



## Campaign Klout: Measuring Online Influence During the 2012 Election

Leticia Bode & Ben Epstein

To cite this article: Leticia Bode & Ben Epstein (2015) Campaign Klout: Measuring Online Influence During the 2012 Election, Journal of Information Technology & Politics, 12:2, 133-148, DOI: [10.1080/19331681.2014.994157](https://doi.org/10.1080/19331681.2014.994157)

To link to this article: <https://doi.org/10.1080/19331681.2014.994157>



Published online: 14 Jan 2015.



Submit your article to this journal [↗](#)



Article views: 705



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 10 View citing articles [↗](#)

## Campaign Klout: Measuring Online Influence During the 2012 Election

Leticia Bode  
Ben Epstein

**ABSTRACT.** This study seeks to understand the efficacy of online political campaign communication. We do this by measuring the changes in online influence of political candidates by utilizing Klout, a new, publicly available measure incorporating a variety of behaviors online. We collected daily Klout data of nearly all major congressional and presidential campaigns during the 2012 election cycle and compare them to other traditional measures of online influence and campaign success. We conclude that Klout offers valuable advantages as a sophisticated research tool for evaluating real-time online influence of political campaigns, but caution researchers about some limitations in its use.

**KEYWORDS.** Campaigns, elections, Klout, measurement, online influence, political communication, social media

Political communication is, above all else, an effort by political elites to connect with and inform the public in order to motivate political activity. In other words, political communication aims to influence people in order to gain support or mobilize political activity. For campaigns, communication influence is generally measured in retrospect by counting votes on Election Day. However, campaigns, and those who follow them closely, constantly strive to evaluate how effective their communication is in real time in order to maximize influence given limited resources. In the current era of online political communication, successful messaging is not merely broadcast to the masses;

it is rebroadcast, forwarded, and personalized by Internet users and political supporters via social networking sites, Twitter, and blogs. It is clear that although the online communication of campaigns has become increasingly sophisticated, constantly aiming to increase influence (Axelrod, 2013; Bimber, 2014; Issenberg, 2012; Kreiss, 2012; Madden, 2013; Strommer-Galley, 2014), the methods used to evaluate it have been limited to basic methods, until recently.

Companies are now developing more sophisticated ways of measuring online influence. Most notable among these is the Klout score, which incorporates dozens of online inputs to determine the reach of any given user. This study

---

Leticia Bode is an assistant professor in the Communication, Culture, & Technology program at Georgetown University. Her research interests lie in the various intersections of politics, communication, and technology.

Ben Epstein is an assistant professor in the Political Science Department at DePaul University. His research focuses on the interdisciplinary intersection of politics and communication technology from both a contemporary and historical perspective.

Address correspondence to: Leticia Bode, Communication, Culture, & Technology, Georgetown University, 3520 Prospect St., NW, Suite 311, Washington, DC 20057 (E-mail: [leticia.bode@georgetown.edu](mailto:leticia.bode@georgetown.edu)).

examines the usefulness of the Klout score in evaluating the online influence of various campaigns during the 2012 election. In doing so we seek to answer the following research question: to what extent is Klout a useful tool for measuring and comparing the online influence of political campaigns?

With the goal of answering this question, we first evaluate existing scholarship on influence in campaigns generally and online influence in particular. Next, we elaborate on Klout, why it was selected, and why it may serve as a useful tool to measure campaign communication and influence. In the next section we use Klout data collected daily over a 13-month period to analyze House, Senate, and presidential campaigns leading up to and following the 2012 election. Highlights of this analysis include a comparison with more traditional measures of campaign success (such as public opinion polls) and with other measures of online reach (including Facebook likes and Twitter followers), along with some unique insights into online influence during the 2012 election cycle. Finally, we offer some conclusions and suggestions for future research.

### **SCHOLARSHIP ABOUT THE INFLUENCE OF AND USE OF SOCIAL MEDIA BY CAMPAIGNS**

At the heart of this study is the intention to understand the efficacy of political campaign communication. Political campaigning literature has, at its core, always sought to answer two simple questions: do campaigns matter, and if so, how do they? The determination to study influence of a specific type—in this case, of online strategy and implementation—is simply an extension of this classic question. Thus we draw on theory-grounded understandings of campaign communication and influence in order to motivate our expectations of Klout scores as a potentially useful political metric.

Although messaging and communication have played central roles in campaigning throughout American political history, researchers have questioned the effectiveness of campaign influence for decades. The

effects of media and messaging by campaigns were generally thought to be small after the widely supported book *The Effects of Mass Communication* concluded that media effects on public opinion were minimal (Klapper, 1966). However, a seminal study published by McCombs and Shaw a dozen years later showed that the media does have substantial influence over the public in terms of agenda setting (McCombs & Shaw, 1972). This reinvigorated research on how campaigns try to use media to generate influence (McCombs & Shaw, 1991). Although there are a variety of findings about the degree to which media use by campaigns affects voters, studies over the past 15 years offer substantial evidence suggesting that campaigns do play a major role in shifting public opinion and voter choice, generally termed “campaign effects” (Grabe & Bucy, 2011; Iyengar & Simon, 2000; Johnston & Brady, 2006). Much research has specifically highlighted the most effective strategies in presidential campaign communication (Grabe & Bucy, 2011; Jamieson, 1996; Owen, 1991; Polsby, Wildavsky, Schier, & Hopkins, 2012). Moreover, campaigns for federal office (and especially presidential campaigns) are by far the most covered, the most watched, and the most expensive campaigns in U.S. politics, making them particularly important (although, of course, not the only relevant campaigns) to examine when considering campaign influence (Gulati, Just, & Crigler, 2004).

The task of measuring online influence is difficult, in part, because it is a concept that is only starting to gain attention among researchers and lacks a consistent definition. Influence, broadly speaking, has long been studied in the fields of sociology, communications and media, (Katz & Lazarsfeld, 1955), diffusion of innovations (Rogers, 2003), communications (Weimann, 1994), and marketing (Chan & Misra, 1990; Myers & Robertson, 1972). However, online influence is a much more recent and less well-established subject of scholarship. Several studies have recently helped to shape our understanding of online influence by exploring various ways online social networks influence users. Different types of influence occur on particular social networking sites (Cha,

Haddidi, Benevenuto, & Gummadi, 2010), and researchers have focused on individual influencers in these areas (Agarwal, Liu, Tang, & Yu, 2008; Goyal, Bonchi, & Lakshmanan, 2010; Weng, Lim, Jiang, & He, 2010). Yet few studies synthesize a holistic conception of online influence, extending across time and across multiple platforms. Micah Baldwin, a tech developer and social media expert, offered an early effort to clarify the concept of online influence by parsing it into three components: (a) an individual's personal brand (the aggregated representation of their online activity), along with (b) expertise and (c) the trust that others have in your information (Baldwin, 2009). In other words, those who have greater influence online fill a role within digital social networks similar to those opinion leaders or "influentials" described by the traditional studies of influence cited earlier. Baldwin argues that people or organizations "who are truly influential become conduits for human based filtering and content discovery within their communities, as members of the community look to the person of influence to connect them to people and content they should trust, and fuel positive community growth" (Baldwin, 2009). This conception of online influence naturally lines up with the political communication goals of campaigns that try to disseminate content, develop their own personal brand, and motivate a strong sense of community and political action, namely, voting. Ultimately, online influence can be defined as an individual or organization having an effect on the actions, behavior, or opinions of others through the strategic use of interactive Web-based communication tools or social media.

Although the existing literature generally supports the belief that the media use and communication strategies of campaigns do affect voters, the means to measure this influence have remained largely ephemeral. However, the data now available provide the opportunity to measure the changes in communication tactics, including the increasing use of social media by campaigns (Carpenter, 2010; Conway, Kenski, & Wang, 2013; Golbeck, Grimes, & Rogers 2010; Vaccari, 2014; Williams & Gulati, 2012). Research on the evolution of online campaigning has been difficult because of the constant

innovation of the technology and the localized nature of campaigns (Gibson, Williamson, & Römmele, 2014). However, Williams and Gulati have conducted several notable studies that have analyzed dramatic changes occurring over the past few election cycles (Williams & Gulati, 2007, 2009a, 2009b, 2010a, 2010b). In 2010, they evaluated how 836 congressional campaigns used Facebook, Twitter, and YouTube, and noted both a high adoption rate and very fast diffusion rate over just a few election cycles. Facebook was launched in early 2004, with YouTube beginning a year later and Twitter emerging in mid-2006. Facebook was first available to candidates during the 2006 campaign, and only 16% of Democrats and Republicans running for the House adopted a Facebook profile that year. By 2008 that number had spiked to 72%, and increased again to 82% in 2010 (Williams & Gulati, 2011). The 2010 midterm election marked only the second election in which YouTube was available to congressional candidates, with use again jumping from 28% in 2008 to 72% in 2010. Twitter is the youngest of the three sites, and although 2010 was the first election cycle in which it was available, nearly three-fourths (74%) of all House candidates adopted a Twitter account, even more than YouTube, although it had been available during previous election cycles (Williams & Gulati, 2011).

As expected, Senate campaigns, which are larger and better funded, innovated at a faster rate and used each of the social networking platforms to a higher degree than those running for the House. A striking 98% of Senate candidates had a Facebook account, 90% had a YouTube channel, and 94% opened a Twitter account in the first election where it was available (Epstein, 2011). Moreover, we know that candidates are integrating social media use into their campaign strategies in new and innovative ways, not always aligning with more traditional campaign tools such as television advertisements (Bimber, 2014; Bode et al., 2011). The 2012 presidential candidates all utilized social networking extensively in their Web presence, as reflected in the frequent media coverage of social media use in the 2012 election cycle, deeming 2012 the definitive "social media election" (see Jacobs,

2012; Towns, 2012; Yaverbaum, 2012 for just a few examples). Social networking tools have already become standard fare for campaigns and will likely be used by all serious candidates running in future elections. Today, campaigns have made the use of social networking the norm in their communications strategy.

Regardless of the increasingly social online presence of campaigns, the methods used to evaluate political online influence of these strategies have been fairly rudimentary. During the 2008 election a comparison of the number of Facebook friends of Obama and McCain was used to show the dominance of the Obama campaign in its use of social networking (Owyang, 2008; Rasiej & Sifry, 2008). By 2010, the number of Twitter followers became an important measuring stick of online reach, used to show how GOP candidates used the newest online tool to help secure major electoral victories (Calabrese, 2010; Vaccari & Nielsen, 2013). Some authors have also tried to combine multiple measures as a more sophisticated way of determining overall online influence (Franch, 2013). These numerical measurements merely attempt to quantify how many people may see a message sent by a campaign, although they fail even in that respect, because followers do not account for factors such as retweets and other means of spreading beyond an initial network. Ultimately these rudimentary measures, although commonly used, proved to be poorly suited to measure what types of messages are most effective or how campaign communication did or did not precipitate political attitudes or action. In other words, they are unable to realistically measure the true online influence of a particular campaign or individual who utilizes social media. There is an important distinction to be made between online popularity, measured by the number of people who see messages and posts, and influence, determined by the actual propagation of content or action taken on the part of others (Romero, Galuba, Asur, & Huberman, 2011). As one scholar puts it, "the temptation has long been to assume that quantity is quality. Calculating numbers of followers is a useful metric for determining potential audience reach, but it offers no insights into the quality of the communications" (Metzgar, 2012, pp. 3–4).

## METHODOLOGY

### *Using Klout to Measure Online Influence*

Online influence is increasingly deemed important to campaign communication (Serazio, 2014), but is quite difficult to measure. First, it extends across many platforms; online influence includes YouTube, Twitter, Facebook, Pinterest, Tumblr, and Wikipedia, to name just a few. Moreover, influence within these realms is not easily measured—it includes not only how many people are reached with a message, but also how influential that message is, how many people forward the message to a second level of influence, etc. For this reason, academics have not been very successful in measuring the concept of online influence. Of the few existing studies that attempt to tackle the subject of online influence, most focus on how to determine a more realistic measure of influence within a particular social media platform, usually Twitter (Cha et al., 2010; Bakshy, Hofman, Mason, & Watts, 2011).

Online influence is big business today with a growing number of companies offering services designed to measure, increase, and effectively utilize one's online social influence. Although none of these are explicitly political in design, they can be used to evaluate and potentially boost political influence online, just as they could with the influence of an individual or business. Among these various companies, Klout is arguably the most sophisticated and by far the most popular.<sup>1</sup> Klout provides users with a Klout score—a number from 1–100 that represents their online influence. A user's Klout score is based on three components: true reach (how many people a user influences), amplification (how much the user influences them), and network impact (the influence of the user's network) (Edwards, Spence, Gentile, Edwards, & Edwards, 2013; Klout, 2012a). Thus, a user whose network consists of other influential users who respond or share the person's posts would have a higher Klout score. This information is updated on a daily basis, and each morning the user's Klout score is changed to reflect that (Klout, 2012b).

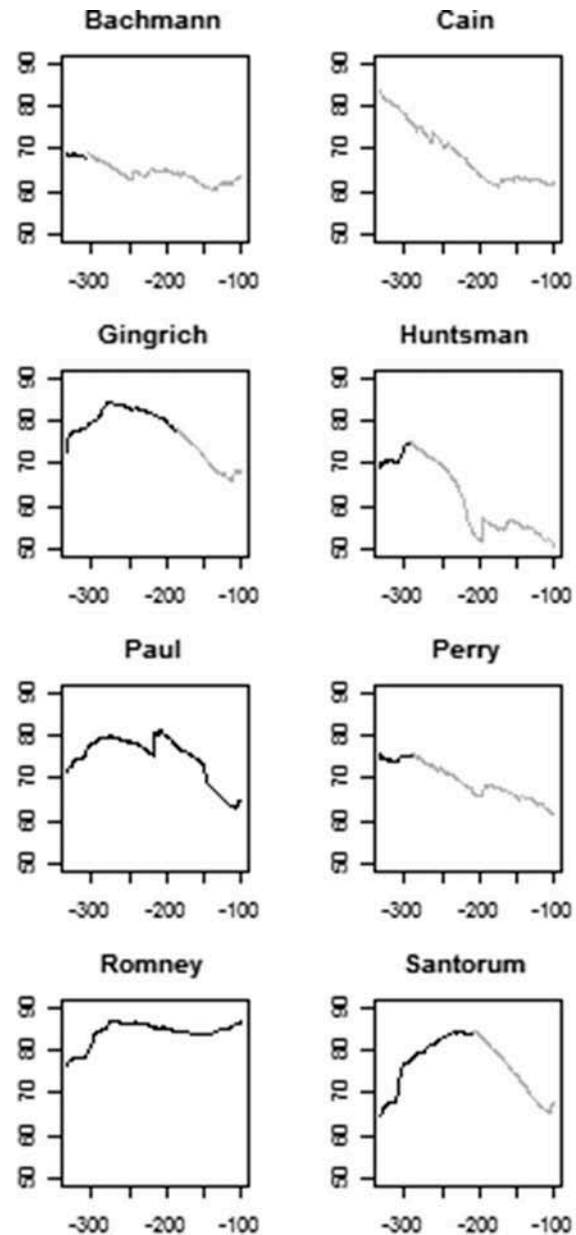
The actual score is determined by an algorithm that takes inputs from hundreds of pieces



of data, or signals, about a person's social network activity. On August 15th, 2012, Klout expanded their model to incorporate information from over 400 signals, derived from eight different social sites, including Facebook, Twitter, Google +, LinkedIn, Foursquare, Wikipedia, Bing, and Klout itself.<sup>2</sup> The result of this change was both a shift and stabilization in Klout score (see Figure 1 in the next section). With more data included in the algorithm, the shifts in Klout scores from day to day are smaller, suggesting that as the Klout score becomes more robust it is also becoming more consistent, forming more of a trend line of online influence than a daily spike or drop based on one or two online actions. Despite this, significant changes in Klout scores are still possible within short periods of time. It is important to note that the data used in this study span that important change in how the Klout score is generated.<sup>3</sup>

Klout is making strides regarding the transparency of their methodology, but to date has not released the details of their algorithm, which is a concern for those who place a large amount of faith in its accuracy.<sup>4</sup> For the purposes of this study, the specifics of the model are less important than whether the Klout score provides a stronger measurement of online influence than other more rudimentary forms of online measurement and whether it can be used to gauge the effectiveness of online political communication both during and after political campaigns. A few benchmarks are very helpful in providing context for the Klout scores used in this research. First, the average Klout score after the shift in August 2012 is 40, with higher scores becoming increasingly difficult to attain.<sup>5</sup> Therefore, there are more scores in the 40s than there are in the 50s and it is exceptionally rare to have a score nearing the maximum of 100.<sup>6</sup> In addition, the score is based on a rolling 90-day window of activity weighted toward recent activity. Thus a day or two of inactivity should not dramatically hurt a score, but a few posts that motivated tremendous activity can boost it relatively quickly. Furthermore, the score is affected by how influential the people you engage are. This can lead to a multiplier effect as influential posts are spread by other opinion leaders, thus increasing the overall online influence of

FIGURE 1. Daily Klout scores for all Republican presidential candidates during the primary period (December 2011–August 2012).



a particular user. Finally, the Klout score takes into account how much content a person creates compared to the amount of engagement they generate. In other words, posting less often but generating consistent activity among one's network and beyond is more influential than a high volume of posts with little action generated.

For these reasons, we believe Klout scores are more reliable measures of online influence as a more general concept than many of the more rudimentary measures frequently employed by scholars.

### ***Data Collection***

We chose to consider a timeline of over a year leading up to and directly following the election on November 6, 2012. We started collecting our data on December 9, 2011, and collected through the last day of 2012. We continued to collect data beyond Election Day in order to also take into account residual online influence registered in Klout scores because of the rolling 90-day window used by the company. These data include all of the major presidential and congressional primary contests, as well as the buildup to and aftermath of the general election.

In order to obtain our data, we gained access to Klout's API (Application Programming Interface), which allows us the ability to retrieve data directly from Klout as it updates on a daily basis.<sup>7</sup> We chose our campaigns by searching for all major candidates for federal office who had a Twitter handle when our data collection began in early December 2011. As campaigns evolved and new viable candidates gained a social media presence, we attempted to update our sample as accurately as possible in real time. We chose to include all major party candidates for the presidency in 2012 in our data collection, and include them in our analysis to the extent we are able, although sometimes missing data in other data sources prevents us from doing so. Although it was easy to identify all major candidates for president at the beginning of our study, this proved to be more difficult for congressional races. Ultimately this resulted in a relatively incumbent-heavy sample, and one that did not include the entire universe of congressional campaigns with Twitter accounts. We collected for both personal and campaign accounts where appropriate. In this analysis, we use the official campaign accounts in the cases where candidates have multiple accounts. Generally speaking, campaign account Klout scores are somewhat lower than personal account scores.

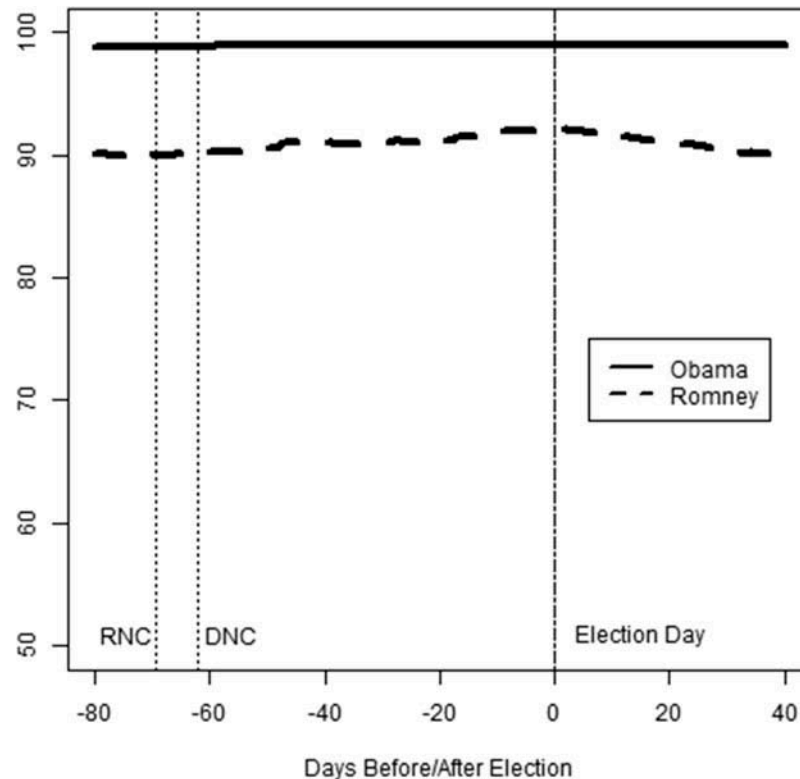
Other data used in our presidential analysis are obtained from four major sources. First,

we obtained information on presumed influence within individual social media platforms by detailing the number of followers each candidate has on Twitter and the number of likes he or she has on Facebook.<sup>8</sup> Each of these was obtained just before the shift in Klout algorithm in August of 2012, in order to evaluate Klout during the presidential primaries. Finally, we chronicled polling data from Pollster.com, a leader in aggregation of polls. We include at various times data from both individual state primaries and caucuses, as well as updated national poll averages by candidate by day to the extent that they are available throughout our period of data collection.<sup>9</sup>

### ***ANALYSIS OF THE PRESIDENTIAL ELECTION***

First, we thought it useful to consider descriptively the trajectory of the Klout scores of each major party presidential candidate, in order to show how (and if) Klout scores change meaningfully over the course of the election. Daily Klout scores for each candidate vying for the Republican presidential nomination from January 1 through the change in Klout algorithm on August 15, 2012, are shown in [Figure 1](#). [Figure 2](#) shows the trajectory of the Klout scores of the two major party nominees following the shift in August. This period corresponds well with the end of the primary period as the party conventions were set to occur just a few weeks later. Generally speaking, Klout scores increased continuously only for the eventual Republican nominee, Governor Mitt Romney. This is interesting considering that although President Obama was the clear nominee for the Democratic nomination from the beginning of our timeline, Governor Romney was in serious dispute at various points throughout the primary season. However, his social media influence as captured by his Klout score does not seem to have suffered even when his primary vote margins did, and this upward trend continued through Election Day, after which a victorious President Obama maintained a high level of Klout, but Romney's Klout score began to decrease.

FIGURE 2. Daily Klout scores by candidate during the general election period (August 2012–December 2012).



Other candidates followed different paths. As a general rule, once they had dropped out of the official running (the point at which the line turns from dark to gray in Figure 1), their Klout scores also decreased. For some candidates, including Jon Huntsman, Rick Perry, and Michelle Bachmann, a rebound in Klout score was experienced eventually after the low of dropping out. Newt Gingrich experienced a significant decrease throughout the primary period, prior to when he officially ended his campaign but after his poll numbers were no longer suggesting he was a viable candidate.

Interestingly, despite the extensive shifts in polling leaders throughout the primary period, relative Klout scores remained fairly stable between candidates throughout the period in question. Although we suspect the lack of volatility in the Klout scores is a result of the rolling 90-day window that Klout uses, it is still notable that Klout scores may serve as a

more reliable indicator of long-term viability of candidates than polling, which jumps around mightily.<sup>10</sup> Throughout our collection, President Obama consistently led in Klout score over all Republican candidates for president. Governor Romney was a consistent second, other than Herman Cain, who briefly held that position before his campaign plummeted during December 2011. Rick Santorum nearly bested Romney during his April surge, and Santorum and Ron Paul were a close third for most of the contest. Newt Gingrich and Jon Huntsman were close behind, with Michelle Bachmann and then Rick Perry in last in terms of Klout for the bulk of the primary period. Once it became clear that Romney was the presumptive candidate, all others in the field saw a precipitous decline in Klout. All candidates' Klout scores decreased from the first month to the last month of our sample, with three exceptions: Barack Obama, Mitt Romney, and Rick Santorum. This suggests



TABLE 1. Comparing Klout Scores to Other Social Media Metrics Using Correlations

	Correlation with Klout
Twitter followers	0.58*
Facebook likes	0.62*

\*Significant at  $p < .10$

that Klout scores are at least roughly indicative of overall success in the political realm, given that those three men did the best in the primary period.

We were also interested in how Klout scores compared to other social media metrics during the primary season. This helps us to know to what extent Klout does better in measuring online influence, as compared to more parsimonious measures such as Facebook likes or Twitter follows. To examine this, we performed simple correlations between Klout averages throughout our time period and the measures of Twitter followers and Facebook likes. Correlations are shown in [Table 1](#).

Generally speaking, it appears that Klout scores vary most strongly with Facebook likes. This is particularly interesting given that Klout originally considered only Twitter information in its measure (although now it considers a wealth of social media data, including that from Facebook).

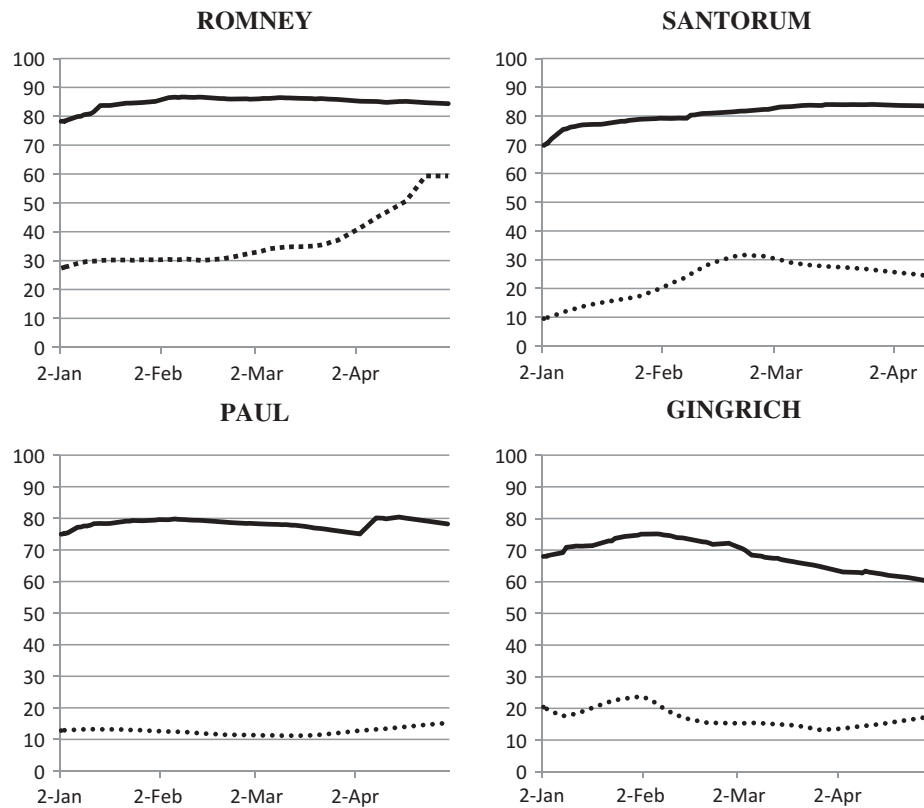
We also compared Klout scores to public opinion data, using nearly daily poll averages available from Pollster.com. Unfortunately, Pollster.com provides data only for the four candidates that stayed in the running for the Republican nomination the longest—Romney, Santorum, Paul, and Gingrich—and so we can only compare Klout scores to public opinion for those four candidates. If Klout was moving in accordance with public opinion polls, this might suggest that Klout is just a more complicated and less transparent measure of public opinion, and therefore not a very helpful metric.

The four graphs showing each candidate's Klout score and public opinion polling over the course of the primary season are shown in [Figure 3](#); solid lines indicate Klout scores and dashed lines indicate public opinion polling numbers. As can be seen in each graph, there

are not strong patterns evident to the naked eye. To some extent the trend lines seem to go together for most candidates, but because both measures are essentially averages (Pollster aggregating a number of polls and smoothing them, and Klout using the past 90 days of information to generate its scores), its trends are devoid of the jumps we might expect to see in response to major campaign events. Those are the sort of events that might help point out whether Klout scores actually co-vary with public opinion polling, as well as whether one precedes the other.

The updated Klout algorithm, corresponding with the general election period, produced some notably different trend lines (see [Figure 2](#)). Most obviously, the two lines are relatively static during the period. The only notable change occurs after Election Day, at which point Romney's Klout score begins to drop off. Recall Barack Obama won the popular vote by four points over Mitt Romney, 51% to 47%. In the Klout race, Obama won as well with a Klout score of 98.97 on Election Day, the highest of any individual account on Klout, compared to Mitt Romney's score of 92.09. However this nearly seven-point separation in Klout score represented a monumental lead in online influence because, as mentioned earlier, it becomes increasingly difficult to raise your Klout score the higher it gets. A comparison of the most influential moments for each campaign is illustrative of this phenomenon. Beyond the Klout score, Klout also provides information about the level of online influence of each post on social media. During the period of analysis, the most influential social media post sent by Mitt Romney was a tweet posted four days after the election, reading: "From the bottom of our hearts, Ann and I thank you for your support, prayers, efforts, & vote. We are forever grateful to every one of you." This tweet engaged over 13,000 people. Barack Obama, by comparison, sent out a tweet on election night including a picture of the president and Michelle Obama hugging that read "Four more years." Over 750,000 people commented on, edited, or forwarded the tweet, over 50 times as many people engaged by social media as Romney's best effort—the very definition of a blowout in the presidential battle for online influence.

FIGURE 3. Klout scores and public opinion by candidate.



Note. Solid lines indicate Klout scores; dashed lines indicate Pollster public opinion scores.

### *Analysis of House and Senate Races*

#### *Descriptive Statistics and Correlations*

Turning our attention toward Congress, we immediately noted how different the Klout scores appeared. The majority of cases were candidates for the House of Representatives and the average Election Day Klout score for these 305 cases was 63.34.<sup>11</sup> We broke these cases down further to consider whether Klout scores vary by important member characteristics. Klout scores offer further support for the often repeated claims of Democratic dominance in online campaigning during recent years. Democrats running for House seats averaged a Klout score of 64.92 on Election Day, over two points higher than the 62.24 averaged by Republican candidates. Regardless of party, the Klout scores correlated positively with the seniority of the candidate. It is not

surprising that longtime members of Congress have substantial influence, but it is notable that they have innovated their campaigns in order to extend this influence to the online realm. Outside of seniority, the two parties' average Klout scores on Election Day had statistically significant correlations with different factors (see Table 2). Klout scores for Democrats correlated positively with the partisan leaning of the district as measured by the percentage of voters who voted for Obama. Most surprisingly, Democratic Klout scores had a statistically significant negative correlation with the percentage of a district less than 20 years old. Thus, the more young people in a district the lower the Klout score. There may be many causes for this result but it seems clear that young Americans were not an important motivator for exerting online influence for House candidates. Other than candidate seniority, GOP campaigns' only

TABLE 2. Correlations Between Average House Campaign Klout Score on Election Day by Party and Various Campaign/Candidate/District Characteristics

Pearson Coef.		Seniority (in years)	Percent of District Vote for Obama	Percent of District under 20 Years Old	Total Money Raised (1/1/11–12/31/12)
Democratic Campaign	Corr. Coef.	<b>.187*</b>	<b>.230*</b>	– <b>.257**</b>	.049
Avg. Klout Score on	Sig.	<b>.039</b>	<b>.014</b>	<b>.005</b>	.590
Election Day	N	<b>122</b>	<b>113</b>	<b>120</b>	122
Republican Campaign	Corr. Coef.	<b>.155*</b>	.095	–.004	<b>.257***</b>
Avg. Klout Score on	Sig.	<b>.036</b>	.205	.957	<b>.000</b>
Election Day	N	<b>182</b>	180	180	<b>181</b>

\*\*\*correlation is significant at the .001 level (2-tailed)

\*\*correlation is significant at the .01 level (2-tailed)

\*correlation is significant at the .05 level (2-tailed)

statistically significant correlation was with the total money raised, suggesting that Republican Klout scores were much closer to traditional measures of campaign success such as fundraising totals.

The difference in Klout scores between parties was actually much smaller than the difference between incumbents and their challengers. Incumbents averaged a Klout score of 62.04 on Election Day (and a peak of 65.85), while challengers averaged over four points more, with an Election Day average of 66.53 (and a peak average of 70.15). Incumbents, despite all of their advantages (or perhaps because of them), had markedly lower online influence than those who sought to unseat them.<sup>12</sup>

### *Multivariate Analysis*

We were further interested in considering whether Klout scores could be predictive in a traditional electoral context—does online influence play a role above and beyond other factors related to electoral success? If we believe Klout is measuring online influence, and that online influence is a meaningful element of modern campaigns, Klout scores should significantly predict electoral success. Given the small number of candidates for president, it was not practical to do a large-scale quantitative analysis using presidential primary candidates (even in the well-populated 2012 field). Thus, we use the sample of congressional candidates to consider the impact of Klout on election outcomes.

In these analyses, we emphasize different model specifications as robustness tests. First, we originally considered both candidates for House (Table 3) and for Senate. However, given the small number of Senate candidates in 2010 (roughly 40 in our sample), we dropped the Senate analysis for lack of power. We also consider two outcome variables of interest: both vote margin received as well as whether the candidate won or lost.<sup>13</sup> Finally, we consider three different specifications of our key independent variable, considering online influence using Klout scores. We test a measure of Klout using a candidate's average Klout score over the electoral period, the maximum Klout score he or she achieved over that period, and the Klout score he or she logged on Election Day (November 6, 2012). Because this is an exploratory research project, it is worthwhile to consider alternative specifications of our key variable. Results of these analyses are shown in Table 3.

Notably, the variables reflecting online influence in the set of models measuring electoral outcomes for House candidates do very well. Two of the three specifications of our variable of interest are significant when considering both vote margin gained as well as whether the candidate won or lost. The most consistent predictor is the average Klout score over the entire period, which positively predicts both vote margins and electoral success. For this reason, we suggest use of the average Klout score over a relevant period of time to researchers interested in online influence.

TABLE 3. Predicting House Candidate Outcomes

	Outcome: Vote Margins			Outcome: Win/Loss		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Incumbent	-13.54 (11.86)	-13.57 (11.87)	-13.84 (11.83)	-21.80 (40192.88)	-21.80 (40192.92)	-21.96 (40192.99)
Party	-2.91 (2.37)	-2.95 (2.37)	-2.99 (2.36)	<b>-2.51**</b> (1.11)	<b>-2.51**</b> (1.10)	<b>-2.46**</b> (1.10)
Seniority	0.12 (0.10)	0.12 (0.10)	0.12 (0.10)	<b>0.12**</b> (0.06)	<b>0.12**</b> (0.06)	<b>0.12**</b> (0.06)
Age	0.10 (0.09)	0.09 (0.09)	0.09 (0.09)	-0.03 (0.04)	-0.03 (0.04)	-0.03 (0.04)
Leadership	<b>15.05**</b> (1.19)	<b>15.23**</b> (5.12)	<b>15.03**</b> (5.11)	18.57 (15,399.56)	18.60 (15,433.60)	18.61 (15,465.87)
Gender	1.19 (2.04)	1.23 (2.04)	1.33 (2.04)	-0.49 (0.73)	-0.47 (0.73)	-0.44 (0.73)
Race	1.42 (1.38)	1.44 (1.38)	1.24 (1.39)	1.62 (1.02)	1.62 (1.02)	1.62 (1.04)
Money	<b>-0.08**</b> (0.03)	<b>-0.08**</b> (0.03)	<b>-0.08**</b> (0.03)	<b>-0.02**</b> (0.01)	<b>-0.02**</b> (0.01)	<b>-0.02**</b> (0.01)
Obama vote	0.01 (0.08)	0.01 (0.08)	0.01 (0.08)	<b>-0.12**</b> (0.03)	<b>-0.12**</b> (0.03)	<b>-0.12**</b> (0.03)
% under 20	-0.07 (0.24)	-0.07 (0.24)	-0.09 (0.24)	-0.03 (0.09)	-0.03 (0.09)	-0.03 (0.09)
Median H. Income	<b>0.01**</b> (0.01)	<b>0.01**</b> (0.01)	<b>0.01**</b> (0.01)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)
Klout average	<b>0.11*</b> (0.07)	—	—	<b>0.04*</b> (0.03)	—	—
Klout max	—	0.10 (0.06)	—	—	<b>0.04*</b> (0.02)	—
Election Day Klout	—	—	<b>0.13**</b> (0.07)	—	—	0.04 0.03
$R^2$	0.19	0.19	0.19	0.32	0.32	0.32
$N$	256	256	255	256	256	255

Models for vote margins outcomes are OLS; those for win/loss are logistic regression. Beta coefficients reported with *SE* in parentheses. \*\* $p < .05$  \* $p < .10$

In addition, the Klout score on Election Day predicts vote margins, and the maximum Klout score predicts a candidate winning. It makes sense that the Election Day Klout score might most accurately predict vote margins, given that it is the closest in time to the point at which people are actually going to the polls. The maximum Klout score, on the other hand, might be thought of as a measure of underlying online influence, or even potential online influence, thus predicting a candidate's eventual success or failure. Importantly, the coefficients across all three specifications are very similar, suggesting that they are essentially measuring the same concept.

Other "usual suspects," including seniority and fund-raising, play a significant role in the

model, reassuring us that Klout is having an effect above and beyond these more traditional variables of electoral success. Additionally, in each case the addition of the Klout variable significantly increases the explanatory power of the model ( $p < .001$ ), increasing the  $R^2$  by an average of one point.

## CONCLUSIONS

At the most fundamental level, this study attempted to evaluate the extent to which it is possible to use Klout to measure online influence of political campaigns in real time. It is obvious that Klout is a much more sophisticated measurement of online presence

and influence than the rudimentary measures available previously, such as Facebook likes or retweets on Twitter. In addition, it offers an easy way to track changes in online influence over time, because it is updated daily.

Our analysis of Klout during the 2012 congressional and presidential campaigns offered several important takeaways. During the presidential primary campaign Klout data proved to be much more stable than polling data. Although polling data is likely to be a better predictor of electoral success, Klout data can provide a better picture of how influential a campaign's message is at various levels of popular support, as well as a clearer understanding of the effect of a campaign on a candidate's long-term online influence. As various Republican challengers faded from contention, their Klout scores dropped but eventually started to settle around a new post-campaign status quo. Perhaps more useful was the comparison of presidential campaigns during the general election.<sup>14</sup> Although Obama won the election over Romney by four points, 51% to 47%, he trounced Romney in the online influence battle. By any account, Romney's Election Day Klout score of 92 was extremely high, but it paled in comparison to Obama's 99. Because the Klout score is based on a logarithmic scale (rather than a linear scale such as voting margins), the seven-point advantage meant an enormous difference in online influence. This was illustrated most clearly by the fact that the most influential piece of social media content sent by the Obama campaign engaged over 50 times as many people as the most influential social media content sent by the Romney campaign. Moreover, although most Klout scores move considerably both up and down over the course of the campaign, Obama's Klout score only rises during the primary period, and plateaus for the general election campaign, never falling (Figure 2). We believe this suggests that some of the most useful applications of the Klout score for campaign research may be in the direct comparison of competing campaigns.

Our findings regarding congressional races suggest that online influence was measurably different based on type of race, party, and incumbency status. We find that Senate campaigns are generally more influential than House

campaigns, which is to be expected with the larger population targeted in statewide races. Klout data also confirms the widely held claim that Democratic campaigns held a technological advantage over their Republican counterparts in 2012, because Democratic campaigns were more influential in both Senate and House races. A very interesting finding, and one worth exploring further, was that incumbency mattered, but in less consistent ways. Senatorial incumbents held a decisive lead over Senate challengers, while the opposite was true for House races. This could be due to the size of the target audience, or the fact that Senate incumbents have much greater national recognition and influence than do House members. More research is needed in this area.

Multivariate analysis of House races provides an added level of sophistication available with Klout data. There was little difference between the average, high, and Election Day Klout scores in terms of their predictive capabilities. The most consistent predictor is the average Klout score, which positively predicts both vote margins and electoral success. Although Election Day Klout scores likely offer the best predictive value for the actual voting margin, the average score is the most consistent, and the maximum score offers the greatest glimpse into the likelihood of electoral success. Although more research is needed, initial indications show that the Klout score can be used to predict different aspects of electoral outcomes when used in different ways. Furthermore, other traditional factors, such as seniority and money raised, play a significant role in our model, supporting the argument that online influence is having an effect above and beyond these more traditional variables of electoral success.

Generally, Klout proved to be a useful metric to measure the online influence of political campaigns. It is easily accessible and seems to work as a reasonable proxy for other harder-to-get data, including a wealth of social media metrics or other Web metrics that often help drive campaign strategy. In addition, the stability of Klout scores may serve as a particularly strong proxy for public opinion polls over a longer period of time. Klout scores provide the opportunity to externally evaluate the effectiveness of



online campaign communication strategy, and compare the online influence of competing campaigns during a campaign as opposed to simply connecting the dots after each election.

There are, however, some very important challenges that Klout poses to scholars wanting to use them as a reliable measurement tool. First and foremost the algorithm used to determine the Klout scores is not publicly known. This lack of transparency leaves a measure of doubt as to how accurate and reliable the Klout scores are, particularly for the specific needs of political communication scholars. This lack of transparency also makes it difficult to draw concrete conclusions about what, exactly, is being reflected in the Klout score. Because of this, we cannot say definitively that Klout is measuring online influence and not something broader such as the intensity of the campaign, or simply media mentions.<sup>15</sup> Besides the fact that Klout does not make its score model public knowledge, the model is changed regularly to incorporate more signals from more sites. Although Klout is very clear about when and why it makes updates to the model, and generally these changes strengthen the metric overall, it still poses a challenge to using it as a long-term comparative tool because scores from before an algorithm update do not necessarily correlate perfectly with scores after. For example, after the August update, we saw scores for the presidential candidates in our sample jump fairly dramatically: an average of 19 points and as much as 39 points for a single candidate. Moreover, because of the 90-day moving average, there is now no evidence of this jump within Klout itself. This highlights the importance of collecting data in real time, rather than retroactively.

This study offers substantial promise for future research. First, this study demonstrates the potential impact of collecting and analyzing large data sets that detail real-time changes in political communication and online influence. This study demonstrates that it is now possible to measure the effect of specific events and communication efforts in the course of a particular campaign, election, or event. We hope to conduct similar analyses during future campaigns, which will offer the opportunity to observe notable trends in online influence over

the course of a number of election cycles. Real-time analysis of online political communication could become particularly useful as online campaigns become more sophisticated and more integrated into general campaigns at all levels. This window into the real-time online influence of political campaigns is a clear breakthrough for those looking to study the process of online communication strategies while it is occurring.

Finally, our findings suggest that online influence itself is a valuable concept that deserves much more attention from political communication scholars in the future. The ongoing shift of political communication strategies to the digital interactive environment, most notably through the use of social media and blogs, begs for thoughtful analysis. A continually evolving set of measurement tools, including but not limited to Klout, offers opportunities to measure online influence within the political context in a way that was never possible before. However, more investigation is warranted as to the practicality of using these new metrics as proxies for traditional measures of campaign success.

## ACKNOWLEDGMENTS

The authors wish to thank the reviewers and editors for their thoughtful comments along with Kevin Wallsten, Dave Ohls, Roxana Elliott, and members of the Georgetown University American Government Seminar.

## NOTES

1. As of October 13, 2014, Klout.com ranked as the 868nd most popular Internet site in America, and 1519th globally.

2. The Klout algorithm used prior to August 15, 2012, utilized just over 100 signals from five different sites and did not include information from Klout or Wikipedia.

3. We indicate throughout which time period of data we are pulling from. All data presented in this paper and all details of Klout scores presented in this paper are based on the more recent score model, unless otherwise noted.

4. Although we consider this an important limitation, research should not shy away from using proprietary data only because of its lack of openness. Valuable insight can still be gained by studying these types of data (Weaver &

Bimber [2008] and Lazer, Kennedy, King, & Vespignani [2014] are good examples of this). One potential solution to this “black box” problem would be the use of Kred, an alternative online influence measurement tool, and one of the only sites that promises full transparency, offering its algorithm to the public. Kred was launched in 2011 and didn’t gain much traction until the end of the study period. It remains much less popular than Klout, ranking approximately 26,000th in America and 32,000th globally as of June 28, 2014. Regardless, it may offer advantages of a more transparent source of data for future research regarding online influence.

5. The average Klout score prior to the adjustment in August 2012 was 20.

6. President Obama’s Klout score of 98.97 on Election Day, detailed later in this study, was the highest Klout score recorded on that day.

7. To do so we established a Google Document that utilized a formula calling Klout’s API, and updated it on a daily basis for nearly 13 months. We have full data for each day with two exceptions: January 20 and February 18, 2012. We have no reason to believe there is anything systematically different about those particular instances of missing data.

8. We considered alternative measures for Facebook—including fans and friends—but “likes” became the most relevant measure once they were integrated into business and fan pages.

9. All Pollster data are publicly available from <http://elections.huffingtonpost.com/pollster/2012-general-election-romney-vs-obama>. For more information on Pollster’s aggregation methods, see <http://www.pollster.com/pollster-faq/#3>.

10. This stability was only more pronounced after the Klout model became more sophisticated in August.

11. The Election Day Klout average was notably lower than the maximum score for House candidates, which averaged 67.08 after Klout changed their algorithm. This suggests that Klout scores did not simply increase leading up to the climax on Election Day but required maintenance—continued social media activity—for campaigns to maintain or increase online influence throughout the campaign period.

12. These analyses were repeated with Senate races, although with a much smaller number of races, differences are generally not significant and are not reported due to space. Senate Klout scores were positively correlated with money raised, and incumbents had much higher Klout scores than did challengers.

13. Note again that we had a sample skewed toward winners: 88.1% of our sample won the general election.

14. It is worth noting that the Klout scores used in the primaries and those used in the general election are from different algorithms, that is, Klout changed the way they determined scores between the first and second periods we consider.

15. We do limit other possible explanations by pointing out that Klout has an impact above and beyond that of other typical campaign variables, including campaign resources and public opinion polls.

## REFERENCES

- Agarwal, N., Liu, H., Tang, L., & Yu, P. S. (2008, February). Identifying the influential bloggers in a community. *Proceedings of the 2008 International Conference on Web Search and Data Mining*, 207–218.
- Axelrod, D. (2013). Election overview. In K. H. Jamieson (Ed.), *Electing the president 2012: The insiders’ view* (pp. 19–47). Philadelphia, PA: University of Pennsylvania Press.
- Bakshy, E., Hofman, J. M., Mason, W. A., & Watts, D. J. (2011). Everyone’s an influencer: Quantifying influence on Twitter. *Proceedings of the Fourth Association for Computing Machinery International Conference on Web Search and Data Mining*, 65–74.
- Baldwin, M. (2009, March 2). How to: Measure online influence. *Mashable*. Retrieved from <http://mashable.com/2009/03/02/measuring-online-influence/>
- Bimber, B. (2014). Digital media in the Obama campaigns of 2008 and 2012: Adaptation to the personalized political communication environment. *Journal of Information Technology & Politics*, 11, 130–150.
- Bode, L., Lassen, D., Sayre, B., Kim, Y. M., Shah, D. V., Fowler, E. F., Ridout, T. N., & Franz, M. (2011). *Putting new media in old strategies: Candidate use of Twitter during the 2010 midterm elections*. Paper presented at the 2011 annual meeting of the American Political Science Association, Seattle, WA.
- Calabrese, A. (2010, October 25). GOP beating Democrats with social media for midterm elections. *PBS*. Retrieved from <http://www.pbs.org/mediashift/2010/10/gop-beating-democrats-with-social-media-for-midterm-elections298.html>
- Carpenter, C. A. (2010). The Obamamachine: Technopolitics 2.0. *Journal of Information Technology & Politics*, 7(2-3), 216–225.
- Cha, M., Haddidi, H., Benevenuto, F., & Gummadi, K.P. (2010). Measuring user influence in Twitter: The million follower fallacy. *Proceedings of the Fourth International Association for the Advancement of Artificial Intelligence Conference on Weblogs and Social Media*.
- Chan, K. K., & Misra, S. (1990). Characteristics of the opinion leader: A new dimension. *Journal of Advertising*, 19, 53–60.
- Conway, B. A., Kenski, K., & Wang, D. (2013). Twitter use by presidential primary candidates during the 2012 campaign. *American Behavioral Scientist*, 57(11), 1596–1610.

- Edwards, C., Spence, P. R., Gentile, C. J., Edwards, A., & Edwards, A. (2013). How much Klout do you have . . . A test of system generated cues on score credibility. *Computers in Human Behavior*, 29(5), A12–A16.
- Epstein, B. (2011). *The revolution will not be televised anymore: New technology, political choice, and changes in political communication from the newspaper to the Internet* (Doctoral dissertation, City University of New York Graduate Center). Retrieved from ProQuest (3481584).
- Franch, F. (2013). (Wisdom of the Crowds)<sup>2</sup>: 2010 UK election prediction with social media. *Journal of Information Technology & Politics*, 10(1), 57–71.
- Gibson, R., Williamson, A., & Römmele. (2014). Introduction: Chasing the digital wave: International perspectives on the growth of online campaigning. *Journal of Information Technology & Politics*, 11(2), 123–129. Retrieved from <http://www.tandfonline.com/doi/pdf/10.1080/19331681.2014.903064>
- Golbeck, J., Grimes, J. M., & Rogers, A. (2010). Twitter use by the U.S. Congress. *Journal of the American Society for Information Science and Technology*, 61(8), 1612–1621.
- Goyal, A., Bonchi, F., & Lakshmanan, L. V. (2010). Learning influence probabilities in social networks. *Proceedings of the Third Association for Computing Machinery International Conference on Web Search and Data Mining*, 241–250.
- Grabe, M. E., & Bucy, E. P. (2011). News and the visual framing of elections. In D. A. Graber (Ed.), *Media power in politics* (pp. 169–184). Washington, DC: CQ Press.
- Gulati, G. J., Just, M. J., & Crigler, A. N. (2004). News coverage of political campaigns. In L. L. Kaid (Ed.), *Handbook of political communication research* (pp. 237–256). Mahwah, NJ: Lawrence Erlbaum Associates.
- Issenberg, S. (2012). *The victory lab*. New York, NY: Broadway Books.
- Iyengar, S., and Simon, A. F. 2000. New perspectives and evidence on political communication and campaign effects. *Annual Review of Psychology*, 51, 149–169.
- Jacobs, D. L. (2012, June 25). 2012 election: Social media will play key role in women's vote. *Forbes*. Retrieved from <http://www.forbes.com/sites/deborahljacobs/2012/06/25/in-2012-election-social-media-will-play-key-role-in-womens-vote/>
- Jamieson, K. H. (1996). *Packaging the presidency*. New York, NY: Oxford University Press.
- Johnston, R. G. C., & Brady, H. E. (2006). *Capturing campaign effects*. Ann Arbor: University of Michigan Press.
- Katz, E., & Lazarsfeld, P. (1955). *Personal influence: The part played by people in the flow of mass communications*. New York, NY: Free Press.
- Klapper, J. T. (1966). *The effects of mass communication*. New York, NY: Free Press.
- Klout. (2012a). *The Klout score: Measuring influence since 2008*. Retrieved August 19, 2012, from <http://klout.com/corp/kscore>
- Klout. (2012b). *Understanding Klout*. Retrieved August 19, 2012, from <http://klout.com/#/understand>
- Kreiss, D. (2012). *Taking our country back*. New York, NY: Oxford University Press.
- Lazer, D., Kennedy, R., King, G., & Vespignani, A. (2014). The parable of Google Flu: Traps in big data analysis. *Science* 343(6176), 1203–1205.
- Madden, K. (2013). Campaigns and the press. In K. H. Jamieson (Ed.), *Electing the president 2012: The insiders' view* (pp. 48–80). Philadelphia, PA: University of Pennsylvania Press.
- McCombs, M. E., & Shaw, D. L. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, 36(2), 176–187.
- McCombs, M. E., & Shaw, D. L. (1991). The evolution of agenda-setting research: Twenty-five years in the marketplace of ideas. *Journal of Communication*, 43, 58–67.
- Metzgar, E. T. (2012). Is it the medium or the message? Social media, American public diplomacy, & Iran. *Global Media Journal*, 11(21), 1–16.
- Myers, J. H., & Robertson, T. S. (1972). Dimensions of opinion leadership. *Journal of Marketing Research*, 9, 41–46.
- Owen, D. M. (1991). *Media messages in American presidential elections*. Westport, CT: Greenwood Press.
- Owyang, J. (2008, November 3). Snapshot of presidential candidate social networking stats. *Web Strategist*. Retrieved from <http://www.web-strategist.com/blog/2008/11/03/snapshot-of-presidential-candidate-social-networking-stats-nov-2-2008/>
- Polsby, N. W., Wildavsky, A., Schier, S. E., & Hopkins, D. A. (2012). *Presidential elections: Strategies and structures of American politics* (13th ed.). New York, NY: Rowman and Littlefield.
- Rasiej, A., & Sifry, M. (2008, November 12). The Web: 2008's winning ticket. *Politico*. Retrieved from <http://www.politico.com/news/stories/1108/15520.html>
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York, NY: Free Press.
- Romero, D. M., Galuba, W., Asur, S., & Huberman, B. A. (2011). Influence and passivity in social media. *Machine Learning and Knowledge Discovery in Databases*, 6913, 18–33.
- Serazio, M. (2014). The new media designs of political consultants: Campaign production in a fragmented era. *Journal of Communication*, 64, 743–763.
- Stromer-Galley, J. (2014). *Presidential campaigning in the Internet Age*. New York, NY: Oxford University Press.
- Towns, S. (2012, June 29). 2012: The social media election? *Government Technology*. Retrieved from <http://www.govtech.com/e-government/2012-The-Social-Media-Election-Opinion.html>

- Vaccari, C. (2014). You've got (no) mail: How parties and candidates respond to E-mail inquiries in Western democracies. *Journal of Information Technology & Politics*, 11, 245–258. Retrieved from <http://www.tandfonline.com/doi/pdf/10.1080/19331681.2014.899536>
- Vaccari, C., & Nielsen, R. K. (2013). What drives politicians' online popularity? An analysis of the 2010 U.S. midterm elections. *Journal of Information Technology & Politics*, 10, 208–222.
- Weaver, D. A., & Bimber, B. (2008). Finding news stories: A comparison of searches using LexisNexis and Google News. *Mass Communication Quarterly*, 85(3), 515–530.
- Weimann, G. (1994). *The influentials: People who influence people*. Albany, NY: SUNY Press.
- Weng, J., Lim, E., Jiang, J., & He, Q. (2010). TwitterRank: Finding topic-sensitive influential twitterers. *Proceedings of the third ACM international conference on Web search and data mining*.
- Williams, C. B., & Gulati, G. J. (2007). *Social networks in political campaigns: Facebook and the 2006 midterm elections*. Paper presented at the annual meeting of the American Political Science Association, Chicago, IL.
- Williams, C. B., & Gulati, G. J. (2009a). Closing gaps, moving hurdles: Candidate Web site communication in the 2006 campaigns for Congress. In C. Panagopoulos (Ed.), *Politicking online: The transformation of election campaign communications* (pp. 48–76). New Brunswick, NJ: Rutgers University Press.
- Williams, C. B., & Gulati, G. J. (2009b). *Facebook grows up: An empirical assessment of its role in the 2008 congressional elections*. Paper presented at the annual meeting of the Midwest Political Science Association 67th Annual National Conference, Chicago, IL.
- Williams, C. B., & Gulati, G. J. (2010a). *Communicating with constituents in 140 characters or less: Twitter and the diffusion of innovation in the United States Congress*. Paper presented at the annual meeting of the Midwest Political Science Association, Chicago, IL.
- Williams, C. B., & Gulati, G. J. (2010b). Congressional candidates' use of YouTube in 2008: Its frequency and rationale. *Journal of Information Technology & Politics*, 7, 93–109.
- Williams, C. B., & Gulati, G. J. (2011). *Social media in the 2010 congressional elections*. Paper presented at the annual meeting of the Midwest Political Science Association, Chicago, IL.
- Williams, C. B., & Gulati, G. J. (2012). Social networks in political campaigns: Facebook and the congressional elections of 2006 and 2008. *New Media & Society*, 15(1), 52–71.
- Yaverbaum, E. (2012, May 1). 2012 election: A social media scorecard putting up the numbers for Romney and Obama. *Huffington Post*. Retrieved from [http://www.huffingtonpost.com/eric-yaverbaum/2012-election-a-social-me\\_b\\_1468600.html](http://www.huffingtonpost.com/eric-yaverbaum/2012-election-a-social-me_b_1468600.html)