Young adults social networks media utilization and political participation

ABSTRACT

We investigate the impact of recent government initiatives to increase political participation by young adults via the use of Web 2.0 technologies and the involvement in online social networks. In particular, we conduct two interaction studies with different experimental conditions to investigate whether individuals who seek engagement with the government are able to successfully search and locate appropriate contact points, and how that process involves new media technologies.

We conduct two experimental studies in which we consider qualitative and quantitative factors. We show how search is impeded by individual and institutional factors, and that social networks are still underappreciated by users when cues are delivered outside of their most common usage contexts. However, framing a call-for-action as a social media grassroots message positively impacts the likelihood that participants’ search is concluded successfully.

Author Keywords

Political participation, college students, online interaction, experiment, impact of social networks
INTRODUCTION

On his first day in office, January 21, 2009, President Barack Obama signed the Memorandum for the Heads of Executive Departments and Agencies on Transparency and Open Government (Orszag, 2009). One of the planks of this document is that the new Administration would be, “empowering the public – through greater openness and new technologies – to influence the decisions that affect their lives (Chopra and Eisen, 2010).” As a result of this directive, United States government agencies were encouraged to adopt Web 2.0 technologies and to develop a presence on social media websites to further the core principles of transparency, participation, and collaboration.

However, technologists argue that the government is ill-equipped to develop the full potential of this approach for several reasons (Harris, 2010). First, the multiplicity of incoming message streams (in addition to the constituents’ letters to Congress members) further exacerbates the information overload and exceeds the attention limitations of staffers. This is partly because the current implementations of Web 2.0 platforms are not necessarily developed with the government’s needs in mind (Harris, 2010). Second, a software solution customized for the purposes of congress (that could potentially tackle information overload issues) has to overcome countless regulatory hurdles and needs to address the realities of deeply entrenched legacy systems (Robinson et al., 2009).

In this paper, we present results from two experimental studies researching the impact of these diverse initiatives when young adults want to communicate their concerns and messages to the most appropriate government institution. To address this aspect of the constituent perspective of participation and collaboration with the government we believe that a static and descriptive analysis of the Websites of government agencies including their utilization of Web 2.0 tools and social networking sites could only partially account for the complex interaction processes that lead to effective absorption of citizens’ concerns. Instead, we adopt an interaction study approach to follow users through the process of
identifying the proper communication channels with government agencies when they have specific scenario-based needs (Spink and Jansen, 2004; Rosson and Carroll, 2001). We are able to effectively contrast and compare the diversity of search and success/failure patterns revealed by the participants and to discuss the relative impact of social media in this process.

In the first study, we engage participants in four different message scenarios targeting different government agencies. We observe the differences in search behavior and resulting consequences for the success of the interactions.

The second study varies the framing of the instructional message given to the participants. In the control condition, subjects receive a printed email message from their university’s campus system. In the treatment condition, we delivered the scenario description with a social media framing, i.e., the printed description followed the layout of a typical Facebook message.

In both experiments, we encouraged participants to deliver their message via the Internet to the federal government agency that best fit the scenario they were given. Our analysis of the two studies is focused on several objectives.

First, we want to ascertain study participants’ difficulties to accomplish the task goal. For this purpose we analyze the users’ search behavior and formulation of mental models of search as evidenced by their query terms.

Second, we determine the relative prominence and importance of Web 2.0 artifacts and social networking sites during the search and participation process. Study 2 complements this research question by considering the aspect of alternative framing on search success and interaction behavior.

Third, we comment on the participants’ perception of the online participation process. For this purpose, we debrief participants after the experimental episode. In study 1 we conduct interviews with the participants, while in study 2 we utilized a survey approach.
Academic studies predicted that commonplace access to the Internet would likely contribute to the inclusion of new types of individuals in the political participation process (Krueger, 2002). Young adults are one of these constituencies who are traditionally underrepresented in the American electorate and other political activities. But recent events have shown that the youth can be mobilized with grassroots campaigns and the use of new communication paths to participate in elections. See, for example, the 2006 election cycle and the use of mobile phone text messaging (Dale and Strauss, 2009).

We expect that the relatively stronger technology skills of young adults also make them particularly accessible to novel government participation tools and sites, and believe that they, therefore, represent a key population for our study goals. Further, our investigation helps to evaluate whether the new efforts by the government likely contribute only to the dissemination of its policy messages or the mobilization of potential voters, rather than a meaningful bidirectional exchange of ideas between citizen and their directly elected representatives. Our hope is that the government is actually moving towards the latter, in contrast to the idea that Arnstein (1969) discusses in her paper “A Ladder of Citizen Participation,” where the government often deliberately creates a false sense of citizen participation through subterfuge and misleading rhetoric and actions.

In the following section, we begin with a description, analysis and discussion for the first study. Then, we present the second study. Finally, we synthesize our findings in a concluding section.

**STUDY 1**

The purpose of this experiment is to get an understanding of the efficacy of online government presence to solicit citizen participation in policy creation, specifically via social networks. Efficacy is regarded as both providing sufficient locations for such conversation and providing an easy navigation path to said locations. As such, our major focuses are the mental models and paths subjects take to reach what they believe are appropriate portals to share opinions with federal government agencies. Literature on the
idea of online search has, especially as of late, been a hot topic. Roth et al. (2010) identify the necessity of meeting user expectations in order to prevent errors and improve the speed at which they navigate. Stibel (2005) also talks about the importance of intuitive website construction to provide a more compelling online experience. In our paper we judge efficacy similarly by looking at the social network presence of different government agencies, the ease at which participants experience to and whether or not they know to use such avenues. Studies such as the one conducted by Brandt and Lorna (2003), suggest that mental models could be strengthened through learning and practicing skills. To address this idea, we provide each participant with two different scenarios prompting them to express their opinions to two different federal agencies. Although the time lapse between subject searches is limited, we hope to see improvement in the search paths from the first scenario to the second.

STUDY DESIGN, RECRUITING AND SUBJECTS

In the first study, we developed four user interaction scenarios geared towards different government agencies (Rosson and Carroll, 2001): The Food and Drug Administration (FDA), Federal Aviation Administration (FAA), Environmental Protection Agency (EPA), and the White House (WH). For example, the FDA scenario included the following key section:

“Recently, the media has reported a number of diabetes prescription drug recalls. Since you are a diabetes patient, you are concerned about the recall issue and would like to let the government know that there should be more strict regulations for prescription drugs.”

Participants were asked to identify an appropriate submission location on the Internet to deliver a personal comment to the government. We provided all subjects with an identical experimental starting environment on the same personal computer, i.e., a blank Firefox browser page without additional search bar features. Subjects were sequentially participating in two scenarios. Therefore, our quasi-
experimental setup is a combination of within (i.e., two scenarios per person) and between (i.e., four different scenarios in total) subjects factors. We conducted counterbalanced trials with the order systematically varied where every possible permutation of the experimental design was tested equally often.

Participants were recruited from the general student population present in a popular student lounge at an US-based Tier 1 public research university. Involvement in the study was voluntary and unpaid, and required agreement to a notice and consent form. In the present study, 12 undergraduate students from undefined majors participated. No students that we approached refused participation in the study, or had to be removed from the subject pool (e.g., for lack of basic online literacy). The limited number of participants allows for an initial appreciation of the search and interaction challenges for this particular task, and for necessary insights for a substantially larger and more focused study that is currently in progress. Our statistical analysis and findings need to be understood within the context of the limited population size for this preliminary study.

We recorded the entire sessions of participants’ interaction behavior, and conducted a brief post-experimental debriefing section.

RESULTS

In the following, we present selected results derived from the experimental portion of our study. At first, we provide a more formal description of the individuals’ search process and include flow diagrams of a successful and failed search (Figure 1 and Figure 2, respectively) to provide the reader with the opportunity to get familiarized with the diversity of search patterns. Then, we delve into a more qualitative analysis of the interaction patterns.
Numerical observations about search behavior

We are considering a number of interaction variables that were observable in our recordings (R=24); with two sequential recordings for each of our subjects (N=12).

As basic variables we recorded the time spent during the search as well as the number of interaction steps. We counted as interaction steps each entry/modification of search terms or web addresses, as well as navigation moves that lead to a new website, external program (e.g., email) or document, but excluded scrolling, or other mouse movements.

Irrespective of success, participants completed each individual search task on average in 208 sec. (std. = 135 sec.) with about 13.75 interaction steps (std. = 9.4). The relatively high standard deviation is indicative of significant heterogeneity in the subject pool and/or difficulty of the different scenarios.

In fact, we find that the WH scenario (which involved the submission of comments about healthcare reform) required the shortest amount of search time (105 sec., $p<0.015$) and the fewest interaction steps (7 steps, $p=0.02$ for two-sided t-test between WH scenario compared to aggregated other observations). That is, the scenario with the most prominent government entity (i.e., the White House) and most pressing policy issue (i.e., healthcare reform) yielded, on the first glance, the most efficient search sessions.
Figure 2 A failed search! - Subject 2, first session, scenario 2 (Federal Aviation Agency)
On average, participants undertook 5.8 interaction steps on search engine websites and 4.9 steps on federal government websites (t-test, \( p = 0.15 \)) with the remainder being spent on non-profit, commercial, regional government websites etc.

Further, search patterns became slightly faster (difference=64 sec., \( p=0.1 \)) and shorter (difference 4.3 steps, \( p=0.1 \)) in the second session controlled for each individual. During their second search, participants utilized search engines fewer times (difference=1.5, \( p<0.08 \)), but still spent about the same number of interaction steps on government sites (difference=0, \( p=0.5 \)).

**Search success and its determinants**

Subjects were encouraged to decide themselves when they thought to have reached a suitable end point of their search and web navigation. In our analysis, a search was considered a *failure* if it concluded on a non-government website, non-government social networking page, at a government agency that was not federal or at a federal government agency unrelated to the task. Across all scenarios, the results were varied and can hardly be evaluated as overwhelmingly successful. We also did not identify a significant difference between the first and second session for each subject when comparing success rates.

Handling the above criteria somewhat generously 50% of our subjects in each scenario managed to complete the search task in a satisfactory fashion. When evaluating narrowly, in three sessions participants managed to navigate to the FDA (scenario 1), one individual navigated to the FAA (scenario 2), and one subject identified an EPA website (scenario 3). Finally, in scenario 4 one subject navigated to the White House website, and one individual ended the search at the respective Facebook site (see Figure 1). However, in four sessions subjects never managed to navigate to a government website at all during their entire search (12.5%).
From our analysis we identified multiple factors impeding search success of which we present a sub-selection. Those causes are partly within the control of the individual (Factors 1 and 2), and otherwise more of a black-box structural nature (Factor 3).

**Factor 1** Lack of knowledge of government structure:

In our debriefing, we learned that most participants did not know the departments they needed to reach at the beginning of the search. This knowledge, however, clearly matters during the search. For example, subject 3 rapidly concluded the search process (in 13 sec. and 3 interaction steps) with the query ‘epa contact form’ (scenario 3). See, also Figure 1 for another positive example. Nevertheless, we were surprised by some of the more egregious failures. For example, in scenario 2 one student concluded the search at the Transportation Security Administration (TSA) website (see Figure 2), while another participant wanted to deliver his over-the-counter drug complaint (scenario 3) to the Drug Enforcement Agency (DEA). Similarly, one participant planned to disseminate his message to change.gov even though the transition period between the old and new U.S. government has now clearly ended (scenario 4).

**Factor 2** Imprecise and/or static mental models for search:

We observed that some individuals only varied their search terms slightly over time. See, for example, the overly generic search queries for the FAA scenario by subject 2 in the first session (Figure 2): ‘opinion to US government, questions to US government, how to get intouch with the government (sic.), and complaints to government’. The lack of impactful changes to the search queries is particularly problematic if the initial query yields little promising leads for further browsing behavior and creates negative path-dependence.
Similarly, we registered that search queries did not always change meaningfully with the scenario. For example, subject 12 used in the first scenario (WH) the query ‘ways to submit Government opinions’ and in the next session (EPA) the query ‘contact government.’

Factor 3 Prominence of government sites in search results:

Good queries led usually to rapid search progress, but not always to task success. For example, subject 4 in the FDA scenario searched for ‘government regulations for prescription drugs comments’ and eventually settled for a consulting firm with an economics focus.

One issue is the overwhelming reliance on search engine quality. Several subjects chose the very first search result irrespective of an obvious lack of relevance for the search task.

Moreover, due to the severe competition for search result placement with non-government organizations, for-profit companies, individual politicians, news organizations etc. the federal government sites frequently do not achieve top placement given the queries our subjects used. It appears obvious that the government is somewhat at a disadvantage in this competitive process due to more rigid rules in website promotion (e.g., we assume that the government is not proactively participating in search result manipulation, but is rather the target or victim).

Impact of social media

The noticeable impact of social media on the behavior of our participants was limited to two significant events. One subject selected a social media site to submit a message (see Figure 1). This individual followed the link ‘Join us live at www.facebook.com/whitehouse…’ while browsing at healthreform.gov. Another participant (subject 8, EPA scenario) selected the Facebook page of USA.gov from derived search results and navigated from there via ‘contact us’ to USA.gov to leave a commentary.
These limited interactions stand in contrast to a fairly consistent exposure to social media indicators on websites that participants navigated to. Consider that in 11 out of 24 sessions social media cues were present on the last page that subjects navigated to, but not used by most of these subjects.

For example, the last navigation step in Figure 2 includes a “The TSA Blog | Blog Now” button towards the top of the page. Participants 6 and 7 were presented with a “Stay Connected” box with the names and icons for Facebook, Twitter, Flickr, MySpace, YouTube, Vimeo, iTunes, LinkedIn at WhiteHouse.gov. Other participants browsed to non-governmental organizations’ websites with links to their respective social network presence but did not follow up on those opportunities.

When asked about the relevance of social network cues to political participation we received nuanced results in the debriefing interviews. Most participants did not make the connection between government, political participation and social media. However, we also received responses encouraging its use, for example, stating that “social media is the way of the future – I’m learning about it in class.” Subject 8 added that “Facebook is a lot more useful, I never would have guessed to access the government through Facebook.”

Another somewhat differentiating opinion suggested that “the younger generations will definitely be using [social media], but it’s not there yet. If I wanted to voice my opinions, I’d call, or email first – actually, I would join a group.” This opinion was echoed by several subjects who emphasized the importance of social connections – however, in the offline world. E.g., one participant very firmly stated that “formal letters get no response, you need to KNOW someone (emphasis added).”

**DISCUSSION**

In our interviews, we noticed frustration related to political participation. For example, one subject interjected that “the government will only care about issues if you know the people personally. Unless
you have an ‘in’ your opinions don’t make a difference, [the politicians] just pretend to care.” Additionally, participants mentioned “red tape” and other interaction hurdles.

However, government agencies are bound by suffocating restrictions themselves (Krueger, 2002). Therefore, we were surprised to find so many referrals to social network links mediated by agencies’ and politicians’ websites. Nonetheless, we found that our study participants rarely utilized those opportunities.

For the young adults in our study the dispersion of government activities across many websites posed a significant challenge. Several participants expressed sentiments similar to one individual who thought our task was “difficult because [he/she did] not know the main government page.” Irrespective of Internet savviness, the majority of students seem to have little or no political understanding or interest, and this might be attributed to the shared belief that they, as individuals, or perhaps marginalized populations (young adults) have no power to alter government policies and initiatives.

From our study, there appears to be a disconnect between young adults navigation patterns and social media sites when it comes to the topic of politics. This obviously happens not for a lack of knowledge of social media technologies, since young adults are frequent users, but they nevertheless only infrequently apply this technological know-how to an area they are unfamiliar with—in this case politics. Perhaps this is reflective of their association of social networks to casual and entertaining interactions as opposed to serious conversations that can actually affect the way their fellow citizens live their lives.

**STUDY 2**

The central focus of this paper is on the role of social media to help citizen to deliver their messages on a specific issue to the government. An important issue for this question is how individuals have been made aware of the problem in the first place. Past research has taken on this research topic from different perspectives. For example, Gamson et al. (1992) provide a broad perspective on how message
delivery in the media deviates from the neutral ideal. Several studies considered how message framing impacts the citizens’ perception of the political process and their participation behavior. E.g., Kuklinski and Hurley (1994) researched the impact of persuasion attempts by political elites. And Rhee (1997) investigated how different structural properties of news stories influence individuals’ take-away.

In our study, we consider how the mere framing of the call-for-action as a social media message influences the search and interaction behavior of the participating subjects. While this framing condition is relatively subtle we expect an increased use of social media during the following search process. Further, we would anticipate that individuals are more likely to take up cues to utilize social media when navigating to government websites that host relevant links.

STUDY DESIGN, RECRUITING AND SUBJECTS

We focused our second study on exactly one interaction scenario. We targeted an actual “real-life” federal policy initiative implemented by the department of education. Following the passage of the Health Education Reconciliation Act of 2010, parents and students can take out low-interest loans directly from the U.S. Department of Education rather than a bank or other financial institution to help pay for the cost of a student’s education after high school. Specifically, the loans are channeled through the Federal Direct Loan Program which is the sole government-backed loan initiative in the United States (U.S. DoE, 2009). Our typed scenario includes the following key section:

“You might have heard that as of July, 1 2010, all new federal student loans are being made through the Direct Loan Program. This initiative affects any higher education student seeking financial aid. Under this program, students borrow directly from the Department of Education instead of banks, saving the U.S. Federal Government $68 Billion over the next 11 years.”
We expect the scenario to be of increased relevance to the student participants due to its educational focus. Similarly, subjects should be relatively familiar with the respective government agencies responsible for education policy.

We considered two different experimental conditions impacting the framing of the message to the participants. First, we recruited subjects for a control condition in which the call-for-action was delivered as an email message with the typical layout of the university’s central system. Second, a different group of subjects received the experimental condition using social media. For this purpose we provided the message framed as a Facebook posting (see Figure 3). The message text was identical under both conditions as was the sender of the message (i.e., U.S. Secretary of Education Arne Duncan). Both messages were delivered in printed format to the subjects at the beginning of the experiment. In summary, Study 2 is a between-subjects study with two experimental conditions related to message framing.

![Figure 3 Message delivered as a Facebook posting (Experimental Condition)](image-url)
As with Study 1, all participants were provided with an identical experimental starting environment and were asked to identify an appropriate submission location on the Internet to deliver their personal comment to the government.

Participants were recruited through professors from two main areas of study, the sciences and liberal arts from the general student population present at an US-based Tier 1 public research university. Involvement in the study was voluntary. However, some students were awarded academic compensation (bonus points) for their participation. Before the start of the study we required agreement to a notice and consent form.

We recorded the entire sessions of participants’ interaction behavior with software running as a process in the background of the laboratory computer. In contrast to the previous study, we administered a longer paper survey (10 questions) to better understand subjects’ levels of computer expertise and domain specific knowledge and former involvement in politics. In the present study, 79 undergraduate students participated. Broken down into study fields, 42 (53.85%) students were from the humanities, 34 (43.58%) undergrads were enrolled in science majors and 3 (3.85%) participants were still undecided about their major. One student had to be removed from the subject pool due to an inability to complete the experiment within a reasonable amount of time. This leaves 78 students for the purposes of our analysis.

RESULTS

In the following, we first present selected results derived from the survey administered post-experimentally (N=78) and later elaborate on the experimental findings. We begin with the survey findings as they provide the descriptive and demographic background about our study participants as well as introduce educational and motivational factors that are likely impacting subjects’ search patterns and success.
Demographic factors and self-reported political behaviors

Of the 78 subjects, 37 (47.4%) are male and 41 (52.5%) are female with a median age of 20. Of the subject pool, 57 (73.0%) reported to spend eight hours or more online in a week, and 57 (73.0%) responded that they engage in 3 hours or more browsing social networking sites.

Our survey indicates that the majority of students are not very interested or involved with politics. See Table 1 and Table 2 for detailed results (highlighted numbers are maximum values). In addition, only 8 (10.26%) participants had heard about the federal government’s initiative to create social media portals for every agency. Slightly more, i.e., 14 (17.95%), subjects knew about the Memorandum on Transparency and Open Government issued in January 2009.

<table>
<thead>
<tr>
<th>How likely would you be to do the following? (0= not at all, 1= a little, 5 = a lot):</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact the government using the Internet</td>
<td>0 (0.00%)</td>
<td>36 (46.15%)</td>
<td>14 (17.95%)</td>
<td>15 (19.23%)</td>
<td>5 (6.41%)</td>
<td>8 (10.26%)</td>
</tr>
<tr>
<td>Contact the government through social media</td>
<td>3 (3.85%)</td>
<td>41 (52.56%)</td>
<td>14 (17.95%)</td>
<td>9 (11.54%)</td>
<td>8 (10.26%)</td>
<td>3 (3.85%)</td>
</tr>
<tr>
<td>Contact the government using the phone</td>
<td>1 (1.28%)</td>
<td>44 (56.41%)</td>
<td>9 (11.54%)</td>
<td>10 (12.82%)</td>
<td>9 (11.54%)</td>
<td>5 (6.14%)</td>
</tr>
<tr>
<td>Speak with a government representative in person</td>
<td>1 (1.28%)</td>
<td>38 (48.72%)</td>
<td>14 (17.95%)</td>
<td>9 (11.54%)</td>
<td>7 (8.97%)</td>
<td>9 (11.54%)</td>
</tr>
<tr>
<td>Contact the government using the postal service</td>
<td>0 (0.00%)</td>
<td>32 (41.03%)</td>
<td>19 (24.36%)</td>
<td>8 (10.26%)</td>
<td>9 (11.54%)</td>
<td>10 (12.82%)</td>
</tr>
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</table>

Table 1 Self-reported activities of participants to engage with the government
Table 2 Self-reported actions by participants to inform themselves and to participate in political process

Numerical observations about search behavior

In Study 2, we replicate some of the basic variables recorded in Study 1 and specifically note search interactions and webpage views, while relating our findings to the potential effects of the framing of the scenario. Additionally, we interpret the results against subjects’ major or area of study, and self-reported factors including their comfort conducting search tasks to address previous studies investigating web experience and domain-specific background knowledge as potentially relevant types of expertise affecting search performance and success (Hölscher and Strube, 2000).

Irrespective of success, participants completed each individual search task on average in 212 sec. (std. = 40 sec.) with about two search interactions (std. = 1.5) and 10 webpage views/interaction steps (std. = 10.5).
Male and female participants engaged in a similar number of search interaction and spent about the same amount of time completing the task. However, female participants undertook a significantly larger number of interaction steps (male=8, female=11; ttest $p = 0.06$) and exhibited also a substantially larger heterogeneity with respect to this measure (ftest $p < 0.01$).

Compared to the tasks in Study 1, the current study required about the same time to complete, but fewer interaction steps (Study 1 average = 13.75). However, the White House scenario in Study 1 necessitated only 7 steps. We consider the scenario chosen for Study 2, therefore, as slightly below average difficulty (considering the number of interaction steps as an approximate measure of the difficulty to complete the scenario).

**Search success and its determinants**

Subjects were encouraged to decide themselves when they thought to have reached a suitable end point of their search and web navigation. For this second experiment, we further segmented search outcomes into four categories: *specific success*, *generic success*, *specific failure* and *generic failure*. See Figure 4 for the descriptions of characteristics used to classify each search outcome.
For our experimental subjects \((R=78)\), 53 (70.5\%) interactions were considered successful with 23 (29.5\%) being coded as specific successes and 32 (41.0\%) observations as generic successes. In contrast, 23 (29.5\%) recordings were classified as failures with 20 (25.6\%) being specific failures and 3 (3.9\%) reported as generic failures.

The success rate in Study 2 is significantly higher compared to the results of Study 1 (50\%). We believe that this effect is observed due to the increased relevance of the scenario statement to the individuals in our subject population, i.e., students.

We also researched whether the success of the search and interaction process is dependent on self-reported measures of political interest and participation. To that effect, we created indices from the data reported in Table 1 and Table 2 and split the data along the middle value of the given value range. Utilizing Fisher’s Exact Test (given the low case numbers for some quadrants in the resulting cross-tables) we found that subjects’ self-reported activities to engage with the government contributes to the likelihood that they completed a successful search (data from Table 1 cross-tabulated with search

![Figure 4 Classification of search outcomes with the dimensions success/failure and generic/specific](image)
success results: $p=0.053$). Similarly, self-reported actions by participants to inform themselves and to participate in political process positively impacts their ability to complete the search successfully (data from Table 2 cross-tabulated with success figures: $p=0.073$). We did not find such an impact for individuals’ self-reported skill with document searches (see Figure 5).

![Bar chart](chart.png)

**Figure 5 Participants’ self-reported skill in completing a variety of search tasks**

Now, we delve into a more qualitative analysis of the interaction patterns. To illustrate the diversity of search patterns, we include flow diagrams of successful and failed searches.

**Specific success** Subject P015 is a good example of an interaction pattern that is mediated by Social Media (see Figure 6). The participant was given the Facebook sheet and also concluded the search on Facebook, but utilized conventional search methods. During the search process the subject also traversed ed.gov, however did not react to any Social Media cues (e.g., the existing Facebook icon).
**Generic Success** We observed that a significant percentage of our subjects ended their search either at the whitehouse.gov/contact site or at answers.usa.gov (i.e., a total of 24 individuals). Both locations were categorized as generic successes. Interestingly, at both sites individuals chose to submit their message via traditional email forms, rather than selecting some new media outlets. This stands in
contrast to young adults’ use of social media as primary communication platforms in personal relations (boyd, 2007).¹

From a navigational perspective, participants found the whitehouse.gov site in a more efficient fashion than answers.usa.gov (i.e., 7.33 vs. 10.5 interaction steps, respectively).

Figure 7 is an example for a search that ended at whitehouse.gov. We observed one obstacle during the search. At BarackObama.com the participant encountered a ZIP code request, and chose to navigate away from the page. Most likely this refusal was due to privacy considerations (Spiekermann et al., 2001).

![Figure 7 Search pattern for Subject P032 (Control condition with Email frame)](image)

Specific Failure Several individuals ended their search at local or state government websites. For example, two individuals delivered their message on the site of the Governor of New Jersey (see, for example, Figure 8). In this example, the participant passed up opportunities at usa.gov to navigate to politicians elected to federal office. We consider it unlikely that a local government would get involved in a federal funding process for educational grants based on a citizen’s request.

¹ There are country differences concerning the use of social media. For example, Twitter is less popular in the UK since text messaging (to upload updates) is considerably more costly (Morgan Stanley Research Europe, 2009).
Generic Failure  Several searches ended on commercial blogs or news media sites. We do not consider this as a random outcome since subjects frequently included terms such as “blog” in their search queries (see, for example, Figure 9). The subject in Figure 9 also deliberately chose news media and blogs from the search results page (i.e., they were not the first results). Participants at times verbally declared that they would like to leave a comment to an article or at a blog and considered this a suitable alternative to contacting the federal government.

Figure 8 Search pattern for Subject P039 (Experimental condition with Social Media frame)

Figure 9 Search pattern for Subject P071 (Experimental condition with Social Media frame)
**Peculiar and odd search patterns** Because of the larger scale of Study 2 compared with our previous study we were also able to observe some anomalies in search behavior. In fact, although most sessions seemed to have a methodical direction to them, we also captured some peculiar and out of the ordinary behavior. After a couple of searches and several keyword configurations, one participant typed into the search bar:

“what can i search that wont (sic) bring up 10000 bank ads?” They then deleted that and typed, “this is exactly what (sic) wrong with our capitalistic system with all this misinformation and perpetual advertising. you can’t find any actual information, merely merchants pedaling products you don’t need with fancy marketing. okay going to finish this now.”

The individual then went on to finish the session with two page views by going to a .com blog with a post entitled, “Obama Is Not Telling The Truth” (categorized as a generic failure).

Another subject browsed to the Google search page and before they typed anything into the search bar, browsed to Yahoo, logged into an email account and searched the email inbox for “obama.” Several emails came up, apparently from the Obama Presidential Campaign. After reviewing two emails, the subject clicked on a link that took them to Barack Obama’s website.

A third participant went directly to “education.gov,” and though this individual accumulated seven page views, none of them were search engine interactions. The individual performed one search on the site, and then clicked through several pages. However, even though the search process seemed initially well informed, the participant ended the search on a satisfaction survey form for ed.gov, the U.S. Department of Education’s website.
Impact of the experimental condition

We find that the presence of the experimental condition positively impacts overall search success (Chi-Square Test, p = 0.057). We find that 25 subjects out of 39 (64.1%) in the control condition were ultimately successful, while 30 subjects out of 39 (76.9%) in the experimental condition found a good contact point to the government. That is, the mere reframing of the call-for-action message as a Social Media communication increases the likelihood that subjects find a website that is relevant to the education scenario.

DISCUSSION

Although results from our survey indicate that the majority of students are comfortable searching for information, in particular online, as over 84.6% of subjects rated search activities as easy or very easy (see Figure 5), it is interesting that only a minority, 29.5% achieved searches classified as specific successes.

Results from the post-survey also indicate that 61 students would be relatively likely to use social media to contact the government, however in reality, only 12 students started their searches via Social Media sites, of which only 11 concluded their path on such sites (5 ended on Facebook, and three ended on blogs) with the final student ending with an email.

The reason for the disconnect in what the participants say they would feel comfortable doing and what they actually did likely lies within their unfamiliarity with the topic domain, and not their ability to search. However, this lack of subject matter experience might contribute to an ill-guided search process (Kuhlthau, 1993). This argument is supported by the high satisfaction that most participants exhibited after the experiment regarding the successful completion of their search task.
It is relevant to note, however, that of the students that did not begin searches using Social Media sites an additional 10 students concluded their search on such sites (two on Facebook, and eight on a variety of blogs). The relative prominence of blogs with our subjects is also shown in their search behavior, i.e., the frequent use of the term “blog” within the original search terms. As a result, 12 students conclude their search on blog pages, the second most common end point, after email/government contact pages.

More subjects feel comfortable with the idea of communicating with government representatives via Social Media sites (42.3%) than looking up political information online (33.3%). This might indicate that there is potential to improve the government’s presence online and use of social networks to foster greater two-way communication with citizens with the intent to increase participation in policy creation, as supported by the findings of Woolley, Limperos and Oliver (2010).

CONCLUSION

According to an often-quoted formula, to understand why some people participate in elections, and politics in general, while others abstain, one must ask whether they can, whether they want, and whether they have been mobilized to participate (Verba et al., 1995). The first two components of this formula refer to personal attributes of voters, whereas the third aspect lies beyond the individual and reflects the social nature of political participation. It is this aspect that the federal government attempts to address through the development of social network portals by which they can solicit citizen participation in policy-creation. Still, it is not obvious whether social media technologies contribute to a weakening of the digital divide and will give a voice to marginalized populations. For example, research shows that interactions on social networks may result in civic involvement but rarely political participation (Zhang et al., 2010), and when present such effects are very small (Valenzuela et al., 2009).

In this context, our interaction studies paint a more complete picture as we not analyze threads of information already posted on social media sites (i.e., of people who are already active) but rather
capture opinions from populations who are not (yet) participating online.

Our work also shows that there is still a rocky road ahead; true participation, and perhaps the appropriate listening to political dissent, is an even harder problem. Opponents to the argument that social media has reinvented social activism continue to assert that these new tools only make it easier for activists to express themselves, and harder for that expression to have any powerful impact (Gladwell, 2010). Further, the act of participation should not be confused with actual dialog, as to participate only implies involvement and not interaction. There are several steps between citizen participation and demanding a degree of power in government policy through citizen control (Arnstein, 1963).

We are currently extending our study of the relevance of online social networks for political participation. Through our work, we hope to deepen the understanding of the relevance of social media for the engagement of underserved groups, and interactions that reach beyond the traditional comfort zone of many social network users.

REFERENCES


