FROM PUBLIC RELATIONS TO PARTICIPATION:
GOVERNMENT WEB USE AFTER OBAMA AND SOCIAL MEDIA

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FROM PUBLIC RELATIONS TO PARTICIPATION:
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ABSTRACT

The thesis assesses the extent of change to federal agency web management after the influence of social media and the Obama administration’s Open Government Initiative. The analysis found only marginal changes to federal agency web management, with some positive signs for a transformed web management culture in the future. While marginal change suggests support for incrementalism, the findings fall in line with e-government scholar Darrell West’s notion of gradual change, where small changes are understood to accumulate into major transformations over time. The finding is based on two primary analyses conducted in support of this work. While an online survey of government web management staff (n=299), and a subsequent statistical analysis, revealed high levels of support for using websites and social media to foster more participation and collaboration with the public, on aggregate, the staff did not feel as if those practices were happening in substantive ways in their own agency. The findings from the survey were supported by a content analysis of agency homepages and Facebook pages. In both cases outreach and self-promotional practices mostly dominated web management, even as some agencies moved ahead with incorporating participatory features into their homepage design or extended web management practices to include the use of the social networking site Facebook.
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Introduction

As the largest producer of information in the world, the U.S. Federal Government produces, collects, and distributes a tremendous amount of information through its many agencies and offices (Truesdell, 2002). The task of managing all of this information has been made especially complicated by the tremendous shifts in technology and web-based communication occurring over the last two decades. Today, online information moves quickly through social networks. Communication is both highly participatory and highly social. With many people accessing the web constantly from home, work, and everywhere in between, the social web is having a tremendous cultural impact on the broader society. While early efforts to provide U.S. government information to the public were paper-based and coordinated through a network of university libraries (Kessler, 1996), over the last 20 years government websites have become central to the way the government provides information to the public. As the web has evolved from a static information publication environment to a more mobile and social form, government web management has changed too. No longer limiting web use to only agency websites, agencies have expanded web management to include participation in third-party social media sites like Facebook and Twitter.

There is evidence to suggest that the public may be receptive to government use of these new technological tools. In an era of historic anxiety about the role of the Federal Government, Americans have embraced the use of government websites. A 2010 Pew report found that a full 82% of the public has used government websites for a variety of reasons, including obtaining a service, reading a blog, or accessing raw data (Smith, 2010). In the 2010 midterm election, nearly a quarter of adult Internet users...
used social media for political purposes (Smith, 2011). Expanded opportunities for public participation and collaboration fostered by open government reform efforts and use of social media may be a welcome development for a public with a strong belief that its institutions should be democratic and accessible. In addition, because government information is no longer a static entity preserved in archives, a new era of government information management may foster web-based public collaboration and participation in government work, a development that could fundamentally change the way the government conducts its business.

With this potential in mind, my research examines the current state of web management at federal agencies. With the history of federal agencies and government use of the web as a context, the research has important implications to democracy both online and off. Since 2009, Federal Government web use has been a key component to the Obama administration’s efforts to foster a more transparent, collaborative, and participatory government (Orszag, 2009). In the context of the Open Government reforms, transparency efforts refer to efforts to make government work and information open and accessible to the public (Jaeger and Bertot, 2010 p. 371). Collaboration efforts refer to the public’s ability to contribute to government work (McDermott, 2010). Finally, participation refers to opportunities that facilitate public involvement in policy making (Oszag, 2009).

My research into current government web management practices provides an assessment of the status of these potentially transformational reforms. To assess the current state of these practices, I employed two primary methods to support my analysis. First, I surveyed nearly 300 individuals currently working with the web in the
government to understand their attitudes and opinions about their work. Second, through a content analysis of prominent federal agency homepages and Facebook pages, I was able to understand the priorities of agency use of the web in two very different spaces. Five major categories were identified as core functions of government use of the web throughout this research. The five major categories are Outreach, Collaboration, Participation, Transparency, and Services or Government Data.

The primary research question underlying both of the analyses was: to what extent have the participatory and collaborative principles of social media and the Open Government Initiative changed federal agency web management? Because the emphasis is on extent, the analyses were necessarily focused on assessing gradations of change. An important underlying secondary research question was: could the changes to agency web management be characterized as transformational, redefining the organizational processes and cultures that situate agency web use? Or, have the changes been only incremental, with relatively few differences between the way the government manages information in the present and the way the government has managed information in the past? The research also recognized the possibility of a middle path, one of a more gradual change that may someday have a cumulative impact on federal agency web management practices and culture.

Based on the research, I found that federal agency web management practices have only marginally changed. The survey of government web management staff revealed high levels of support for using websites and social media to foster more participation and collaboration, but, on aggregate, the staff did not feel as if those practices were happening in their own agency. The findings from the survey were
supported by the content analysis of agency homepages and Facebook pages. In both cases, more traditional government uses of the web, like outreach and low-level transparency efforts, such as providing basic agency news and information, dominated the analysis. The finding is consistent with Internet communication technology (ICT) scholar Jane Fountain’s assertion that government actors tend to sustain already established organizational practices. Though the change has only been marginal, there is enough evidence to suggest that, in the future, government management of the web will look far different than it does today. Through the survey, I found that government web staff were extremely supportive of using the web and social media to engage the public in more participatory and collaborative Federal Government practices. The findings also suggest that, with the right balance of leadership and resources, these positive attitudes could be someday translated into a functional community of practice, where collaborative and participatory practices are the standard, not the exception. In addition, while the functional emphasis of most agency homepages and Facebook pages still tends to be outreach, there were enough instances of collaboration and participation present to suggest that a modest shift in communication is afoot in federal agencies.

Research Overview

Federal Agency Web Management.

When I talk about federal agency web management, I am referring to agency use of the web across a variety of spectrums, including official websites and third-party social media accounts. For the past 15 years, official agency use of the web has mostly been limited to agency websites. At the federal level, agencies began to establish websites in the mid-nineties as part of Clinton era reform efforts to make the Federal
Government more efficient and responsive (West, 2005). Since then, agencies have primarily used official websites to deliver services (Fletcher 2002), conduct public relations (Davis, 1999), and provide basic information about agency mission and operations on the web (Davis, 1999, p. 138-140; West, 2008).

In addition to using government websites, in recent years, federal agency web management has expanded to include the use of third-party social media sites. When referring to social media, I mean web-based tools that create a participatory, collaborative, and networked information environment. When I use the term third-party sites, I mean websites maintained by private corporations like Facebook, Google, or Twitter. The second section of the content analysis focuses on the social networking website Facebook. Facebook is the most powerful social networking website in the world. In July of 2010, Facebook announced that it had passed 500 million users worldwide. An example of social media, social networking websites “consist of platforms hosting user-generated content that is passed on through networks of friends and associates to spread and gather information, influence opinion, and create organizations” (Owen, 2009, p. 24). While individuals use Facebook to connect with friends and participate in groups or fan communities, organizations like government agencies now commonly use the site as an alternate web channel to publish a variety of information related to their work.

Unlike agency websites, which require web designers to build social media features into the site, third-party social media sites like Facebook have a variety of social features built-in. These features allow agencies to participate in a web community where individuals can easily comment on or share content, “like” fan pages,
or have conversations directly through their personal profiles. In terms of favorable arguments for using third-party social media tools for government, some argue that third-party social media site use by government fosters transparency (Shaper, 2010) and will help to create a “citizen centered government” (Eggers, 2005). New media guru Tim O’Reilly has famously advocated third-party social media site design as a model for government web management practices, a change he describes as moving to “government as a platform” where the public would be able to participate in a government sponsored online marketplace (O’Reilly, 2010).

Third-party social media use by the government is not without its critics. Jaeger and Bertot (2010) criticize using third-party sites for government work because it creates an unsustainable dependency on the existence on an external company (374). Privacy advocates are concerned that using these third-party sites will allow government access to sensitive personal information like photographs and political group affiliations (Citron, 2010). University of Maryland Law Professor Danielle Keats Citron argues that government should treat third-party social media sites as “one-way mirrors” where the public can see the activities of the government, but the government does not use or collect any information about individuals. Finally, some critiques are directed not at the sites themselves, but at the government’s ability to integrate the use of these sites into their organizational culture. Baumgarten and Chui cite a traditional reluctance of government to allow for user participation in the process of content creation (Baumgarten and Chui, 2009).

To this point, I have made a definitional distinction between overall agency web management, agency websites, and agency use of third-party social media sites. Web
management integrates the tools of agency websites and agency use of third-party social media sites into a single web practice. There are important differences between agency websites and third-party social media accounts. First, as a traditional public information resource, an agency’s website functions primarily as a way to organize the wide variety of information produced and maintained by the agency. Because of its emphasis on interactivity and social features, a site like Facebook is exponentially less effective at this comprehensive task. Second, there are a wide variety of management structures, policies, and laws that establish Federal information policy and web management (Thompson et. al, 2003). These policies establish information security procedures, accessibility guidelines for individuals with disabilities, and restrict the information that the government can collect about visitors to their sites (3-5). While an independent agency of the federal government has recently been working to negotiate so-called “federal friendly” use agreements with third-party social media vendors (Bertot, 2010), these negotiated agreements often leave privacy, accessibility, and security concerns unaddressed.

It’s worth noting that, in general web practice, the distinction between third-party social media accounts and websites is rapidly disappearing. It’s now common practice for websites to allow visitors to establish profiles and comment on or share all content that appears on a web page. These features have allowed many websites to develop communities of interest around their content. For longtime advocates of expanded government use of the web, social websites are a potential boon for fostering collaboration and participation online. Some have even argued that these sites may improve access to public data (Davies and Lithwick, 2010; Soon Ae Chun, 2010) and
streamline bureaucratic processes (Eggers, 2005). In a concrete example of how a social media intensive site design could be used to help the public collaborate with agencies on their work, peertopatent.org, a website sponsored by the U.S. Patent and Trademark Office, helped the agency crowd source the notoriously backlogged patent review process to willing members of the public (Noveck, 2009).

The Obama Administration and Open Government.

The potential of websites and social media to increase opportunities for the public to collaborate and participate with the government has not been lost on the Obama administration. While web management practices by the Federal Government only recently began integrating social media into their work, Barack Obama heavily incorporated social media into both his successful Democratic primary and Presidential campaigns. In addition to developing campaign presences on a variety of third-party sites like Facebook, Obama’s team used a social media inspired campaign homepage to create a virtual space for Obama supporters to come network, organize, and contribute to the campaign (Borins, 2009). The campaign’s successful use of social media has been attributed to Obama’s defeat of the heavily favored—then Senator and now Secretary of State—Hillary Clinton in the Democratic primary (Owen, 2009; Plouffe, 2009).

In line with his campaign promises, one of Obama’s first actions as President was to issue a memo on transparency and open government to the heads of executive departments and agencies (Obama, 2009). In the memo, Obama stresses the importance of transparency, participation, and collaboration in fostering open government (Obama, 2009). To force federal agency compliance with these principles,
the memo directed the new Chief Technology Officer, the Director of the Office of Management and Budget (OMB) and the Administrator of the General Services Administration (GSA) to issue an open government directive that provides specific actions for federal agencies in carrying out these new open government principles. The “Open Government Directive” finally issued by the OMB in December 2009, reinforced the three themes of openness, transparency, and collaboration cited in the original Obama memo. Those themes were:

1. Government should be **collaborative**: agencies should use innovative tools, methods and systems for collaboration with all partners. Agencies should solicit public input and improve opportunities for participation.

2. Government should be **transparent**: Information is a “national asset” and should swiftly be made available in forms that the public can both find and use. New technologies should be used both to keep the public apprised of operations and to solicit information as to what the priorities are of the public.

3. Government should be **participatory**: the government should create opportunities for the public to contribute to and participate with the policy process. Government should find out from the public what opportunities they wish there were more of (Orszag, 2009).

The final Directive called for federal agencies to accomplish a series of actions to adhere to the principles of openness, transparency, and collaboration. These goals included both agency specific and federal government wide initiatives. In an example of an agency specific action, agencies were required to devote a space on their websites
to facilitating public participation in the development of an agency open government plan. In terms of federal government wide initiatives, agencies were required to participate in transparency and data distribution efforts related to data.gov—a database site that houses raw data sets from across the government—and recovery.gov, a site devoted to transparency about spending related to the American Recovery and Reinvestment Act of 2009 passed to ameliorate the impact of the economic downturn. For a complete list of required actions, please see Appendix B. The final section of the directive provides an authorship structure and guidelines for agencies to craft their open government plan. Many final versions of the open government plans outlined how agencies would use their websites and third-party social media sites to foster transparency, participation, and collaboration with the public on agency work (Department of Health and Human Services, 2010; Environmental Protection Agency, 2010).

While not stated explicitly, reforming the Federal Government’s approach to web management is central to the administration’s Open Government Initiative. The importance of the web to this new era of open government was demonstrated in the process of creating the policy document itself. By using a combination of official government websites and third-party social media applications to involve the public in the process, the directive’s creation was conducted in an intentionally open, participatory, and collaborative way. To create the document, the White House set forth a three-phase process for public engagement that included social media tools like blogs, wikis, real-time surveys, and discussion forums (OMB, 2010). The process had thousands of participants and the Open Government Initiative blog at whitehouse.gov
and official third-party social media accounts provided updates on the developments, summaries, and next steps as the project moved along (OMB, 2010).

**Government Outreach.**

While Peer-to-Patent and the development of the Open Government Initiative both demonstrate the full potential of using the web for participation and collaboration in the federal government, many agencies have only succeeded in using new web technologies for outreach and public relations, another traditional function of government websites. When I refer to outreach in relation to government web management, I mean publishing web content or features that primarily facilitate self-promotion of agency work, officials, and initiatives, in addition to any communication activity specifically targeted at the news media. These practices highlight a fundamental tension of federal government web management: the tension between using the web to better serve the public and using it to influence the public’s behavior and attitudes. With the increased public access to broadband technology and social media tools over the last decade, both the private and public sector have moved a considerable amount of their communications efforts online. The same can be said for government. Using the web for outreach purposes happened soon after the first government agencies were established in the 90s (Davis, 1999, p. 138). In 1999, Richard Davis wrote that the government has “engaged in an accommodation process designed to employ the Internet as a tool for pursuing the same objectives that they have sought through other public communication mechanisms” (Davis, 1999, p. 122). Davis’ argument was that government use of the Internet, as it had been with other
communication mediums, was primarily self-promotional and geared toward the preservation of the status quo (148).

The most powerful public communication medium before the web, of course, was the news media. As Timothy E. Cook argues, over time, the news media and the government established a symbiotic relationship where the media worked with the government to get their news, and the government worked with the news media for their access to large audiences (Cook, 1997). To help the government work more effectively with the media, agencies started to hire “public information officers” that allowed “each subunit to explicitly use the news to govern” on behalf of the executive branch if the need arose (Cook, 142). For smaller cabinet level and non-cabinet level agencies, this need is rare, but certain events (a scandal, a natural disaster or some other major news event) often bring the work of federal agencies into the media spotlight. According to Cook, the constant presence of public information officers in these agencies means that, if the time comes, an agency does not have to be “purely reactive and impartial; instead, it has a particular agenda ready” (143).

The use of government websites to promote agency agendas and transparency, collaboration, and participation seems incompatible. Can the government really create spaces for the public to participate while also trying to influence them? This question is especially important in the context of the Obama reforms. At its core, the question seems to be one of ownership over official government spaces on the web. Are government web presences the property of the myriad agencies, offices, and thousands of federal employees who maintain the sites themselves? Or, are they public spaces built on behalf of citizens to facilitate better government and participation? If it were
the former, one would expect to find public relations techniques used by the public and private sector to promote targeted agency messages, outreach efforts, and branding. If it were the latter, one could expect government web management on the whole to conform to the ethos of the Obama reforms.

Theorizing Change.

In attempting to understand the extent of change in recent federal web management practices, a central goal of the research is to assess the impact of a major policy reform effort on the organizational practices of federal agencies. There are a variety of theories assessing the cultural impact of technological change. Garson (2006, p. 5-6) cites four general categories for these types of theories. In general, all the theories included in Garson’s categories attempt to characterize the factors responsible for facilitating change. Typically these factors are either attributed to the human or the technological, with varying degrees of emphases. Theories that emphasize human factors tend to privilege a perspective that views organizational culture and power structures as major change catalysts. Theories that emphasize the role of technology, tend to do the opposite, privileging pure technological growth and development over human elements.

The theory underpinning this research could be described as the latter of the two examples above. Jane Fountain’s “technology enactment framework” emphasizes the influence of organizational structures in determining how technologies are used, or enacted, within organizations (Fountain, 2005). To Fountain, there are two facets to understanding technology: its status as an objective entity and its status as an enacted one (Fountain, 2001, p. 11). Objective technologies can be understood to be the
hardware or the literal technological development itself. Enacted technologies are the technologies as they are used within a unique cultural context. While an objective technology like social media may be extremely capable of fostering dramatic organizational change, ultimately the potential to activate this power lies within the ability of the organizational structure to adapt and integrate its use.

In the context of this research, the objective technology is the web in general and social media in particular. The complex histories, operations, rules, and web management practices of federal agencies are the context that defines how the technology itself is enacted. The Obama reform policies are meant to be a catalyst that changes this context into one more favorable for facilitating transparent, collaborative, and participatory government web management practices. As Fountain argues, however, changing an information system is not an easy task when it is embedded in a culture as complex as the federal government’s (14). Whether it’s a new policy initiative or a new technology, change in the federal government happens much slower than new developments in objective technology. In 1959, political scientist Charles Lindblom famously argued that democracies move to create new policies through incremental adjustments and not “leaps and bounds” (Lindblom, 1959, p. 84). Lindblom’s incrementalist observation has mostly held true, though, as Jane Fountain points out, change does not always move in as linear a direction as incrementalism seems to imply (Fountain, 2001).

Darrell West argues that the debate about change, technology, and government often gathers around the poles of incrementalism and transformation, with incrementalists arguing for muted or gradual change and transformationalists arguing
for fundamental shifts in the way government does business (West, 2005). West argues for a middle path—one of gradual change—where institutional changes occur slowly but surely, having a tremendous cumulative impact on the functioning of an institution after a period of time.

**Research Plan**

To address the research question about extent of change, this work has been divided into four major sections. In the first section, a literature review places current federal agency web management practices in the context of the complex history of government information management practices in which it is embedded. Because so much of what the Federal Government has traditionally done in terms of information management is now possible online, a long—and sometimes confusing—legacy of historical, political, and legislative developments has built the foundation for both federal agency web management and the Open Government Initiative that seeks to change it. The section concludes with a summary of recent policy changes made by the Obama administration to help facilitate open government practices on the web. The goal of this section is to establish the organizational context as a starting point for understanding change. As Fountain argues, this context plays a tremendous role in shaping the use of a technology within a complex organization like the Federal Government.

The second section shifts to a survey analysis of current web practices by the federal government. In the first part of the analysis, a bivariate and multivariate statistical analysis was conducted on data collected from an original online survey of 299 individuals currently working with the web in government. The survey assessed
the respondents’ attitudes about a variety of questions related to government websites, social media use, and the Open Government Initiative. The findings from the survey suggest a government web staff that is very supportive of using the web and social media in government, but are less effusive when talking about the actual experience of using the web and social media in their own agency. The analysis also showed strong correlations between variables related to organizational support and feelings about the efficacy of using social media in their own agency.

The third section of the research looks at the findings from a content analysis conducted on cabinet level agency homepages and official Facebook pages. Following in the research tradition of e-government scholar Darrell West and others, the first part of the content analysis takes a basic accounting of the features and content appearing on agency homepages. Next, the analysis moves to describe these features in terms of their relationship to the five categories of government web use. The five categories can be defined as follows:

1. **Outreach**: Content or features that primarily facilitate self-promotion of agency work, officials, and initiatives, in addition to any communication activity specifically targeted at the news media.

2. **Collaboration**: Opportunities designed for the public or partners to contribute to or collaborate on specific agency policies or initiatives.

3. **Participation**: Provides a means for the public to interact with, share, or provide general feedback on agency content or work.

4. **Transparency**: General information about the policies and internal operations of the agency.
5. Services or Government Data: Provides a means for the public to receive agency services, information, or data related to agency mission and work. Examples of content from each category can be found in Appendices D-F.

The findings demonstrate that, while agencies have high levels of content related to outreach, transparency, and service and data delivery, cabinet level agency homepages do very little in the way of featuring content or initiatives that foster participation and collaboration. The finding suggests that agencies have been slow to integrate these new features of web management. The analysis of cabinet level agency Facebook pages showed a similarly limited use of the web for the purposes of collaboration and participation. While participatory features are at the core of social media use, agencies used Facebook pages primarily as outreach tools to promote agency work, without engaging in even the most basic social activities in their outreach practices, such as directly soliciting comments about the content they were posting. These findings are consistent with both Fountain and Davis, who have been skeptical about the government’s ability to use the Internet for anything beyond the status quo of current government organizational practice.

In the final section of the paper, the analysis returns to the central research question about the extent of change to federal agency web management. Ultimately, while enough seeds have been planted to someday yield transformational change in using new technologies to foster open government, the research findings suggest that this change has yet to occur. There is evidence of small changes, for example, positive attitudes about the use of web and social media for open government suggests that government web employees are receptive to refocusing their work to include more
opportunities for public participation and collaboration. In addition, the correlation between organizational support and feeling successful about open government practices suggests that with the right leadership, strategy, and resources, agencies may be able to transform their practices. Building on these findings and others, the analysis concludes with recommendations for agencies seeking to integrate social media and open government principles into current web management practices.
Chapter 2: The History of Information Management Practice

The following is a history of the objective and enacted technologies that comprise government information management practices and their relationship to changes in organizational structures and reform efforts within the Federal Government. When I say government information management, I am referring to all efforts related to the preservation, use, management, and publication of information by the government. These practices include using government information to facilitate increased public participation and collaboration in government work. The history traces both the technological developments and the organizational contexts of the federal agencies in which these practices are embedded. The history begins with early American government and leads to the present moment of the Obama Open Government reforms.

The profound changes in information and communication technology occurring over the last 234 years of American democracy have made information management a tremendous challenge in federal agencies. While in the past, information moved at the speed of print, contemporary information is increasingly digital, mobile, and social. Once ahead of the curve in innovative uses of computing technology, the Federal Government has struggled to keep up with the changing nature of communication and information management in the Internet age. Reform efforts attempting to accommodate changes in technology have failed for a variety of reasons, sometimes yielding unintended consequences. Most of these failures stem from the complexity of enacting technological change in a culture that is as complex as the Federal Government. Some have been the consequence of incomplete, misguided or out of date efforts to establish real government wide reform. In a common government practice,
policies have been established without granting the proper independent interagency oversight authority. Without real reform, the complicated structures of established government bureaucracies go unchanged and federal agencies are unable to change their culture to accommodate changes in technology.

While the objective technologies are important to this history, so too have been the information management practices that have defined the technology’s use. The preservation of government information has long been thought to be critical to the healthy functioning of democracy. Greek statesman Aeschines purportedly said to a law court in 330 B.C.:

A fine thing, my fellow Athenians, a fine thing is the preservation of public records. For records do not change, and they do not shift sides with traitors, but they grant to you, the people, the opportunity to know whenever you want, which men, once bad, through some transformation now claim to be good (Martin and Lanosga, 2010, p. 65).

Aeschines’s argument for maintaining public records is simple: if records are not preserved and made accessible, the public will be unable to hold government accountable for their work. To Aeschines, if a society values the information produced by the government enough to undertake steps to systematically preserve it, the public may be able to access and use that information in a way that positively benefits the ongoing health of the democracy.

In his argument, Aeschines highlights two key practices that provide a foundation for all government information management. Those practices are records preservation and records accessibility. Records preservation simply refers to the steps
that government takes to preserve the information it produces while records
accessibility refers to the steps the government takes to publish that information for
distribution to the public. The ability of a government to carry out these practices are
affected by the objective and enacted technologies present during a given historical
time period.

For individuals like Aeschines, positive developments in government
information management are efforts that support the ongoing preservation and
accessibility of government information for the public. Negative developments tend to
do the opposite, creating barriers between the public and its government by limiting
access and undermining preservation efforts. The Open Government Initiative attempts
to expand the definition of government information management to include a direct role
in facilitating democratic action, namely online collaboration and participation from the
public on government work. If the reforms were to work, the efforts could completely
change the culture of Federal Government information management.

Information Preservation and Access

To contemporary advocates of open government practices it may come as a
surprise that there is no mandate for public access to information in the U.S.
Constitution (Relyea, 2007). In spite of this—or maybe because of it—questions about
information preservation, access, and use have persisted since the early American
government of the late 1700s (Carter 1938; Hernon & Relyea, 1995; Relyea, 2000).
While lacking a clear mandate, the Constitution did require certain information
practices by the government. Some, like the mandate for a decennial census,
established the government’s role in data collection efforts, a role that continues today
in myriad government agencies—like the Census Bureau—with far-ranging missions and mandates. Another mandate was that the executive branch “from time to time give to the congress information of the State of the Union” (U.S. Constitution, 2.3). The State of the Union is a transparency practice born in the revolutionary period of deep distrust of the British monarchy. As a testament to the power and importance of these mandates, both the census and State of the Union continue today as important functional and symbolic information practices of the federal government.

When it comes to understanding the foundations of information management in the earliest days of the U.S. Government, it is worthwhile to consider one other information mandate. Article one of the Constitution states that:

Each House shall keep a Journal of its Proceedings, and from time to time publish the same, excepting such Parts as may in their Judgment require Secrecy; and the Yeas and Nays of the Members of either House on any question shall, at the desire of one fifth of those present, be entered on the Journal (U.S. Constitution, 1.5.3).

The Journals of Congress are one of the earliest government reports produced by the Federal Government (Carter, 1938, p. 5). The production of these records was especially important given that early Senate sessions were closed to the public; as such, the journals offered a rare glimpse into congressional proceedings during a critical time (Martin and Langosa, 2010, p. 618). While this was certainly an important mandate, the clause limited records keeping activities to those Congressional decisions not deemed to be secretive, a judgment left to the members of Congress themselves to decide. The clause is an example of an ongoing tension in government information
management efforts: the tension between providing access to government information while seeking to control it. While national security concerns are cited as a reason to limit public information access, there is the potential for government officials to cite these concerns disingenuously. In these cases, limiting public access to information becomes an act of public relations, not national security.

Another barrier to early government efforts to provide public information access was the lack of an objective technology, like the web, that could broadly disseminate information to the new nation. In a period of time before railroads and the telegraph, information moved slowly and access to congressional documents by the new nation was limited. To address this concern, an 1813 Congressional resolution enacted the print technology of the day to provide an extra 200 Congressional publications to be distributed to the libraries of universities and colleges throughout the states (Kessler, 1996). The Federal Depository Library Program (FDLP) offered an elegant solution to the problem of information access with long lasting implications on the role of information management by the Federal Government. By distributing the journals to a geographically dispersed collection of universities, the Federal Government could make sure that individuals from all over the country were accessing Federal Government information. In addition, the policy also established libraries as a source for free information in local communities, a tradition with an important legacy that lasts to this day (Kessler, 1996).

Information Publication

Throughout the 1800s information pertaining to congressional proceedings and public records had to be published. Without an available in-house solution, the
executive branch turned to contractors and printers to handle these information publication needs. In an early example of an outreach effort, the executive branch used contractors to regularly published articles with favorable interpretations of government work (Eriksson, 1937). Eventually, the arrangement between contractors and the government led to an information publication environment where waste, fraud, and scandal were common (History of Government Documents, 2011). After years of failed reform, the Government Printing Office (GPO) was finally established in 1860. With the establishment of the GPO the Federal Government took control of the objective print technology, formally integrating information publication into government work. Over the next 4 decades, all of the printing and publishing needs of the executive branch and legislative branch were consolidated under the GPO (Hernon & Relyea, 1995, p. 311). The consolidation included the distribution efforts related to the FDLP (Kessler, 1996, p.370-371).

The designation of the GPO as the hub for both information production and distribution by the 1895 Federal Printing Act is one of the earliest actions of comprehensive information management reform by the Federal Government. The act also expanded public access to executive level documents and made those documents available to the public free of charge (p. 370). The Federal Printing Act is a key historical touchstone for modern government information management reforms. First, like many modern government reform efforts—information management or otherwise—the act consolidated the disparate work of the Federal Government under one set of policies, standards, and spatial boundaries in the name of efficiency, control, and standardization. Second, the act, no matter how superficially, establishes both a
precedent and a means for public access to information. The legacy of this type of comprehensive reform lives on in spirit in the mandates of executive level reform efforts like the open government directive of the Obama administration. In terms of contemporary web management, government information aggregator websites like usa.gov, data.gov, and recovery.gov, consolidate information from across the federal government in one online space. The difference with these websites, of course, is that rather than establishing a brick and mortar building like the old GPO building in Washington, these efforts live and die with the construction of websites and networks of data available on the web for public access 24 hours a day 7 days a week.

**Federal Agencies: a Fractured Genesis**

Government information management practices have long had a tremendous impact, both positive and negative, on federal agencies and departments. Far from a monolithic entity, federal agencies are constituted by a wide variety of missions and institutional cultures. As part of the Federal Government, a federal agency can be described as being embedded within a complex organizational system while also having its own complex organizational and institutional system (Fountain, 2007, p. 163). Both systems are comprised by myriad rules, regulations, structures, and operations that affect information management practices.

At the end of the 18th Century, the first federal departments grew out of early committees on war and finance established in a revolutionary era of extreme distrust for the autocratic decision-making processes of the British monarchies (Nelson, 1982). Departments, like the committees they grew out of, were designed to blunt the capricious decision-making that the early revolutionaries were subjected to under
British rule. It is a tremendous irony, of course, that while trying to avoid the caprice of one decision-making apparatus, more were created (751). Early war and finance departments were temporarily established in 1781 with single executive heads having autonomy over administrative procedures in their jurisdiction (751). This temporary arrangement was made permanent in 1789.

In Federalist Paper number 72, Alexander Hamilton writes that administrators of these new departments should be considered as the “assistants or deputies of the Chief Magistrate” falling under executive “superintendence” (Prakash, 1993, p. 1015). The 1789 act formally establishing these departments as official government institutions also provided the executive branch with its traditional authority over the appointment of department heads (Nelson, 1982, p.752). The act grants the executive branch ultimate administrative authority over federal departments and agencies; and indeed, the executive branch’s influence over agencies continues to this day. The ability to dictate the political appointment process has been a tremendous benefit to the executive branch. Over time, it has become common to use these appointments as a way to implement policy reforms and reprioritize the work of federal agencies. For example, during the George W. Bush administration, Bush used his appointment powers to nominate department heads for natural resource agencies that were supportive of business interests and hostile to the more environmentally friendly policies of the Clinton administration (Parenteau, 2004).

While the appointment authority has allowed the executive branch to exert an important influence over federal agencies, the legislative branch has also exerted tremendous influence. In this regard, it has never been completely clear which branch
of government these departments are accountable to (Nelson, 1982, p. 752). Shortly after the first departments were established, Congress started using oversight authority to wrest power from the executive branch in the appointment process of department heads by organizing congressional committees and sub-committees around department work (755). In order to maintain control over the functioning of their bureaucracies, “agencies began to learn to play one branch off against the other; if neither president nor Congress was supreme then law was, and the agencies interpreted and implemented the law” (p. 755). In addition, as a result of a provision in the 1789 act first establishing departments, executive department heads have had traditional control over their business operations (Relyea 1980; Rourke, 1960, p. 690).

In some ways, the unclear oversight and accountability of federal departments was and still is a positive benefit to federal agencies; in theory, at least, with dual oversight and a reasonable amount of operational autonomy, agencies are able to conduct work related to their missions and mandates with minimal disruptions resulting from changes in executive administrations or political headwinds. In terms of changing the culture of information management, this complex arrangement has proven to be a tremendous hurdle. The complex institutional arrangement of federal agencies has made it difficult to implement information management reforms that conform to developments in objective technologies and changes in institutional arrangements. Throughout the 20th century, the problem was exacerbated by the expansion of the federal government.
The 20th Century and the Expansion of the Federal Government

During the rise of the administrative state in the first half of the 20th century, the Federal Government greatly expanded in size, scope, and variety of government agencies. From new taxes to information collected by newly created agencies like the Census Bureau, the sheer amount of information collected by the government swelled (Relyea, 2000, p. 368). Like most business activities, the business of government has always created a tremendous amount of paperwork. By 1850, a variety of laws were passed to assure the legality and official nature of government documents (Wells, 1944, p. 41). While these laws related more to the protection and preservation of official public records, there was no established government policy on the disposal of government records well into the 19th century (Holverstott, 1951). Strangely, early reform efforts for developing a smarter system of records disposal centered on a practical concern: finding storage space for the growing volumes of print records produced and preserved by the Federal Government. Rather than establish a comprehensive policy for records disposal—one that would help government officials discern between “records-worthy” and “non-records worthy” documents—time and again Congress simply looked for more building space to store the growing mounds of federal records (Wells, 1944). Finally, in 1889 after numerous fires and shortages of space at buildings both old and new alike, Congress passed the first comprehensive records disposal act, allowing for the disposal of “worthless” federal records (186). It wasn’t until 1934, after considerable trepidation from agencies and departments about giving up traditional controls over determining their own records keeping practices (Bahmer, 1955), that Congress established the National Archives and a National
Archivist to make government wide decisions about what information the government should and should not be keeping as records (National Archives, 2011).

Given the fragmented genesis of federal agencies and departments and their traditional autonomy in making decisions relating to agency operations, the majority of the new information collected by the Federal Government went uncoordinated among the various agencies. A lot of this information was statistical in nature. Because many of the agencies used similar kinds of information, there was tremendous duplication in the data being collected by the government from both the public and private sector (Stringham, 1943). The result has been a persistent and ongoing paperwork burden that has created one of the most salient and long-lasting symbols of inefficiency and waste in the Federal Government.

Theodore Roosevelt first attempted to address the paperwork problem in 1908. Spurred on by the information collection needs of the First World War, Roosevelt’s efforts eventually led to the establishment of the Central Bureau of Planning and Statistics (1916) and the Bureau of Efficiency (1919) (Stringham, 1943, p. 151). In 1922, the Bureau of Efficiency released a report recommending that all “non-administrative data” be consolidated under the Bureau of the Census, a proposal that would have dramatically changed information collection in the Federal Government if it had not died in Congress (p. 151-152). Through the thirties and into the early forties—and in conjunction with post-Depression economic recovery efforts—a variety of informational and advisory boards were established in the Bureau of the Budget (now the Office of Management and Budget (OMB)) to make recommendations about the coordination of government information (p. 152). These were the earliest of the
OMB’s ongoing interagency efforts to coordinate federal agency business and information management. While OMB had the responsibility to coordinate agency work, no agency had been granted any actual authority to enforce a uniform, government-wide approach (Linnenberg Jr., 1949, p. 6). Without clear authority, the paperwork problem persisted into the Depression era.

In 1938 FDR commissioned a study looking into the problem of data duplication and its consequence in creating a paperwork burden on the members of the public and the private sector. The study finally led to the Federal Reports Act of 1942, a comprehensive legislation limiting federal agency information collection to essential tasks while granting the authority to coordinate data collection in the Bureau of the Budget (or OMB) (Linnenberg Jr., 1949, Relyea, 2000, Stringham, 1943). For the first time, in policy at least, all of the public data collected by the government was to be consolidated and managed through a single agency. Like the 1895 Federal Printing Act, the Federal Reports Act of 1942 consolidated information management practices in the Federal Government. The purpose of the act was to address dramatic changes in institutional arrangements and the unintended paperwork burden created by a lack of coordination between federal agencies. By giving the Bureau of Budget consolidation authority, the traditional independent culture of agency management had started to change. The changes continued with reforms to agency records keeping procedures. Information related to internal processes, budgets, and policies all had to be preserved and archived for legal and historical reasons. In the name of efficiency in keeping these records, the previously independent National Archives (established in 1934) was placed in the new General Services Administration (GSA), an independent agency established
in the Administrative Services Act of 1949 to manage and support federal agencies (Leopold, 1977). The 1950 Federal Records Act mandated that federal agencies were to keep “proper documentation” of the business occurring at their agency (Shea and Garson, 2010). The act also consolidated records management practices by granting the Administrator of the GSA new authority to develop a system for comprehensive records management (Angel, 1953).

By designating the OMB and the GSA (and the National Archives) as central clearing houses for coordinating, establishing, and administering agency business practices, the Federal Government was beginning to make policy strides in reforming the consolidation of government information. Gone were the days of the early government where building new spaces to store the volumes and volumes of government information was both a formal and informal government policy for records management. While the coordination efforts progressed, a culture of secrecy and bureaucratic protectionism began to take root in the agencies. In a 1953 study by lawyer Harold Cross called The People’s Right to Know, Cross argued that access to government information was often hamstrung by a tendency to secretive practices by the courts, bureaucracies, and officials operating at all levels of government (Beaney, 1953). The study inspired House Democrats to create a subcommittee on government information to explore Cross’s findings. One of the first acts of the committee was to issue a survey of government agency information disclosure practices (Archibald, 1979). Not surprisingly given the history of federal agencies, the survey found a wide variety of information management practices underway in agencies, including 30 never
before revealed classifications of information that were in clear violation of a previous executive order limiting classification categories (Pickerall, 1956, p. 308).

The traditional autonomy of agencies in establishing business operations proved to be a tremendous hurdle for transparency advocates. During the early Freedom of Information Act (FOIA) hearings, the provision of the 1789 housekeeping act was cited as a central cause for an epidemic of secrecy in federal agencies (Rourke, 1960, p. 1960). After years of languishing in the Judiciary Committees of the House and Senate, FOIA was finally passed in 1966 (Archibald, 1979). The passage of FOIA established an important policy precedent for information management in the Federal Government. This precedent can be seen as extending into the transparent practices at the heart of the Open Government reform initiatives. For the first time, in addition to being preserved and managed, government information was also mandated to be accessible to the public. Immediately after its passage, there were myriad problems getting agencies to comply with FOIA requests. Between 1974 and 1976 key transparency measures were passed by congress that strengthened FOIA and expanded the scope of public access to government information. In 1974 FOIA was amended to ensure that federal agencies and the executive branch would comply with the law in a timely manner or else face disciplinary action (Archibald, 1979, p. 316; Feinberg, 1986). 1974 also saw the passage of the Privacy Act, which further limited the amount and kind of information the government could collect and disseminate about the public while expanding public access to the information that the government was allowed to collect (Relyea, 1980, p. 148; Regan 1986). Finally, the Sunshine Act (1976) required that government agencies
make their meetings accessible to the public—albeit, with a number of exceptions (Sunshine Act; Feinberg, 1986).

**Information Resource Management and the Federal Government**

While there had been tremendous policy progress in terms of consolidating and providing access to government information, by the early 1970s the comprehensive 1942 Federal Reports Act began to fall under criticism from the agencies. Soon, Congress began to investigate the key provisions on consolidating and limiting the collection of information by the government (Relyea, 2000, p. 369). Born out of the Commission of Federal Paperwork, the Paperwork Reduction Act (PRA) of 1980 was another sweeping legislative effort that attempted to reconstitute and consolidate government information management. Like the Federal Records Act before it, the PRA was intended to reduce the paperwork burden that the government places on the public, businesses, and other governments. In addition to instituting new requirements for limiting government paperwork, the PRA also mandated procedures for streamlining government information management processes on the whole (PRA, 1980). To accomplish this, the PRA expanded the role of the Director of OMB to include the development and implementation of Federal Government information standards for all activities relating to information collection, retention, and dissemination, including the purchasing of computers and information technology (PRA, 1980). In addition, the act established the Office of Information Resource Assessment (OIRA), an independent agency with the responsibility of overseeing rulemaking and other information management practices (Copeland, 2009).
The PRA and its subsequent amendment in 1986, reflected a shifting understanding of government information as a commodity resource that should be managed rather than a public good in need of “Government Sunshine” as it was in the late 1960s and early 1970s (McDermott, 2010, p. 404). The shift in perspective to this style of management—sometimes called information resource management or IRM—in the PRA was the beginning of a new era in public administration for the Federal Government. Rather than a collection of agencies with myriad business practices, procedures, and prerogatives, IRM further moved the Federal Government into an era of increased agency oversight, consolidation and standardization efforts, practices common to the private sector but at odds with how the Federal Government had traditionally done its business (Caudle, 1988). In terms of information technology development, the PRA attempted to implement strategic coordination of both the publication of government information and the planning processes and technology purchases by which government information was produced (Caudle, 1988). The shift was an attempt to force the Federal Government to make strategic choices when it came to investment in new information technologies and management practices.

**The Federal Government and Computers**

While the PRA attempted to address a longstanding problem related to the institutional arrangement of the Federal Government, the objective technology supporting information management was entering into a period of rapid change: the rise of the personal computer. In 1960 there were only 500 large, mainframe computers at work in the Federal Government (Cornog, 1961). The number had grown to 3,000 in 1980 and by 1985, there were “about 100,000” microcomputers in federal agencies.
The newly wired government, and the increasing amount of digital information created entirely new policy concerns on issues related to privacy, records management, and information access. To return to Fountain, if the government was to use the objective technology to its full capacity, it would have to once again change its institutional arrangements to support its enacted use. While it may seem hard to believe for many working in the government today, there was a long period of time where the Federal Government was ahead of the curve when it came to the use of computers and the Internet. From the Census Bureau’s use of UNIVAC computers to the development of ARPANet and NSFNET, the American government was at the forefront of information technology development until the Internet age (Shea & Garson, 2010). Indeed, without the research funding provided by the Federal Government, many of the major developments in computing technology—including the Internet—may not have been possible (Abbate, 2001).

In 1951, the first UNIVAC computers were delivered to the Census Bureau to help accomplish the census’ constitutionally mandated collection of data about the U.S. population (Hansen, 1987, p. 186). According to a House subcommittee report in 1960, the government was using over 500 computers and spending a total of $50 million dollars a year on the rental of the machines; 70 percent of these computers were housed in the Department of Defense, but there were also computers in the Department of Commerce, the Post Office, and NASA (Cornog, 1961, p. 105). Into the sixties, the use of computers helped the Federal Government make historic advances in space travel, defense, transit and atomic energy—innovations that had dramatic impacts on the broader society (Ream, 1968, p. 496). Around this time agencies also began to use
“information retrieval” services (mostly delivered through computers) to distribute scientific and technical information published by agencies like the National Science Foundation (NSF) and the Department of Defense (DOD) (Zeiger, 1966). In 1972, the Office of Technology Assessment (OTA) was established within Congress to help research matters related to technology and public policy (H.R. 10243, 1972).

The biggest contribution of the Federal Government to objective information technology has undoubtedly been its role in establishing the Internet. In 1969 ARPANET began as a DOD project to build an information network connecting computer science researchers at MIT and the DOD with other researchers from universities from around the country (Abbate, 2001, p. 150). The project was ultimately successful and soon a national network of academic and government researchers was connected through computers for the first time, establishing many Internet protocols that are still in use today. As the ARPANET technology aged, another government agency funded project called NSFNET, started in 1984 by the National Science Foundation, emerged in its place (Abbate, 2001). A much faster network than ARPANET, NSFNET helped expand national Internet connectivity during a period of substantial growth in the number of people using the Internet and personal computers (National Science Foundation, 2011). In 1995, NSFNET ended, and the private era of the Internet development formally began. After the repeal of the Internet Acceptable Use Policy and the commercialization of the Internet in the early 1990s, the rate of technological growth in computer and Internet technology accelerated rapidly. While always citing the tremendous potential of computers in reforming
government, both in practice and in policy, the Federal Government has struggled to keep up with the rapid technological growth spurred by the private web.

The Federal Agencies Go Online

Even in the years before the Internet and the personal computer, the potentially transformative power of information technology on federal agency practices did not go unnoticed by the executive branch. In a June 1968 memo that was a precursor to the myriad executive orders issued by presidents to agencies on information technology in the modern era, LBJ compelled the heads of department agencies to use computers to “do a better job” while managing computer activities at “the lowest possible cost” (Johnson, 1966). While Johnson had a more narrow vision for the use of computers and information technology based on what was possible at the time, the Clinton Administration sought transformational change through the new technology.

The 1993 National Performance Review (NPR) issued by Vice President Al Gore, outlined a new customer service approach to government and argued that new “information superhighways” were to be the backbone for both the economy and the government of the future (Dawes, Pardo, & Dicaterino, 1999, p. 346). All of this was to be supported by the development of a National Information Infrastructure (NII) that would ensure economic prosperity in the next century (Gore, 1993; Owen and Davis 2008). In addition to the NPR, Gore’s Reinventing Government movement attempted to change the way the Federal government conducted its business. By focusing on changing institutional arrangements, Reinventing Government tried a plan that had been common in the previous century of information management reform efforts of federal agencies. The difference here, of course, was the heavy reliance on a new
technology. One idea was to build interagency websites capable of providing many federal government services through single websites (Fountain, 2007, p. 163). While potentially transformative, the initiative failed because of a lack of oversight processes for cross agency technology initiatives (164).

The transformation in technology also brought about a series of reforms establishing early federal agency web management policy. Key Clinton era policy documents like the Government Performance and Results Act of 1993, the Paperwork Reduction of 1995, and OMB Circular A-130 all contained provisions requiring agencies to strategically use information technology to carry out their missions (Fletcher and Westerback, 1999, p. 299). The 1995 PRA reauthorization also provided OMB with authority to coordinate these efforts and develop IT standards for federal adoption (Mahler & Regan, 2006, p. 25). Taking cues from the private sector by focusing on strategic information resource management, these policies also moved agency IT efforts further towards consolidation and efficiency. This movement was furthered by both Executive Order 13011 and the Clinger-Cohen Act of 1996 which established “prominent” CIOs in both the Office of Management and Budget (OMB) and the executive agencies themselves to oversee IT investment and information accountability efforts (Executive Order 13011, 1996; Fletcher, 2002; Westerback, 1999). The establishment of CIOs was an effort to address long standing problems with interagency information management collaboration.

Two other key pieces of legislation were passed extending freedom of information principles into digital and online information. First, the 1996 Electronic Freedom of Information Act (EFOIA) extended public information access to include
electronic information and mandated that agencies use the Internet to provide basic information about their operations (Halstuk and Chamberlin, 2001). Next, the Government Paperwork Elimination Act of 1998 was passed (an amendment to the 1995 PRA) requiring agencies to make electronic versions of forms available online (Relyea, 2007). The two measures were key to establishing both the purpose and philosophy behind early federal agency websites that provided links to agency mission, policies, and organizational practices.

In addition to spearheading important policy changes, the Clinton Administration was also a pioneer in terms of Internet use by the American Federal Government. In 1993, email addresses for the President and Vice President were established for the first time (Shea and Garson, 2010). In 1994, the Clinton administration established www.whitehouse.gov in a time when there were fewer than 100,000 websites in total across the World Wide Web (Owen and Davis, 2008, p. 660-663). The new site was meant to be a model for other federal agencies moving government information practices online. By the time a 1997 Government Accountability Office report titled “Internet and Electronic Dial-Up Bulletin Boards: Information Reported by Federal Organizations” was given to the Chairmen of the Senate Committee on Appropriations and Committee on Government Affairs, there were approximately 4,300 federal organization websites being reported by 42 federal organizations (GAO, 1997, p. 2). As you would expect given both the decentralized structure of the web and federal agencies, the development of agency websites did not happen in a uniform fashion. In the early days of the web, only half of all government agencies were providing guidance for creating new government websites at all, let
alone working together to establish a uniform set of procedures and standards (p. 11). In a 2000 study on state and Federal Government websites, Darrell West wrote that there was considerable variation in both overall site assessments and the type of content and information featured on federal agency websites (West, 2000, p. 11-12). The discrepancies in design functionality and purpose between government websites continues to this day, creating a tremendous hurdle for those who feel that uniformity in government sites could lead to an easier use experience by the public.

The late Clinton years saw many milestones in government use of the web. The 1998 Government Paperwork Elimination Act required that agencies make their forms fully serviceable online by 2003, a move that expanded agency service delivery to the realm of the web (Relyea, 2000; Fletcher, 2002). In 1997, the USDA became the first agency to engage in “e-rulemaking” soliciting comments from the public online for a proposed rule about definitions for organic foods (Shea & Garson, 2010). Finally, in support of launching firstgov.gov (now usa.gov) a portal for all government websites, President Clinton delivered the first ever Internet address to the public, championing the new site (Fletcher, 2002).

**The Bush Administration and the Post 9/11 World**

After the tremendous information management changes of the nineties expanded public access to government information, the attacks of September 11th changed the culture of information management in the Federal Government. In the immediate aftermath of the attacks, many agencies—including NASA, the Environmental Protection Agency and the Department of Energy—took information deemed to be sensitive off of their public facing websites (Halchin, 2002). In early
2002, the FBI warned content administrators to be careful about what they posted online because “infrastructure-related information, available on the Internet, is being accessed from sites around the world” (Dean, 2002). In the years following 9/11, the Bush Administration employed a restrictive approach to transparency and information access. On FOIA, the administration equivocated their support, arguing that providing information access was just as important as providing security, protecting information about business and personal privacy (Relyea, 2009, p. 315). In addition, after years of policy progress in terms of mandating sunshine laws and basic transparency practices, agencies once again began developing new categories for the classification of information that was outside of both FOIA and the Privacy Act of 1972 (Feinberg, 2004).

It was in this restrictive information management environment that the congress passed the E-Government Act (2002). Building on the IT standardization and consolidation efforts initiated by the Clinger-Cohen act, the overall goal of E-Government was to make government information and services online more accessible and citizen-centered, while improving the efficiency of the Federal Government (Seifert, 2008). To that end, the act set about establishing a new independent Office of Electronic Government (OEG) in OMB with a Presidential appointee as an administrator responsible for carrying out a variety of information resource management activities. The new office was to assist agency CIOs in enforcing agency compliance with relevant policy statutes like the Privacy Act, the Paperwork Elimination Act (and PRA) and the recently passed Information Security Act (2002). Agency CIOs were also expected to comply with the act and develop performance
measures to determine how well key groups like the public or partners were accessing agency information.

In spite of all of these efforts—and the countless efforts before them—to foster the institutional change in the federal government, by the end of the first decade of the 21st century, the Federal Government was still lagging behind many in the private and public sector when it came to delivering modern services through the web. Indeed, the government was falling behind in terms of the information needs of the public as well. The 2009 Report to Congress on the E-Government Act begins with a staggering statement: “Twenty years ago, people working for the Federal Government had access to the world’s best technology. Today, many Government employees have better technology at home than at work” (OMB, 2009).

**Status of the Open Government Directive**

Building on the precarious foundation of the complicated political and legislative history of federal agencies, the impact of the Obama administration’s Open Government Initiative will have to be truly transformational if it is ever going to achieve its ambitious goals. In addition to fixing a broken technological culture, the administration also had to repair a FOIA policy that was left weakened by the secrecy of the Bush years (McDermott, 2010). In addition to fixing the government’s transparency policy, if the administration was going to succeed in using participatory and collaborative tools like social media to foster open government, it also had to usher in a new era of information policy in the Federal Government, one that reconciled open government opportunities like third-party social media use with the restrictions found in previous policy, such as the Paperwork Reduction Act.
The April 7th, 2010 memo from OIRA administrator Cass Sunstein clarified the information collection requirements of the 1995 Paperwork Reduction Act, which limited the government’s ability to conduct surveys of public opinion. In a move that cleared the way for government third-party social media use, Sunstein’s memo said that agencies could use “social media and web-based technologies in a variety of specific ways without triggering the PRA” (Sunstein, 2010, p. 3). Sunstein justified his opinion by arguing that social media functioned more like “town hall meetings” than it did a survey. The clarification prevented the information collected through third party site features like comment applications from triggering a cumbersome and intensive OMB review and approval process (the process with policy roots in the Federal Reports Act of 1942 and the 1980 PRA).

While previously, a user may have come to a government website only once to find a single piece of information or a service, more participatory and collaborative environments depend on user identity and tracking in order to promote substantive engagement. OMB Memorandum M-10-22 establishes “principles for Federal Agency Use of Web Measurement and Customization Technologies.” The memo rescinds OMB memorandum M-00-13, a memo related to the E-Government act of 2002 that provides agencies with guidance on implementing privacy policies and data collection on federal websites. The memo establishes tiers of authorized methods of using an individual’s online interactions as a way to collect information for the purposes of customizing or measuring the efficacy of web based technology. In total three tiers of use were defined:

• Tracking information during a single visit to a web page
• Tracking non-personally identifiable information across multiple web visits.

• Tracking personally identifiable information across multiple visits

By advocating for a tiered system that allowed federal agencies to track small amounts of non-personally identifiable information, the administration showed its support for providing federal agency web staff with the same tools as web staff in the private sector. It also demonstrated the administration’s desire to preserve privacy laws from previous eras of information management policy by relaxing restrictions just enough to facilitate change.

While the administration’s policy reforms sought to provide a means for federal agencies to get the most out of new technologies, another reform sought to extend government policies to non-government sites. Memo M-10-23, Guidance for Agency Use of Third-party Websites and Applications, sought to make sure agencies are taking “specific steps to protect individual privacy whenever they use third-party websites and applications to engage with the public.” The document reaffirms the validity of the Privacy Act of 1974, reminds agencies that, even on third-party sites, the law still applies. In terms of use of the sites, the memo implores agencies to review third-party privacy polices; provide “exit messages” when linking to a third-party site from a .gov page; disclose third-party involvement; apply appropriate branding; and collect minimal personally identifiable information. Finally the memo asks agencies to amend both agency Privacy Impact Assessment (PIA) procedures and their privacy statements to reflect third-party site use.
In conjunction with the principles, plans, and mandates set forth by the Open Government Directive, the changes to government information management policy by the Obama administration created a path for agencies to use new technologies to engage the public substantively in government work online. The next section of this analysis seeks to measure the extent to which those policies have changed the web management practices of the federal government.
Chapter 3: Survey Analysis

Government Web Staff Attitudes

By assessing the attitudes of current government web staff through a survey, the goal of the next section of is to directly assess the primary research question about the extent of change in federal agency web management fostered by the Open Government Initiative and social media. While the Open Government Initiative uses developments in objective technology like the web and social media to facilitate open government practices with the public, this research argues that the institutional practices in which these technologies are embedded will ultimately decide the initiative’s transformational potential. As it was demonstrated throughout the history of information management in federal agencies, the institutional culture of the federal government is extremely complex and has been historically intransigent to change. That being said, if there are any examples of change to be found in terms of creating participatory and collaborative opportunities for the public online, I assumed that it may be possible to find evidence of change in the attitudes and experiences of those individuals responsible for managing the web on behalf of government agencies.

Hypotheses

The following general and specific hypotheses were tested by the survey:

H₁: Participation in Open Government Initiatives will be strongly correlated with positive feelings about using social media for collaboration, transparency, and participation in the government.
H2: Participation in the Open Government Initiative will be strongly correlated with positive feelings about using websites for collaboration, transparency, and participation in the government.

H3: Positive feelings about the state of open government will be strongly correlated to positive feelings about using social media for collaboration, transparency, and participation in the government in general.

H4: Federal employees will be more likely to support web and social media use for open government than state, local, and international employees.

H5: Larger agencies will be more likely to support open government principles than smaller agencies.

H6: Leadership support for using web and social media will be strongly correlated with positive feelings about open government.

H7: Government employees will be generally skeptical about the government’s ability to get the most out of new technologies.

Data Collection and Methods

An online cross sectional survey was instrument was designed to assess the attitudes, practices, and experiences of current government web staff. The survey was made available online through the application Survey Monkey from March 16th, 2011 to April 2nd, 2011. The survey was relatively short, consisting of 20 questions taking, on average, under 10 minutes per survey. I distributed a link to the survey in two ways: first, through a GSA sponsored government new media conference in Washington D.C. via messages sent from the social media application Twitter and, second, through a series of email messages I sent to members of the Web Content Managers Listserv after
attending the event. Both the listserv and the new media conference were sponsored by the Federal Web Managers Council and the GSA’s Office of Citizen Services and Innovative Technologies. Established in 2004, the Web Managers council is an interagency advisory group of federal web managers from across the government (General Services Administration). According to their website, the listserv is comprised of almost 2,000 individuals and is open to anyone at the federal, state, local, and tribal level of American government (usa.gov). Members of the forum work with the web in a variety of capacities including: management, public affairs, web design, and content production. As a government employee at the U.S. Fish and Wildlife Service I am a member of the forum and allowed to send messages to the group whenever I choose. Because this survey was conducted for my Master’s thesis at Georgetown and not for my work as a federal employee, I secured permission from the listserv manager to distribute the survey to the group before sending out the link. In total, the survey had 299 respondents, resulting in an estimated response rate of between 10% and 15%. Of the 299 responses, 269 came directly from the messages sent from the listserv and 30 came from distributing the link through Twitter.

My starting point for developing questions for the survey was an April 2010 Pew Report that assessed citizen interactions with government agencies online (Smith, 2010). While Pew’s survey was directed at assessing public interactions with government information and services, the questions used to operationalize government web use provided a helpful model for developing my own set of questions directed at government web staff. After identifying variables that were potentially suitable for the purposes of my assessment, I rewrote the questions with an assessment of the
experiences and attitudes of government web staff in mind. After a brief review of relevant literature related to federal agency web policy, management practices, and prior studies, rewrote the questions again finishing with sets of variables related to the Open Government Initiative and variables related to the institutional arrangements where government web management practices are embedded.

In terms of the latter, previous surveys of government web staff support Fountain’s assertion that institutional factors strongly influence how objective technologies like web and social media are used by organizations. Institutional factors have been found to play a significant role in determining both the type of content published on government websites and the production processes that dictate the creation of that content (Mahler & Regan, 2006; Eschenfeld, 2004). In partial support of Davis’s argument that the government primarily uses the web for the purposes of self-promotion, one study found that content on the web is not so much controlled by a positive messaging strategy as it is self-managed by employees who have a strong tendency to author content that reflects positively on the work and mission of the agency itself (Mahler & Regan, 2007). Finally, Eschenfeld found that Government web staff often come from a journalism background and often work in content production practices that are hierarchical and top down.

**Concepts**

**Open Government.** Given that the focus of the research is an assessment of the impact of the Obama reforms and social media on federal websites, the dependent variables largely dealt with opinions and attitudes about using the web and social media in government work to foster open government. The focus on attitudes is important
because the members of the listserv are on the front line of using the web and social media in the government. Previous studies of agency staff perceptions of their work have shown that web staff and organization play an important role influencing the content that is produced and the decisions and structures that produce that content (Eschenfeld, 2004; Mahler and Regan, 2006). A current assessment of the opinions and attitudes of government employees may shed light on the future of web and social media use in the government.

**Organizational Practices and Institutional Arrangements.** When designing the survey, questions about organizational practices were assumed to be predictors of attitudes towards web and social media by respondents. For example, one could reasonably expect that individuals who work in an agency that is currently using social media will have more favorable opinions about the impact of using social media in government work. Conversely, respondents working in agencies with low levels of management support may not have positive attitudes about the potential of the web in government work.

**Indicators**

**Dependent Variables.**

*Providing Information (n=276, n=274).* Six questions assessed respondent opinions about the most and least effective ways their agency works with the public online. The first four questions related to the traditional function of government work online (providing information and services) and the last assessed collaboration, a concept more related to recent open government reforms and the culture of social media.

Respondents were asked to give their opinion about the most and least effective
ways their agency provides information for the public (see Figure 1). Agency websites were overwhelmingly identified as the most effective way to provide information (60%) and print was cited as the least (38%). It’s interesting to note what came in second and third in each category. In terms of most effective, direct contact and social media were virtually identical with 12% and 11% respectively. In terms of least effective, the media is second (20%) and social media is third (15%). The findings show mixed opinions about the utility of social media for information delivery and clear skepticism about relying on the press to disseminate agency information.

Figure 1. Respondents’ opinions on which ways of providing information are the most and least effective within their agencies. n=276.

Service Delivery (n=273, n=274). Similar to the previous question, respondents were asked to choose the most and least effective way that their agency or office delivers services to the public (see Figure 2). Again, agency websites were cited as the best method (58%) and a print based product, direct mail, was cited as the least effective (52%). Surprisingly, social media has the second highest percentage in the
“most effective” category, suggesting that respondents view social media as more than just an outreach or participation tool (19%).

![Figure 2](image-url) Respondents’ opinions on which ways of delivering services are the most and least effective within their agencies. n=273,274.

**Collaboration or Feedback (n=266).** Nearly half (50%) of respondents chose social media as the best tool to foster collaboration and participation with the public (see Figure 3). Agency websites were virtually tied with town hall meetings with 16% and 15% respectively. In terms of least effective, nothing came close to the Federal Register coming in at 54%. It’s not necessarily surprising that so many would cite it as such an ineffective practice, given it’s complexity of use in comparison to social media. It is, however, very surprising to see the number so high in comparison to everything else. As confidence builds around the use of social media in government, policy changes to the use of the federal register indeed come along with them.
Respondents' opinions on which ways of collaborating with and soliciting feedback from the public are the most and least effective within their agencies. \( n=266 \).

**Government Websites \((n=255)\).** A battery of questions assessed opinions and attitudes about using websites and social media as open government tools. Attitudes were measured on a 4-point scale asking respondents how much they agreed or disagreed with a series of statements about using the web in government in general, and in their agency in particular.

The questions in government website battery aimed to assess opinions and attitudes about government websites as tools capable of fostering open government (see Figure 4). In an important finding, a majority disagreed (55%) that their agency website provided opportunities for substantive public engagement \((n=258)\). The finding is important because it shows that, from the perspective of government webs staff, their websites do not offer enough participatory and collaborative features for use by the public. Additionally, a small majority (51%) also reported that their agency

Figure 3. Respondents' opinions on which ways of collaborating with and soliciting feedback from the public are the most and least effective within their agencies. \( n=266 \).
thought more about internal concerns than meeting the needs of the public when making changes to their websites (n=258). These two findings contrast sharply with the high numbers of respondents (70% and 68% respectively) who believe a government website is the public’s space and that a government website should be a forum for political participation and civic engagement (n=252, n=257). In a separate but related finding, a solid majority (74%) disagreed that using logos from third-party sites like Facebook on government websites was inappropriate (n=254).

![Figure 4](image-url)

**Figure 4.** Respondent opinions about the purpose of government websites. n=255.

**Government Social Media Use (n=251).** A battery of questions was asked gauging opinions and attitudes about using social media in the government (see Figure 5). Questions assessed subject’s attitudes as to whether or not social media is a substantive tool capable of fostering open government. As it was with the battery of questions related to agency websites, the battery on social media reveals a disconnect between respondent opinions about using web management for collaboration and
participation and their perceptions about whether or not the technology is being used in that way in their own office. With all of the questions related to the potential of social media to foster open government, respondents were very positive. 87% of respondents feel that social media fosters open government and only 2% agree with the statement that social media use by the government is a waste of time and money (n=251, n=254). In addition to the positive attitudes about social media and government, respondents also believed that the public will receive government social media efforts positively with only 37% agreeing with the statement that public apathy or antipathy is a barrier for government social media use (n=249). While attitudes about social media were very positive, perceptions of their own office’s use of social media were mixed. As an outreach tool, 79% agreed that social media helped their agency promote its mission to the public (n=258). As a participation tool however, only 40% thought that the conversations had by their agency with the public were substantive (n=250).

![Figure 5](image_url)

**Figure 5.** Respondent opinions about government use of social media. n=251.
**Government Culture (n=251).** A battery of questions assessed respondent attitudes about government web and technology efforts in general and practices of the respondent’s specific agencies in particular (see Figure 6). In terms of government in general, respondents were extremely skeptical that government culture, policy, and expertise could adjust to and get the most out of developments in new technologies. While respondents were skeptical about the government adjusting to technological change, almost unanimously (98%), respondents felt that support from upper management was essential for integrating new technologies into agency work (n=249). In terms of the practices at respondents’ own agencies, again findings were mixed. Government bureaucracies are famously hierarchical, but a majority of respondents (n=254) reported that the content approval process in their agency is timely (57%), a number that bodes well for the fast-paced nature of information publishing in the social media era. The last finding is less positive. In terms of strategic use of the web and social media, less than 50% reported that their agency operates strategically in terms of outreach and management (n=250, n=251).
Control Variables. Because of this research’s emphasis on institutional change in the Federal Government, the control variables assessed specific aspects of the agency that each respondent worked for. Questions related to agency type, organization, and size were all assumed to be major influencers on opinions and attitudes about the state of web use in government.

Agency Level (n=292). Respondents were asked to report the level of their agency or office based on federal, state, local, or other (see Figure 7). Germaine to this study, 68% of the respondents reported themselves as federal employees. State and local accounted for 25% and 5% respectively.

Figure 6. Respondent opinions about their organizational culture. n=251.
Agency Mission (n=206). A variety of choices were provided corresponding to possible categories of agency work (see Figure 8). The largest categories represented were from the Environmental, Natural Resources, and Sciences (36%) and Public Health (20%). There were a large number of “other” responses making the variable challenging to work with in the statistical analysis.
Figure 8. Type of agency respondents work for. n=206.

Agency Size (n=284). Respondents were asked to report the size of their agency ranging from 200 employees or less on the small end, to over 10,000 on the large end (see Figure 9). With agency type so heavily skewed to federal, it is not surprising that the largest two categories had the most responses, with 40% reporting to work for a large agency (an agency with more than 5,000 employees). 35% worked for a medium size agency (500-5000 employees) and 25% worked for an agency with 500 employees or less.
Job Category (n=287). Respondents were asked to select the position that most accurately corresponded to their job (see Figure 10). Respondents were allowed to provide multiple responses. The top three choices were split evenly among content producers (33%), IT support and web development (31%), and public relations (30%). The percentages suggest that many employees consider themselves doing multiple positions, a fact of life for many government agencies with limited staff and support.

Content Development (n=282). Respondents were asked who had the
responsibility for developing web and social media content for their agency or office (see Figure 5). Once again, Public Affairs Specialists led the way with 64%. Surprisingly, subject matter experts came in at second with 55%, suggesting that agencies are allowing their most knowledgeable employees to create content for their public facing web presences, an important development for agency work on the web.

Other findings of note include nearly a quarter of respondents (24%) reporting management involvement in content development. Additionally, only 10% reported that interns are developing content, a number that goes against a popular misconception about who is behind many government social media accounts.

Figure 11. Persons responsible for developing content with respondents’ agencies. n=282.

Current Agency Practices (n=268). Respondents were asked a battery of questions about their agency’s participation in a variety of web activities (see Figure 6). 100% of respondents reported maintaining a website. 60% reported using Facebook,
68% Twitter, 35% Flickr, 60% YouTube, and 45% Blogs. While 70% said their agency offered a means to receive emails through a subscription service, only 16% reported using text messaging for the same purposes. Finally, 38% reported agency participation in Open Government Initiatives like data.gov.

![Current Agency Practices](image)

*Figure 12.* Respondents chose all practices currently happening in their agency. n= 268.

**Open Government (n=249).** Respondents were asked if they thought the government was more open and participatory or less open and participatory than two years ago (see Figure 7). Respondents overwhelmingly thought that the government was more open and participatory (77%). In fact, while 23% thought the government was the same, only 1% thought the government was less so.
Figure 13. Response to the question: “Compared to two years ago, would you say that the federal government is more open and participatory, less open and participatory, or about the same?” n= 249.

**Potential of Government Web Use (n=251).** Respondents were asked to choose what they believed the greatest potential of government web use was from five choices related to the five categories of government web use described in the literature review (see Figure 8). Perhaps surprisingly in the participatory era of social media, a traditional use of the web by government was the clear leader with 35% citing better access to data and information as the greatest potential. The other categories all split with outreach 16%, services 19%, transparency 16%, and collaboration 16% respectively.
Figure 14. Response to the question: “Out of the choices below, what do you see as the greatest potential for using the web in government work?” n=251.

**Bivariate Findings.** Before moving to the multivariate analysis of the data, a brief discussion of correlations can be useful in understanding basic relationships between the dependent and independent variables. Because this study is mainly interested in understanding how new reforms and technological developments are changing the web management practices of the federal government, the correlations between organizational factors and attitudes about using the web for open government may be useful in understanding the current state of open government.

**Agency Type and Size.** Agency type and size are strongly correlated but discreet variables, with Federal agencies tending to be larger than state and local agencies. In general, agency type and size were poor predictors of current agency practices and respondent opinions about the web, social media, and open government. Size of the agency did yield a few important findings. In terms of practices, there was a small, positive correlation between higher agency size and use of a Facebook page.
In an expected finding, there was a negative correlation between higher agency size and restrictive processes for publishing content, meaning that the larger the agency the more restrictive the web publication process \( (r= -0.18, n=247, p<.01) \). On the other hand, there was a positive correlation between agency size and attitudes about their agency’s use of social media, with respondents working in larger agencies more likely to report their social media conversations as being substantive \( (r= 0.238, n=224, p<.00) \).

**Open Government Participation.** Online open government agencies were defined by whether or not a respondent reported that their agency was using Facebook, Twitter, blogging, or participating in web-based Open Government Initiatives like data.gov. It’s interesting to note strong correlations between the variables themselves (see Table 1), with statistically significant positive relationships across all of the variables. The finding suggests that, if an agency uses one open government tool, they are likely to use the others as well. In an important finding present across all four variables, employees working in agencies with social media or open government activities were also very likely to report organizational support, strategy, and success in terms of their agency’s current web and social media management practices (see Table 2). In terms of opinions about government web and social media practices in general, only blogging was found to be statistically significant across multiple variables. The strongest relationship was between blogging and the belief that social media foster collaboration with the public \( (r= 0.186, n=231, p<.01) \).
Table 1  

*Correlations Between Agency Open Government Participation Variables*

<table>
<thead>
<tr>
<th></th>
<th>Open Gov</th>
<th>Twitter</th>
<th>Blog</th>
<th>FB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Gov</td>
<td>1</td>
<td>.399**</td>
<td>.310**</td>
<td>.323**</td>
</tr>
<tr>
<td>Twitter</td>
<td>.399**</td>
<td>1</td>
<td>.553</td>
<td>.637</td>
</tr>
<tr>
<td>Blog</td>
<td>.321**</td>
<td>.553**</td>
<td>1</td>
<td>.454**</td>
</tr>
<tr>
<td>FB</td>
<td>.323**</td>
<td>.637**</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

*Note. All sig at .00, n=302*
### Table 2

**Correlations Between Tools Used by Respondent’s Agencies and Respondent Beliefs About Their Agency’s Web Practices**

<table>
<thead>
<tr>
<th></th>
<th>Open Gov</th>
<th>Twitter</th>
<th>Blog</th>
<th>FB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>My agency has a strategy for web management</strong></td>
<td>.069</td>
<td>.202**</td>
<td>.226**</td>
<td>.216**</td>
</tr>
<tr>
<td><strong>n=246</strong></td>
<td></td>
<td>n=246</td>
<td>n=246</td>
<td>n=246</td>
</tr>
<tr>
<td><strong>The leadership in my agency take social media seriously</strong></td>
<td>.119* (.1 level)</td>
<td>.354**</td>
<td>.330**</td>
<td>.455**</td>
</tr>
<tr>
<td><strong>n=238</strong></td>
<td></td>
<td>n=238</td>
<td>n=238</td>
<td>n=238</td>
</tr>
<tr>
<td><strong>Social media helps my agency with outreach</strong></td>
<td>.126</td>
<td>.258**</td>
<td>.274**</td>
<td>.316**</td>
</tr>
<tr>
<td><strong>n=225</strong></td>
<td></td>
<td>n=225</td>
<td>n=225</td>
<td>n=225</td>
</tr>
<tr>
<td><strong>My agency has important conversations with public via social media</strong></td>
<td>.145*</td>
<td>.324*</td>
<td>.400**</td>
<td>.417**</td>
</tr>
<tr>
<td><strong>n=225</strong></td>
<td></td>
<td>n=225</td>
<td>n=225</td>
<td>n=225</td>
</tr>
<tr>
<td><strong>My Agency has a social media strategy</strong></td>
<td>.097</td>
<td>.337**</td>
<td>.401**</td>
<td>.417</td>
</tr>
<tr>
<td><strong>n=241</strong></td>
<td></td>
<td>n=241</td>
<td>n=241</td>
<td>n=241</td>
</tr>
<tr>
<td><strong>Our website offers may ways for the public to engage with our office</strong></td>
<td>.01</td>
<td>.154**</td>
<td>.224**</td>
<td>.209**</td>
</tr>
<tr>
<td><strong>n=248</strong></td>
<td></td>
<td>n=248</td>
<td>n=248</td>
<td>n=248</td>
</tr>
</tbody>
</table>

*Note. All sig at .00, n=302*

*statistically significant at the .1 level, **statistically significant at the .00 level*
Findings: Factors for Open Government

The data so far suggest a few general findings. First, the size and type of the respondent’s agencies have very little to do with respondent’s opinions about their own agency’s use of the web and the use of the web by the government in general. It follows, then, that this would also hold true about perceptions about open government. Second, the data suggests that agency use of social web tools strongly correlates with positive opinions about the use of those tools for open government purposes. This finding may seem unimportant, but it’s worth noting that an opposite finding was also possible, where social media tools were perceived as not being conducive to open government. Finally, positive assessments of leadership and management also correlated with the use of social web tools, a finding that suggests organizational support may lead to positive attitudes about using the web and social media for open government.

In preparation for a regression analysis of the variables related to using web and social media for the purpose of open government, 15 dependent variables were subjected to an exploratory principal components analysis (PCA) using SPSS Version 19. The variables selected were based on both the top-level analysis of the survey data and the findings from the bivariate correlation analysis. After running the PCA, the correlation matrix for the variables showed a number of coefficients with a value of .3 and above. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .852, higher than the recommended number of .6 (Kaiser, 1970). In addition, Bartlett’s Tests of Sphericity was statistically significant at the .000 level.

The principal components analysis showed 3 components with an eigenvalue of
over 1. These components explained 31.25%, 15.96%, and 7.45% of the variance respectively. The scree plot showed a break after the third component, suggesting that only the first 2 components be included in the analysis. Because the scree plot conflicted with the eigenvalue test, a parallel analysis was conducted on the data. The parallel analysis confirmed the results from the scree test, with two of the eigenvalues exceeding the corresponding criterion values for a random matrix with the same criteria (n=299 and 15 variables). Ultimately, the first two components were retained for the rest of the analysis. A varimax rotation was performed on the two extracted components.

For the most part, the rotated solution showed a simple structure, with each component showing high loadings for a number of variables. The two components accounted for approximately 47% of the total variance present in the 15 variables, with the first component accounting for 25.1% and the second accounting for 12.9% (see Table 3). A variety of variables related to attitudes about social media use in government load on the first factor. The positive correlations present in the component suggests that, if a respondent expresses positive opinions about social media use by government, the positive attitudes extend across all aspects of government work on the web.


| Social Media Fosters Open government. | .829 | -.050 |
| Social media makes government accessible. | .804 | .080 |
| Social media helps public collaborate w/ gov. | .765 | .075 |
| Social Media is not waste of money and time. | .751 | .070 |
| Social media helps my agency with outreach. | .714 | .207 |
| My agency has important conversations with the public via social media. | .497 | .492 |
| .gov is the public’s space. | .315 | .168 |
| My agency has a strategy for web management. | .060 | .812 |
| My agency has a strategy for social media. | .193 | .793 |
| My agency website allows public engagement. | .012 | .677 |
| Agency web decisions are public minded | .108 | .673 |
| Leadership takes social media seriously | .252 | .656 |
| My agency’s web publishing is not restrictive | .094 | .530 |
| My agency has all the resources it needs. | .066 | .493 |
Questions specifically related to web and social media management in the respondent’s agency load on the second factor. Three of the five highest loading variables correlate with positive assessments of agency strategy and leadership support. The other two variables positively correlate questions related to a public driven approach to web and social media management. The appearance of these two variables with the other variables related to leadership support suggest that an organized, well-supported approach to web and social media management is correlated with positive feelings about a government website as a public space.

**Linear Regression.** In the next section of the analysis, I used a linear regression model to test any unknown variables influencing the two components revealed in the primary component analysis. To guide the construction of the scales tested in the model, I used the findings from the primary components analysis of the variables in Table 3. Before constructing the scales, both components were tested for reliability. The first test showed low reliability for component one with a Cronbach’s alpha of .463. After removing the variable assessing respondent’s opinions as to whether or not social media use by the government is a waste of time and money, the Cronbach alpha improved to .809, a number showing good internal consistency. The second component showed a high reliability number on the first analysis, with a Cronbach’s alpha of .813. After the reliability test, component one was renamed opensocial and component two was named websupport.

**Opensocial.** To understand the factors that contribute to positive opinions of social media as an open government tool (opensocial), a linear regression model was
built with opensocial as a continuous dependent variable in the equation. Based on the findings of the data, the variables measuring the size of the respondent’s agency, their agency’s participation in open government, and a variable measuring respondent’s attitudes about the state of open government reforms at the federal level were selected as independent variables in the model. In addition, two ordinal dependent variables related to respondent perceptions of the substance of their agency’s web and social media presence were treated as independent in order to represent the web management practices currently underway in respondent’s agencies.

As was clear in the bivariate correlations when looking at the model (see Table 4) agency size is not a statistically significant predictor of attitudes and opinions about government social media use. Similarly, participation in Open Government Initiatives like data.gov was not statistically significant in the model. There were two statistically significant variables in the model (p=.000). The first was the variable related to attitudes about the state of government in comparison to two years ago. The second was whether or not respondents agreed with the statement that their agency was having important conversations through social media. These two variables accounted for 34.1% of the total variance in the model (R^2=.341). The model suggests that, rather than being influenced by institutional factors like agency size or by participation in mandated efforts related to government reform, respondent’s opinions about the efficacy of social media use in government is more related to their personal perceptions of open government work at their agency and inside of the Federal Government at large. It’s possible to offer a number of reasons for this. First, as we saw in the descriptives section, the findings suggest that government web employees are very excited about the
prospect of using social media in government. Positive attitudes about the state of open
government in their own agency or government on the whole, could simply stem from
their direct experience using social media as part of their job.

| Table 4 |
|-----------------|--------|--------|
| **OLS Regression for Social Media as An Open Government Tool (opensocial)** |
| Variable                    | B      | SE     |
| Open Government Opinion     | -2.226*| .418*  |
| Open Government in Practice |        |        |
| Website Engages Public      | .155   | .18    |
| Important conversations w/  | -1.2*  | .209*  |
| social media                |        |        |
| Participation in OpenGov    | -.328  | .310   |
| Agency Size                 | .219   | .197   |
| Constant                    | 14.98* | .863   |

*Note. $R^2=.341$, p<.000*

**Websupport.** The second scale, websupport, is comprised of seven variables
measuring respondent attitudes about the web management culture of their agency. The
fact that all of the variables related to respondents’ agency web management culture
correlate positively suggests that supportive web management practices like strategy
and leadership tend to follow one another in agencies. So, for example, if a respondent
reports that his or her agency has all the resources they need to keep their website up to
date, they are also likely to feel like the content publishing environment in their agency
is timely and not restrictive. The scale also suggests that a supportive agency web
management culture leads to a public minded website, with more opportunities for
public engagement and a decision-making structure that puts the needs of the public ahead of internal politics.

As with the previous model, the scale (websupport) was used as a continuous dependent variable in the linear regression equation (see Table 5). Once again, the variables measuring agency size, opinions about open government, and agency participation in open government were used as independent variables in the equation. Since a variable related to a public-minded approach to web management was already present in the scale, it wasn’t necessary to include an independent variable related to web management in the model. The dependent variable measuring respondent opinions about the substance of social media use by their own agency was treated as an independent predictor in the context of the model.

<table>
<thead>
<tr>
<th>Table 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OLS Regression for Supported Web Culture (websupport)</strong></td>
</tr>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>Open Government Opinion</td>
</tr>
<tr>
<td>My agency has important conversations through social media</td>
</tr>
<tr>
<td>Participation in OpenGov</td>
</tr>
<tr>
<td>Agency Size</td>
</tr>
<tr>
<td>Constant</td>
</tr>
</tbody>
</table>

*Note. $R^2=.314$, *p<.05 **p<.000

Once again, agency size and agency participation in open government was not a
statistically significant predictor of respondent attitudes. As it was in the previous model, respondent’s perceptions about the openness of government at the federal level was a statistically significant predictor for the dependent variable of web support. In addition, the variable measuring perceptions about whether or not an agency is having substantive conversations through social media was also statistically significant. Similar to the first model, the finding suggests that attitudes and perceptions are the strongest predictor of the dependent variable, with the two variables explaining 31.4% of the variance.

Discussion

The following section will now return to the hypotheses proposed at the beginning of this analysis.

**H₁:** Participation in Open Government Initiatives will be strongly correlated to positive feelings about using social media for collaboration, transparency, and participation in the government.

**H₂:** Participation in Open Government Initiatives will be strongly correlated to positive feelings about using websites for collaboration, transparency, and participation in the government.

As evidenced by both the bivariate and multivariate findings, there was no correlation between participation in Open Government Initiatives and feelings about using social media or government websites for collaboration, transparency, and participation. Because attitudes about using social media and websites for open government were generally positive across a variety of variables, the finding suggests
that, at least for the individuals surveyed, the mandated Obama reforms were not a major factor of influence over attitudes about open government practices.

**H₃**: *Positive feelings about the state of open government will be strongly correlated to positive feelings about using social media for collaboration, transparency, and participation in the government in general.*

Both the bivariate and multivariate findings support the third hypothesis. There may a variety of reasons explaining the correlation. First, unlike government websites, interactivity is at the core of social media use. With even minimal use of social media, government agencies are engaging with the public in a manner hardly conceivable just a few years ago. It may simply be that, any use of social media feels revolutionary in the context of normal government agency work. It is also possible that positive feelings about open government and social media may be two sides of the same coin. Because aspects of the open government directive are so closely related to social media ethics and ethos, finding the difference between the two can be a tremendous challenge.

**H₄**: *Federal employees will be more likely to support web and social media use for open government than other employees.*

In general, the findings do not support the hypothesis; however, there are a couple of interesting weak correlations between level of government and a few related variables in the analysis. As one might expect, positive attitudes about the openness of government in comparison to two years prior showed a weak positive correlation (.153) with federal employees, significant at the .02 level. In addition, a weak positive correlation (.155) was found between federal agency employees and the feeling that their office had substantive conversations with the public through social media (p=.02).
While these two variables were correlated with the level of government that respondents worked for, the myriad other variables were not, suggesting that support for open government permeates all levels of government.

$H_5$: Larger agencies will be more likely to support open government principles than smaller agencies.

The fifth hypothesis was not supported by the analysis. Like agency type and level of participation in open government, the size of the agency was not a significant predictor of support for open government principles and practices.

$H_6$: Leadership support for using web and social media will be strongly correlated with positive feelings about open government.

The sixth hypothesis was generally supported by the analysis. As the findings from the multivariate analysis of the index websupport demonstrate, agency leadership, strategy, and resources correlated strongly with variables related to using web and social media for open government. It’s important to note that employees, who reported receiving support from their leadership also reported a public minded approach to web management and were more likely to believe that their social media efforts had substance. The finding suggests that advocates for open government should also advocate for buy-in from agency decision makers, as their influence seems to permeate through the entire agency practices on the web.

$H_7$: Government employees will be generally skeptical about the government’s ability to get the most out of new technologies.

The seventh hypothesis was supported by the analysis. On all three questions related to government and new technology, respondents were extremely skeptical about
the government changing policy, culture, and training to conform to changes in technology. Because agency size and type were not significant predictors, we can also say that respondents felt this way across all levels of government. In one sense the negativity is surprising given the generally positive views of the government in comparison to two years before. In another sense, however, the finding makes sense. While attitudes and opinions about open government remain positive, respondents were less effusive about the online open efforts in their own office. The belief that government is unable to keep up with changes in technology may stem from direct experiences within their own agencies.
Chapter 4: Content Analysis of Agency Homepages and Facebook Pages

In the previous section, a survey of current government web staff assessed the attitudes, practices, and opinions of those individuals on the proverbial frontlines of reform efforts to create a more transparent, participatory, and collaborative government. While the survey found tremendous support for using agency web management practices to facilitate these reforms, it also showed that a majority of the respondents did not feel that these practices were happening in a substantive way in their own agency. To continue and assess the question related to extent of change and federal agency web management, in this section of the research, the focus turns to an analysis of the content produced by government web staff.

To provide a window into current web use by the Federal Government, a small but diverse sample of examples of web use from 15 cabinet level agencies was analyzed across two separate, but interrelated spaces:

1. The agency homepage.
2. The official agency Facebook page.

See Table 6 for a complete list of 15 agencies analyzed and the URLs for pages used for the analysis.
<table>
<thead>
<tr>
<th>Agency</th>
<th>Homepage URL</th>
<th>Facebook URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of State</td>
<td><a href="http://www.state.gov">www.state.gov</a></td>
<td><a href="http://www.facebook.com/usdos">www.facebook.com/usdos</a></td>
</tr>
<tr>
<td>Department of Treasury</td>
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<td><a href="http://www.facebook.com/ustreasury">www.facebook.com/ustreasury</a></td>
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</tr>
<tr>
<td>Department of Labor</td>
<td><a href="http://www.dol.gov">www.dol.gov</a></td>
<td><a href="http://www.facebook.com/departmentoflabor">www.facebook.com/departmentoflabor</a></td>
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<td>N/A</td>
</tr>
<tr>
<td>Department of Veterans Affairs</td>
<td><a href="http://www.va.gov">www.va.gov</a></td>
<td><a href="http://www.facebook.com/VeteransAffairs">www.facebook.com/VeteransAffairs</a></td>
</tr>
</tbody>
</table>

The differences in frameworks developed for the content analysis of each of the pages had to do with the distinct purposes of the pages themselves. While the five
major category definitions for government web use described in the research overview were stable across both spaces, because of the different functions and utility for each page, the actual content comprising each category changed from space to space.

Homepages, for example, can be seen as the navigational starting point for large agency websites. As such, they include a wide range of features and links not possible on a Facebook page. On the other hand, Facebook pages are primarily content driven.

Accordingly, the instrument developed for Facebook analysis primarily focused on the content itself.

The different, but interrelated, functions of each space allows for analysis of government web use as it ranges from its traditional application on the agency homepages to its more progressive application on a social networking site. As stated in the research overview, web management integrates the tools of agency websites and agency use of third-party social media sites into a single web practice, but there are considerable differences between agency homepages and Facebook pages. Subject to a number of constraints related to rules, resources and cultural politics, enacting change to an agency homepage is not always an easy process. Due to these constraints, efforts by agency web staff to transform agency homepages into hubs for open government may face significant challenges. While the revisions to the PRA established by the Sunstein memo place constraints on the extent of collaboration that can happen between the government and the public, social media sites like Facebook are still ideal platforms to facilitate participation between the public and the government. With this in mind, the assumption before the content analysis was that agencies would embrace the participatory ethos of the site.
Data and Methods

With the constant cycle of new technologies and their inevitable obsolescence, developing stable theories and approaches to analyzing government websites is a tremendous challenge. In meeting this challenge, content analysis offers both potentials and problems for e-government research. In the context of this research, the advantage of a content analysis is the method’s utility in capturing the basic features and functions present on government agency homepage. As a snap shot in time, a content analysis of homepage features and functions provides important insights into the priorities and practices of the agency or office the site represents. In this case, by cataloging the features present or absent on agency websites, it’s possible to objectively measure the integration of open government reform efforts and social media ethos with an agency’s most visible, and visited, information product.

Because e-government studies are practically based and assessment oriented, it isn’t surprising that a number of previous studies of federal websites have used content analysis as a central research method. In an early example of this kind of content analysis based research, Eschenfelder et. al. proposed an assessment framework for content analysis capable of helping government websites meet policy compliance requirements (Eschenfelder et. al., 1997, pg. 184-185). Since the Eschenfelder article, a variety of assessment frameworks have been developed to assess and categorized the content appearing on government agency websites, for a wide variety of purposes. Because there isn’t a single standard for content analysis of government sites, previous research has used a variety of content categories for the purpose of assessment. Some of these categories, like the categories of service delivery and usability, are reoccurring.
Others categories are contingent upon the research question driving the analysis. In the framework that follows, both reoccurring and novel measures of content features were used.

The most influential e-government scholarship on assessing government websites is by Brookings scholar Darrell West; since 2000, West has conducted extensive theoretical and practical research on government websites, including websites at all levels of government (West, 2000; West 2005; West 2008). West has proposed a four-stage model for understanding the phases of e-government adoption. The four stages include:

1. Billboard stage: characterized by unidirectional information publishing with limited interactivity between the government and the public.
2. Partial service delivery state: limited opportunities for the public to receive government services online.
3. Portal stage: the public can receive basic services online.
4. Interactive democracy stage: website provides many opportunities for the public to engage with the government online (West, 2005).

From a global perspective, the U.S. has one of the most developed systems of e-government in the world (West, 2008). Because the content analysis that follows analyzes the homepages of prominent cabinet level Federal agencies, all of the sites of interest to this study fall with the fourth stage of West’s model. It is important to note that there are clear gradations in terms of the extent and depth of interactive democracy present on each of the homepages. While West organized the features from his most recent study (2008) into the categories of information availability, service delivery, and
public access, because of this study’s emphasis on open government practices and the influence of social media, the analysis alters and expands West’s categorization of agency web use into the five overarching categories of outreach, service or data delivery, transparency, collaboration and participation. While the last four categories are intentionally derivative of the Obama open government plan and the traditional use of the web by the Federal Government as described in the policy history and e-government literature on government websites, the first category, outreach, has been included to represent web-based outreach activities conducted by the government online.

Similar to the analysis of the agency homepages, the first part of the analysis of Facebook pages consisted of a basic content analysis measuring the presence or absence of certain features on the agency Facebook page. Unlike the homepage analysis, however, the questions were not categorized as belonging to one of the five categories of government web use; rather, the purpose of this first part was simply to understand what additional information agencies are providing through the various options available to Facebook page administrators. The list of questions used to collect information can be found in Appendix E. The second part of the analysis measured sociability by accounting for the number of page fans (or “likes”), frequency of updates by the agency, and number of comments by both fans of the page and the page administrators themselves. While purely statistical, a summary analysis of the basic Facebook analytics provides a useful metric for measuring a Facebook page’s overall success as a social media tool. The final part of the analysis examines the purpose of the status updates published by the agency. Status updates were defined as belonging
to one of the five categories of agency web use based on the framing used in the
updates themselves. Effectively, that means the message (or the lack of a message)
used in the status update dictated the categorization of any content linked to by the
status update. Depending on the message, each post was categorized as either an
eexample of outreach, collaboration, data or services, transparency, or participation
based on category definitions, which were developed in the literature review (see
Appendix F).

**Cabinet Level Agency Homepages**

The first analysis looks at government agency homepages. Many cabinet level agencies
have established homepages that are over a decade old. These pages garner high
amounts of web traffic and, consequently, are often the most powerful “homegrown”
communication tool at the agency’s disposal. Because of their importance to agency
work, agency homepages can be seen both as an artifact of technological change and an
ongoing, constantly evolving public expression of agency priorities and internal culture.
As the point of entry for all of the content available on agency websites, the
information featured on agency homepages is a reflection of the current priorities of the
agency, with higher priorities being substantially featured, and lower priorities being
less so. Therefore, an analysis of the features and content appearing on agency
homepages provides a useful insight to the current priorities and practices that the
agencies value the most. The homepage analysis has been divided into two separate
sections. In the first section, statistics from the content analysis are summarized. In the
final section on findings, the hypotheses proposed at the beginning of the analysis are
tested using the data from the analysis.
**Concepts.** The goal of the content analysis was to understand which category of government web use was most represented on agency homepages. The five categories conform to the same definition proposed in the literature review.

**Operations.** In the appendix of his 2005 book *Digital Government Technology and Public Sector Performance* (186-190), Darrell West includes a comprehensive set of coding instructions for the analysis of government websites. The instructions for coding are extremely detailed, offering a variety of definitions, examples, and tools to ensure consistency in methodology. In terms of defining the content elements that may or may not appear on each homepage, West’s coding instructions had a tremendous influence on the development of my own content analysis instrument. An influence of equal importance was a second set of coding instructions developed in a graduate political communication course taught by Dr. Diana Owen at Georgetown University.

While West’s model offers a comprehensive method for analyzing the content present on government websites as a whole, the aim of this content analysis is broader in terms of sites selected, but narrower in purpose. Because of their prominence and close relationship to the executive branch, an analysis of cabinet level agency use of the web ties together a number of important themes in this study. Most obviously, cabinet level agencies are prominent institutions with higher levels of funding and public visibility than other areas of government. It is reasonable to assume that their use of the web could be a leading indicator of the future of government web use on the whole. As prominent institutions, cabinet level agencies have well-developed web presences constituted by a wide variety of sites and spaces, representing the various bureaus, initiatives, and public services that drive agency work. Because of their relationship to
the executive branch, these agencies have also been the target of the massive
government information management reform efforts over the last thirty years. In terms
of the most recent reform efforts by the Obama administration, cabinet level agencies
have had a variety of mandates related to using new web-based technologies to engage
directly with the public. These efforts were designed to foster open government and
reform agency business operations both online and off.

The coding instrument used in the analysis of agency homepages was created by
combining West’s coding instructions with the coding instructions developed in the
Georgetown graduate course, and then paring them down to a smaller list that captured
both the functional elements of government websites and the changes in interactive
democracy brought by the development of social media. Each variable was then
categorized as belonging to one of five overarching categories of government web use.
After a test of the framework on a few randomly selected government homepages
revealed inconsistencies, questions were added, changed, and shifted to different
categories until consistency was achieved.

Content analysis data was collected on an Excel spreadsheet. Content present
on the page was scored with a 1 and non-present content was scored with a 0. A unit of
content was defined as simply any element appearing on or linked to from the page.
Stable content appearing in navigational elements, the header, footer, or any custom
“top tasks” were scored as present. For the list of questions asked about each
homepage and the examples that were developed as definitional references during the
content analysis of agency homepages, please see Appendices B and C. Percentages
were then determined by dividing the number of pages with content present by the total
number of pages.

**Hypotheses.** The following general and specific hypotheses were tested by the content analysis of agency homepages.

H$_1$: The functional emphasis of agency homepages will vary greatly from agency to agency.

H$_2$: There will be a wide variety of content from each category of government web use.

H$_3$: There will be fewer features devoted to participation and collaboration on agency homepages than the other categories.

H$_4$: All agencies will have at least one link to a social media tool or site present on their homepage.

H$_5$: On aggregate, agency homepages will have more content related to outreach than any other category.

**Summary of Findings.**

**Outreach.** For the variables falling under the category of outreach, agencies had, on average, 71% of the variables present on the homepage (see Figure 15). Figure 16 details the percentage of agency homepages with certain collaboration features present. 100% of the agencies provided news updates or links to at least one agency or government wide campaign or initiative. Nearly all agencies (87%) included embedded multimedia features and resources specifically designated for the news media. More than half (60%) allowed for visitors to subscribe to updates of their news through a newsletter or a listserv. Finally, more than half (60%) provided links to a video or image archive highlighting agency work.
Collaboration. For the variables listed under the category of collaboration, on average, 21% of the variables were present on agency homepages (see Figure 16).
Figure 17 details the percentage of agency homepages with certain collaboration features present. Providing a link to the agency open government page was the highest instance of collaboration present on agency homepages (67%). The next most common feature was a link to a poll or a survey (20%), which, in all three instances recorded, was a link to a website customer satisfaction survey. Two agencies (13%) provided a means for the public to provide input on specific policy issues. Only one agency (7%) provided a link to a discussion forum. Finally, and surprisingly, no agencies featured links to agency contests or challenges involving the public in government work.

![Figure 17.](image)

**Services, Information, and Data.** For the variables listed under the category of services, information, and data, on average, 65% of the variables were present on agency homepages (see Figure 15). Figure 18 details the percentage of agency homepages with certain services, information, and data features present. All agencies
had links to resources helping visitors to receive agency services. All agencies also had a basic search features to facilitate better navigation of the site, and 47% allowed visitors to customize their search based on their needs for coming to the site. Nearly all agencies (93%) provided a link to at least one agency report. Finally over half the agencies (53%) provided links to or visualizations of data sets of information related to their mission.

Figure 18.

Transparency. For the variables listed under the category of transparency, on average, 99% of all variables were present on agency homepages (see Figure 15). Figure 19 details the percentage of agency homepages with certain transparency features present. From information about officials, organizational structure, budget, to basic contact information, all of the agencies had links to or other elements present on the homepage. Only one variable was not 100%, with nearly all agencies providing this
kind of information (93%).

Figure 19.

**Participation.** For the variables listed under the category of participation, on average, 41% of all variables were present on agency homepage (see Figure 15).

Figure 20 details the percentage of agency homepages with certain participation features present. All of the agencies included links to third-party social media sites like Facebook and Twitter and an agency blog or podcast. 67% of agencies allowed visitors to sign up for RSS feeds of their content. In terms of offline participation, 27% of agencies provided more information about events occurring offline. On the low end, only one agency (7%) allowed visitors to comment on specific pieces of content, signup for text messaging, and sign up for a personalized site experience.
Discussion. The analysis will now turn to an explication of the hypotheses proposed at the beginning of the content analysis.

H1: *Agency homepage design and functional emphasis will vary greatly from agency to agency.*

The first hypothesis was only partially supported by the content analysis. In terms of overall design, there was a tremendous diversity of content, navigational features, and aesthetics from page to page. Most novel elements conformed to the unique mission and work of their agency, a finding that places government agency homepages in the same historical context as other agency information management practices. For example, larger agencies with many bureaus and sub-agencies tended to include extra navigational features that helped homepage visitors connect with these sites, while those agencies with fewer bureaus did not. In addition, while most of the
sites had a modern design aesthetic, some did not. As West and others have found, this site-to-site discrepancy may be attributable to discrete organizational factors like agency budget and management priorities.

In terms of functional emphasis, all of the agencies consistently privileged outreach activities on their page over the other categories of government use. The best example of this is the large “slideshow” feature that appeared at the top of every agency homepage. While the specific type of outreach content featured in the slideshow varied from page to page, the placement of the slideshow at the top of every page did not. The prominent placement of the slideshow across agency pages demonstrates how important agencies feel it is to use homepages for publicizing agency work and news.

In addition to prominent outreach features, agencies also showed functional consistency in terms of using homepages for outreach, transparency, data, information, and service delivery over using them to facilitate collaboration and participation with the public.

H₂: Agencies will have a variety of content from each category of government web use.

The second hypothesis was generally true across all of the agency homepages. As central portals to the universe of agency work on the web, the homepage of a large Federal agency has an important task of connecting a diverse variety of information content for site visitors. All of the agencies displayed or linked to content from at least four of the web categories of agency web use. All but two displayed or linked to content from all five categories.
H₃: There will be fewer features devoted to participation and collaboration on agency homepages than the other categories.

On aggregate, the third hypothesis was confirmed by the content analysis. Figure 21 shows a clustered bar graph showing the percentage of agencies with the different categorical features (previously discussed individually above) present on their homepages. The graph shows that, while there were a high percentage of agencies with the first three categories present on their homepages, there was not the same consistency in the last two. The finding suggests, in terms of the open government reforms, agencies are doing much better at providing content related to transparency, than they are collaboration and participation. This finding is complicated by the fact that the questions related to transparency are fairly basic and many agencies have included this information from the earliest days of the Federal Government’s work online (West, 2000).

H₄: All agencies will have at least one link to a social media tool or site present on their homepage.

The content analysis confirmed the fourth hypothesis. All agency homepages had links to both third-party social media sites and at least one other social media tool like an agency blog or podcast. The finding demonstrates that the use of social media by cabinet level agencies has become ubiquitous. While all agencies provided links to social content, it’s worth noting that the content featured on the pages themselves was largely not participatory. Only one agency offered site visitors the opportunity to
comment on content featured on the page. A few agencies included a link to a share feature, but, for the most part, the feature was not formatted correctly and the function was rendered useless.

Figure 21. Aggregate of figures 15-20.

Facebook Pages

The second section shifts to an analysis of agency web presence on a third-party social media site. While agency homepages have the challenging task of situating and organizing a diverse amount of information in a single space, by design, social media pages are interactive and content driven, and therefore more focused in purpose. In terms of government use of social media, Facebook clearly provides agencies with a powerful platform for delivering transparent, participatory and collaborative content to the public in an effective, familiar
manner. As of April 1, 2011, 13 of the 15 cabinet level agencies had agency
specific Facebook pages. Some of the pages have tens of thousands of fans with
very active communities. Others are just starting out, with relatively few fans and
few interactions.

In order to understand how agencies are using Facebook pages, the content
analysis was divided into three parts. The first part takes a simple accounting of
the features present on agency Facebook pages. The second part examines the
sociability of agency Facebook pages based on total number of “likes,” comments,
and other metrics common to Facebook page analysis. In the final section, status
updates themselves were analyzed and categorized as belonging to one of the five
categories of government web use.

Concepts.

Facebook Pages. In 2008, Facebook introduced pages to represent
organizations, businesses, or public figures. Facebook pages are effectively
Facebook profiles for high profile individuals or organizations. Unlike Facebook
profiles or groups, Facebook page administrators are completely anonymous,
meaning that, any updates appear as if they are coming from a logo rather than
from a single person. Pages are ideal for government agencies wishing to
communicate with large, dispersed audiences. With features like Facebook pages,
Facebook has become more than a tool to simply keep in touch with friends.
Through personal news feeds, Facebook users are able to receive real-time
updates from the Facebook pages they have liked through the site. For business, non-profits and government, Facebook pages are critical tools for disseminating breaking news, promoting events, providing customer service, building brand development, and much more. Facebook is an excellent example of one-to-many communication, where one source communicates one message to narrowly focused audiences.

**Sociability.** In the analysis of agency Facebook pages, sociability refers to the activity and interactivity present on a Facebook page. To measure sociability, basic analytics like number of fans, content “likes”, frequency of status updates, and number of comments by both page fans and the agency administrators were taken into account. Agencies with a high number of fans, deep fan engagement, and regular status updates were understood to have successful Facebook Pages; pages with few fans, limited engagement and irregular updates are generally understood to be unsuccessful pages.

**Status Updates.** Status updates are the means of starting a conversation on Facebook pages. In its most basic sense, the average Facebook page status update has two distinct parts: the update itself and any associated content linked to in the update. Content can either be linked to with a simple hyperlinked unit of text or embedded directly on the Facebook page using Facebook’s built-in photo, links, images, or polling embedding feature. While Facebook allows users to embed content directly into a Facebook page, these embeddable features are separated visually from the status updates themselves when a fan sees the update in their news feed. Because Facebook is
a social media platform that is participatory by design, the messages in the status updates themselves are critical to a Facebook page’s overall success. Engaging status updates effectively frame the content linked to or embedded directly on the Facebook page. For agency Facebook pages, status updates are where an agency could facilitate acts of transparency, collaboration, participation, outreach, and service delivery simply by engaging with their audience and framing linked content in a way that is social and engaging. For example, instead of simply posting a link to an outreach story, the link can be framed with an invitation for fans to share personal opinion about the outreach story in the comments. This elevates a posting from a simple outreach effort to a more participatory one.

**Operations.** On April 1, 2011, basic information about the 13 available cabinet level agency Facebook pages was recorded for the content analysis. This information included the total number of page “likes,” any extra information about the agency provided in page tabs, the total number of photos uploaded by the agency to the page, and the total number of other Facebook pages “liked” by the agency page itself. In addition, information from the previous 15 Facebook page status updates counting back from April 1 at 12 a.m. was also recorded. The information collected on status updates included the number of status update comments, total number of “likes,” the frequency of status updates, and whether or not anyone from the agency was responding to public comments.
Hypotheses.

H₁: Levels of sociability on agency Facebook pages will vary greatly from page to page.

H₂: Most agencies will provide additional information about agency mission and contact information on their Facebook Page.

H₃: A majority of status updates will be categorized as outreach.

H₄: Agency Facebook pages that provide participatory and collaborative status updates will have higher levels of sociability on their Facebook pages.

Summary of Findings.

Additional Information. Agencies included a wide variety of additional information on their Facebook pages (see Figure 22). What was consistent across all pages was a link to the agency homepage. The second highest percentage (77%) included links to social media accounts on other sites like Twitter and YouTube. 54% included additional contact information, typically in the form of a telephone number or an office address. Finally, only 39% included a statement about their agency’s mission while none had any additional information about agency work or policies.
Figure 22.

**Facebook Specific Practices.** Facebook allows page administrators a wide variety of options to add features or content to their Facebook pages (see Figure 22). Among these options, the photos feature was the most popular, with 77% of agency pages uploading photos to their pages. 62% of agency pages included a discussion forum application—an add-on offered by Facebook—but none of the forums were active and successful at generating discussion. Roughly half of the pages (54%) included custom built or third-party applications on their page. Of these applications, only four had links to privacy statements or comment policies referencing agency policies about use of Facebook as an official agency tool. In terms of general interactivity, 46% of the pages liked some other page on Facebook. Of these pages, half liked a page from a non-governmental site.

**Sociability.** Table 7 shows the basic metrics for agency Facebook pages. The
average number of fans on each Facebook page is 26,123, but that number is heavily skewed due to three of the pages having more than 70,000 fans each. If those three agencies are removed, the number falls to 8,471. In terms of frequency of posting, agencies averaged approximately 3 posts per day. In terms of likes and comments on status updates, agencies averaged 42 likes and 11 comments per post. If you remove the top 3 agencies, the average number of likes per post falls to 14 while the average number of comments per post only falls to 7. In terms of interactivity, only 23% of the page administrators responded to questions or comments left by fans on status updates. In another way of generating discussion, just two of the agencies allowed fans of the page to write on the agency wall.

**Status Updates.** Figure 23 shows a pie chart breaking down the percentage of status updates categorized as belonging to one of the five types of agency web use. In total, 195 status updates were analyzed across the 13 pages. Of these, 91% fell into the category of outreach. For a medium that has interactivity and sociability at its core, only 5% of the updates were categorized as participatory, meaning that agencies mostly provided links to content without attempting to, for lack of a better word, socialize the status update framing the content. The only other category represented aside from outreach and participation, was the category of data delivery and services (6%). However, the reliability of this number is called into question because 8 out of the 11 instances came from job announcements appearing over a two-day period on a single page.
Table 7  

*Average Facebook Statistics Across the Agencies*

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Number of Fans</td>
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</tr>
<tr>
<td>Average Number of Fans w/out Top Three Agencies</td>
<td>8,471</td>
</tr>
<tr>
<td>Average Number of Post Likes in Last 15 Days</td>
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</tr>
<tr>
<td>Average Number of Post Likes in Last 15 Days w/out Top Three Agencies</td>
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</tr>
<tr>
<td>Average Likes per Post</td>
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</tr>
<tr>
<td>Average Number of Likes per Post w/out Top Three Agencies</td>
<td>14</td>
</tr>
<tr>
<td>Average Number of Comments over 15 Posts</td>
<td>169</td>
</tr>
<tr>
<td>Average Number of Comments over 15 Posts w/out Top Three Agencies</td>
<td>106</td>
</tr>
<tr>
<td>Average Comments per Post</td>
<td>11</td>
</tr>
<tr>
<td>Average Comments per Post w/out Top Three Agencies</td>
<td>7</td>
</tr>
<tr>
<td>Posts per Day</td>
<td>3</td>
</tr>
<tr>
<td>Number of Pages an Agency Likes</td>
<td>16</td>
</tr>
<tr>
<td>Number of Photos</td>
<td>68</td>
</tr>
<tr>
<td>Percentage of Agencies That Talk to Fans</td>
<td>23.1%</td>
</tr>
<tr>
<td>Percentage of Agencies That Allow Fans to Post on Wall</td>
<td>15.4%</td>
</tr>
</tbody>
</table>
Figure 23. Percentage of Facebook postings by category. n=195 total posts. 15 posts for each of the 13 agencies with a Facebook page.

Findings.

$H_1$: Levels of sociability on agency Facebook pages will vary greatly from page to page.

The first hypothesis was confirmed by the content analysis. On the high end, one agency had 102,494 fans, while the lowest agency had 1,862. In terms of investment of resources, it’s easier to justify shifting attention to social media practices for a six-figure audience than it is to one with only four-figures. As Table 7 shows, once you remove the top three agencies, the average number of likes per post decreases dramatically. It is interesting to note that this does not hold true for comments, which only falls marginally when the top three agencies are removed. The finding suggests that the amount of fans on a given page may not be a strong indicator for the amount of conversation that occurs on the page in the comment section.
H₂: Most agencies will provide additional information about agency mission and contact information on their Facebook Page.

As figure 23 shows, the finding for the second hypothesis was mixed. On the positive end, all of the agencies included a link back to their official homepage from somewhere on the Facebook page; additionally, over half provided some kind of contact information. Less positive, however, was the finding that under 40% of agencies provided information about their agency’s mission and none gave any information about the policies related to agency work. The fact that over 70% included links to other social media accounts demonstrates a belief that social media accounts are more useful in promoting the existence of other social media presences than they are at providing the public with basic information about agency work and policies. In addition, internet use policies defining privacy policies and terms of agency and public use of social media also were not a priority, with only a handful of agencies providing more information about this topic.

H₃: On aggregate, a majority of status updates will be categorized as outreach.

Looking at figure 24, the third hypothesis is clearly confirmed by the content analysis. With over 90% of the updates categorized as outreach, the extent to which this is true is striking. While the category definitions have limitations as an analytical tool, the fact that agencies scored so poorly in the areas of participation and collaboration is an important finding. The analysis of status updates found that the vast majority of agencies are not using their Facebook pages to foster participation and
collaboration with the public, even when the examples of this kind of use are defined in their most basic terms. In total, only three of the 13 agencies used status updates to ask general questions to the public about the content linked to in the update. For the most part, the status update was treated as either a place to simply cut and paste a link from a URL to an agency website, or to cut and paste a paragraph of text from another agency publication.

$H_4$: *Agency Facebook pages that provide participatory and collaborative status updates will have higher levels of sociability on their Facebook pages.*

The fourth hypothesis could not be confirmed by the content analysis. The major challenge in confirming the hypothesis has to do with the small number of instances of collaboration and participation present in the status updates analyzed in the research. Of the 195 total updates, only 9 were meant to foster overt collaboration and participation from the public.
Chapter 5: Discussion

The primary question underlying this research was: to what extent have the participatory and collaborative principles of social media and the Open Government Initiative changed federal agency web management? Because the emphasis was on extent, the analyses conducted were necessarily focused on assessing the gradation of change. As I stated in the introduction, I found that changes to federal agency web management practices were marginal, with some positive signs for a transformed web management culture somewhere in the future. While marginal change suggests support for incrementalism, my findings fall more in line with West’s notion of gradual change, where small changes are understood to accumulate into major transformations over time. I base my assertion on the findings from both of the primary analyses conducted in support of this research. While the survey of government web management staff revealed high levels of support for using websites and social media to foster more participation and collaboration with the public, on aggregate, the staff did not feel as if those practices were happening in substantive ways in their own agency. The findings from the survey were supported by the content analysis of agency homepages and Facebook pages. In both cases outreach and self-promotional practices mostly dominated web management, even as some agencies moved ahead with incorporating participatory features into their homepage design or extended web management practices to include a highly interactive and participatory social networking site like Facebook.
Outreach: the Dominant Federal Agency Web Practice

As Richard Davis argued, almost immediately after moving operations online, the government began to appropriate the Internet for the same communication objectives as it had with traditional media technologies (Davis, 1999, p. 148). The findings on outreach are consistent with Fountain’s assertion that government actors tend to reify already established organizational practices with enacted use of new technological developments (Fountain, 2001). The fact that government agencies have so quickly appropriated the use of Facebook and other social media for outreach purposes underscores how deeply engrained institutional practices can be, even in the face of a major technological change.

While it’s disappointing to see government web management so skewed in any single direction, it’s hard to blame federal agencies for viewing websites and social media as critical outreach tools. Many federal agencies have had only limited opportunities to communicate with the public about agency work; in addition, due to continual resources scarcity, federal agency use of the web has long lacked the modern design elements and the interactive features that have made non-governmental websites both attractive and engaging to visitors. Because many social media sites and add-ons are free, agencies are now able to use cutting edge technologies alongside their work. While early government agency use of the web also provided increased opportunities to report and shape messages alongside traditional e-government service and information delivery, widespread adoption of social media has allowed government agencies to build narrow audiences to target specific messages to online. These new audiences are
extremely important to agencies that have long sought ways to better connect the public to their mission and work.

Agency use of the web for outreach is inevitable, but just because agency web management practice is skewed in one direction today, doesn’t mean that it will be tomorrow. In a case study measuring the evolution of the layout of the USDA homepage (2004) using archived screenshots, Malone traced the homepage’s evolution from one that primarily highlighted the agency’s information library to one that was primarily focused on publicizing agency news. Because it was 2004, Malone attributed the change to the growing popularity of news aggregator sites like Yahoo! and Google news. The change concerned Malone, who was a librarian, because he valued the page for its information resources and not its news content. While concerned, Malone noted that, in a short period of time, the page began to change again, restoring links to the information and services he valued alongside the new agency news features. Today, a quick trip to USDA.gov reveals that the hybrid page design Malone left us with still exists, albeit with a completely different design. In the current design news content still has the most prominent space on the page, but along side it are links to reports, social media accounts, and the USDA Open Government page.

**Beyond Outreach: Restoring Balance through Participation and Collaboration**

While agency outreach dominated the web management practices analyzed in this study, the survey analysis found that government web staff were extremely supportive of using the web and social media to engage the public in more participatory and collaborative Federal Government practices. The findings from the regression analysis suggest that, with the right balance of leadership and resources, it may be
possible to transform these positive attitudes into web management practices that are more in line with the Obama open government reforms. In addition, the content analysis of agency homepages revealed that all cabinet level agencies were participating in at least one social media effort, a finding that suggests that participation in social media efforts is now a normative behavior for cabinet level agencies.

By way of focusing on these positive findings, the research will now conclude by offering five practical recommendations for agency web staff looking to expand their agency’s web management practices to include more opportunities for participation and collaboration. The recommendations are deliberately simple so that any federal employee is able to use them, no matter how conducive their agency’s culture is to integrating the reforms.

**Traditional Service Delivery Still Rules**

In addition to developing more collaborative and participatory practices, it’s also important for agencies to remember that by providing useful online government services for the public they are doing far more to raise public esteem about their agency than by simply publishing another press release to their homepage’s press room. According to Pew, finding basic information about agency work and services—traditional uses of the web in government—still rank as the highest information seeking activities by government employees. The greatest potential for creating participation and collaboration may be in combining the old with the new, helping citizens get the information they need about your agency by answering a question from the public on a third party social media site like Facebook.
Be a Leader/Get Leadership Buy-in

One of the important findings of this study is the strong correlation between feeling supported by leadership and having a public oriented web practice. In addition to status quo behaviors, Fountain cites both entrepreneurial and visionary possibilities for enacted technological use in organizations (Fountain, 2001). To create more opportunities for collaboration and participation in your agency’s web management strategy you may have to be a leader, demonstrating not only that achieving these practices are possible but in someway beneficial to your agency or office.

“Socialize” Your Content

Another important finding from this study is that many agencies are not very far from facilitating basic participation with the content they are already publishing to their websites or social media accounts. Too often, I observed agencies that exhibited anti-social behavior, publishing content without even extending the smallest gesture to let members of the public know that the agency wanted to hear from them about their work. This finding was the most striking in the Facebook section of the analysis where only two of the 13 agencies even invited members of the public to comment on their status updates. While such invitations seem insignificant, simple gestures like inviting public feedback go along way to creating the trust necessary to foster real community in participatory social media spaces.

Develop a Flagship Initiative

Flagship initiatives that integrate elements of online collaboration and participation into your agency’s work are a good way to build capacity and develop the skill sets necessary to permanently change the culture of your agency’s work. While
the flagship initiative should ideally help your agency accomplish a substantive aspect of your agency’s mission, it’s also possible to have lower stake flagship initiatives like art or multimedia contests that allow your organization to get used to the idea of having public participation in the content production process.

**Get a Thick Skin**

Anyone who has worked with social media in government for any length of time will tell you that, just because your agency is providing spaces for participation and collaboration, it doesn’t mean that interactions with the public will always be positive. In fact, the frequently aren’t. Many agencies use the potential for these negative interactions as an excuse to limit opportunities for collaboration and participation, mistakenly believing that by removing the risk of negative interactions they are somehow protecting their agency—or themselves—from a negative outcome. The reality, of course, is just the opposite. By not providing the public with opportunities to engage both negatively and positively with agency work online, agencies reinforce an insular and conservative bureaucratic culture that stifles creativity and limits opportunities to actually understand how the public feels about your agency’s work.
Appendix A

List of Acronyms Used

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARPANet</td>
<td>The Advanced Research Projects Network</td>
</tr>
<tr>
<td>CIO</td>
<td>Chief Information Officer</td>
</tr>
<tr>
<td>CSA</td>
<td>Computer Security Act</td>
</tr>
<tr>
<td>CTO</td>
<td>Chief Technology Officer</td>
</tr>
<tr>
<td>DOD</td>
<td>Department of Defense</td>
</tr>
<tr>
<td>DOI</td>
<td>Department of the Interior</td>
</tr>
<tr>
<td>EFOIA</td>
<td>Electronic Freedom of Information Act</td>
</tr>
<tr>
<td>FBI</td>
<td>Federal Bureau of Investigation</td>
</tr>
<tr>
<td>FDLP</td>
<td>Federal Depository Library Program</td>
</tr>
<tr>
<td>FDR</td>
<td>Franklin Delano Roosevelt</td>
</tr>
<tr>
<td>FOIA</td>
<td>Freedom of Information Act</td>
</tr>
<tr>
<td>GAO</td>
<td>Government Accounting Office</td>
</tr>
<tr>
<td>GPO</td>
<td>Government Printing Office</td>
</tr>
<tr>
<td>GSA</td>
<td>General Services Administration</td>
</tr>
<tr>
<td>ICCI</td>
<td>Interagency Committee on Government Information</td>
</tr>
<tr>
<td>ICR</td>
<td>Information Collection Requests</td>
</tr>
<tr>
<td>ICT</td>
<td>Internet Communication Technology</td>
</tr>
<tr>
<td>IRM</td>
<td>Information Resource Management</td>
</tr>
<tr>
<td>LBJ</td>
<td>Lyndon Baines Johnson</td>
</tr>
<tr>
<td>KMO</td>
<td>Kaiser-Meyer-Oklin</td>
</tr>
<tr>
<td>MIT</td>
<td>Massachusetts Institute of Technology</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>NASA</td>
<td>National Aeronautics and Space Administration</td>
</tr>
<tr>
<td>NII</td>
<td>National Information Infrastructure</td>
</tr>
<tr>
<td>NPR</td>
<td>National Performance Review</td>
</tr>
<tr>
<td>NSFNET</td>
<td>National Science Foundation Network</td>
</tr>
<tr>
<td>OEG</td>
<td>Office of Electronic Government</td>
</tr>
<tr>
<td>OIRA</td>
<td>Office of Information and Regulatory Affairs</td>
</tr>
<tr>
<td>OIRA</td>
<td>Office of Information Resource Assessment</td>
</tr>
<tr>
<td>OLS</td>
<td>Ordinary Least Squares</td>
</tr>
<tr>
<td>OMB</td>
<td>Office of Management and Budget</td>
</tr>
<tr>
<td>OTA</td>
<td>Office of Technology Assessment</td>
</tr>
<tr>
<td>PCA</td>
<td>Principal Components Analysis</td>
</tr>
<tr>
<td>PIA</td>
<td>Privacy Impact Assessment</td>
</tr>
<tr>
<td>PII</td>
<td>Personally Identifiable Information</td>
</tr>
<tr>
<td>PRA</td>
<td>Paperwork Reduction Act</td>
</tr>
<tr>
<td>SPSS</td>
<td>IBM’s Statistical Software</td>
</tr>
<tr>
<td>UNIVAC</td>
<td>UNIVersal Automatic Computer</td>
</tr>
</tbody>
</table>
Appendix B

List of Actions Required by the Open Government Directive

- Publish information (including agency FOIA updates) online in a timely, modern, easy to use, and transparent manner.

- Create an open government webpage that allows the public to interact with and collaborate on the site.

- Work with the executive branch on new transparency initiatives related to Data.gov, eRulemaking, IT Dashboard, Recovery.gov, and USApending.gov.

- Establish a senior official responsible for information quality and objectivity stewardship.

- Establish processes to ensure financial transparency and accountability at the agency level.

- Develop an open government plan that details how agencies will improve openness, transparency, collaboration and public participation in agency work.

At the executive level, the Directive instructs OMB, OIRA, and the new office of the CTO to:

- Publish transparency initiatives related to projects like Data.gov and recovery.gov on the White House open government web page.

- Provide forums and practical guidance to help support agency initiatives related to open government.
• Update relevant policy documents like the Paperwork Reduction Act and the Privacy Act.

• Form a working group to assess ongoing efforts for transparency and accountability initiatives.
Appendix C

Homepage Content Analysis: List of Questions

1. Outreach

- Does the page provide news updates?
- Does the page provide links to outreach campaigns or initiatives?
- Does the page contain an embedded multimedia feature such as a video-player or image slideshow?
- Can a visitor sign up to receive an electronic newsletter or join a listserv?
- Does the page provide links to related information on non-governmental pages?
- Does the page provide links to information for the news media? (a media center, press releases, etc.)
- Does the page contain a link to a video or image archive?

2. Foster Collaboration

- Does the webpage include any links to any challenges or contests?
- Does the page provide a link to their open government page?
- Does the webpage provide a means for the public to give feedback on specific policy issues?
- Does the page link to a discussion forum or message board?
- Does the page link to an online poll or survey?

3. Deliver Services or Data to the Public

- Does the page provide a link to real-time customer service for visitors?
- Does the site provide a means to receive services online?
- Does the page have a custom search feature?
Does the page provide any links to or visualizations of data sets?

Does the page provide links to agency reports?

Does the page provide information about jobs or careers with the agency?

Does the page provide resources for educators?

Does the page have a basic search feature?

4. Provide Transparency of Agency Operations

Does the page include information about the agency's mission?

Does the page include any information about its internal processes and operations?

Does the page provide more information about agency officials?

Does the page provide links to information on the agency spending or budget?

Does the page provide a way to contact the agency (email, phone, etc.)?

Does the page provide a means to get more information about policies?

5. Foster Participation

Does the page provide links to third-party social media accounts?

Does the page provide links to a blog or podcast?

Does the page allow visitors to comment on specific pieces of content?

Does the page list online or offline event information: announcements of online activities related to agency work?

Does the page allow visitors to share content through third-party social media pages?

Does the page have an RSS feed?

Can a visitor sign up for a text messaging service?
Can a user establish a profile on the site for a personalized experience?
Appendix D

Examples Used for Homepage Content Analysis

1. Outreach

   - Daily news updates
     - Soft news or public interest stories
     - Policy speeches
     - Trips and photo ops.
     - News Subscriptions.
   - Special initiatives or campaigns
     - PSAs
     - Awareness campaigns.
   - Information for the news media
     - Press releases
     - Transcripts or video from press conferences.
     - Press statements.
   - Multimedia
     - General images or videos promoting agency work.

2. Collaboration

   - Specific calls for the public to participate in government work
     - Contests
     - Challenges
   - Applications or initiatives that allow public input on specific government
policies
  o Open Government Initiatives
  o Ideascale or a similar collaboration format
  o Polls

3. Participation
   • Solicitation of public feedback
     o Open ended questions
     o Comment features
   • Links to “social” content
     o Internal blogs
     o Third-party social media accounts
   • Online or offline event info
     o Conferences
     o Townhalls
     o Meetups
   • Providing a means to share content

4. Transparency
   • Contact info
     o Telephone or address
     o Email
   • Internal agency information
- Budget
- Meeting notes or AV recordings
- Internal processes and organization

- Information on Agency officials
- Policy information
  - Objective policy summaries.
  - Links to more information
- Any objective sets of information providing basic information about an agency’s mission, internal procedures, or policies.

5. Services or Government Data

- Links to government data or information
  - Objective Summaries
  - “Raw” data
  - Reports
  - Visualizations
- Links to or information about receiving government services
  - Online
  - Offline
- Information for job seekers or educators
  - Careers section
- Top-level task custom search features
Appendix E

Facebook Page Content Analysis: List of Questions

1. Metrics

- Number of Likes or Fans
- Post likes in Last 15 Days
- Likes per post
- Total Comments over 15 posts
- Comments (approximate average per post)
- Number of days to 15 posts
- Posts per day
- Does the agency talk to their Fans on the Facebook Page
- Number of Pages they Like

2. Content

- Do they link to their homepage?
- Do they provide contact information?
- Do they link to other social media accounts?
- Do they provide their mission?
- Do they provide any information about policies?
- Do they have any photos?
- Do they like any other pages?
- Do they like any non-governmental pages?
- Do they allow fans to write on their wall?
- Do they have a “Discussions” section?
- What custom built applications do they include on their Facebook page?
Appendix F

Definition of Categories Used for Facebook Content Analysis

1. Outreach: Status update promoting agency work or content on another sites.
   - Frames
     - No frame, only a link to content appearing on another page, a press release, or multimedia content embedded on Facebook.
     - Pure information consumption frames: “Watch this video…”, “Read more….”

2. Transparency: Status update promoting openness and access to internal agency work.
   - Frames
     - “Learn more” frames accompanied by links to content sharing information about agency operations and business practice.
     - Any frames related to federal register announcements, public comment periods, etc.

   - Frames
     - General question frames: “What is your favorite thing about…”, “What do you think of this…”
     - Invitations to participate in an online or offline event: “Please head to our blog and share your thoughts…”, “Come out to the convention center next week for…”
4. Collaboration: Status updates soliciting public participation on a specific agency initiative or activity.

- Frames
  - Specific action frames: “Please head to our page and comment on our policy document…”
  - Challenge or Contest invitations: “Do you have a good idea about saving energy? Sign up for…”

5. Service and Data Delivery: Status updates providing information about government services or data.

- Frames
  - Online or offline service frames: “Tax day is coming up soon. Please head to our FAQ center for more information…”
  - Data frames: “To help you better understand what is happening in the gulf, we’ve release all of our data related to…”
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U.S. Const. art. II § 3.


