analysis indicates that the gender, male means being higher than female in most of the tables, has the most influence over social media usage, followed by age, political party, and years in the Senate.

Recommendations

Every research project raises as many questions as it answers. One of the areas that would be interesting to study would be if the senators maintain their own social media platforms, such as Facebook and Twitter, or do they have staff that does it for them. I think results of a study of that nature would be interesting to gauge the level of actual social media involvement by the senator, as well as which social media they prefer to use.

Another interesting area of research would be to analyze actual number of responses in Facebook and Twitter that a senator posts to followers postings. For my study, I looked at the number of Facebook and Twitter posts that were initiated by the senator in a one week period. I did not have the time or resources to dig down into the various threads to see if the senators are actually engaging their followers in direct conversations, or just creating initial posts or tweets. I think that would be important data in determining how much of the interactive nature of social media senators are actually using.

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VITA

Jeffrey M. Stanton was born in Auburn, New York. After completing his work at Auburn High School, Auburn, New York in 1979, he entered Cayuga County Community College in Auburn, New York. He received the degree of Associates of Science in Computer Science in the summer of 1981. He received the degree of Bachelor of Science in Information Technology from the State University of New York , Empire College in Saratoga Springs, New York, in the summer of 2004. In August, 2010, he entered the Graduate School at the State University of New York, Institute of Technology, Utica, New York.

Permanent Address: 20 Lock Tenders Drive. Jordan, new York, 13080

This thesis was typed by the author.

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