

The Silicon Flatirons Roundtable Series on Entrepreneurship, Innovation, and Public Policy
Report No. 8*

Government 3.0

Therese Kerfoot, Rapporteur

Executive Summary

On June 5, 2009, the Silicon Flatirons Center brought together academics, venture capitalists, lawyers and entrepreneurs to discuss government implementation of Web 2.0 technologies. This discussion was held at the University of Colorado School of Law, and it was moderated by Phil Weiser, Executive Director of the Silicon Flatirons Center and professor of law at the University of Colorado.¹ The discussion addressed using Web 2.0 technologies to increase government transparency and efficiency, as well as to facilitate citizen involvement in government decision-making. Turning to the institutional incentives that drive government behavior and change, the group discussed how best to successfully implement these technologies.

First, there was considerable consensus among the attendees that Web 2.0 technologies can and should be used to increase government transparency and operational efficiency. After addressing the constitutional issues surrounding government transparency, the discussants addressed barriers to wide-spread use of these technologies, including otherwise well-intended regulations, privacy concerns, and government culture. The discussants concluded that overcoming these barriers requires governments to reconsider, in light of transparency and operational efficiency goals, what information can be disclosed, what information should be disclosed, and the best ways to disclose that information. As government does not always know how best to provide information to the public, the group determined that de-identified raw data readily available for third party consumption is the most efficient and pragmatic way to be transparent, efficient, and protect the privacy of individuals.

Second, the discussants turned to the use of Web 2.0 technologies to advance citizen involvement in government activity. Although increased use of technology facilitates citizen communication with local and federal governments, these tools have also produced a flood of unproductive comments that government officials must process and address. The discussants thus concluded that the thoughtful use of Web 2.0 technology, together with expectation-setting initiatives, can harness citizen comments to create a more efficient and connected representative body.

Finally, the discussants considered institutional incentives as a way to ensure successful adoption of Web 2.0 technologies. Noting the valuable role of such incentives in catalyzing change, the group agreed that successful wide-spread implementation of Web 2.0 technology requires three factors: leadership adoption,

* The Silicon Flatirons Roundtable Series on Entrepreneurship, Innovation and Public Policy is sponsored by Brad Feld, Managing Director of the Foundry Group. This discussion on “Government 3.0” was the eighth such event, following earlier ones on (1) The Unintended Consequences of Sarbanes-Oxley, (2) Rethinking Software Patents, (3) The Entrepreneurial University, (4) The Private Equity Boom, (5) The Promise and Limits of Social Entrepreneurship, (6) The Social, Ethical, and Legal Implications of Social Networking; and (7) Open Standards, Open Innovation, and the Rollout of IMS. The reports from those discussions can be found at <http://www.silicon-flatirons.org/publications.php?id=report>.

¹ Beginning June 16, 2009, Dale Hatfield became the Executive Director of Silicon Flatirons. Phil Weiser is now a Deputy Assistant Attorney General, Antitrust Division, US Department of Justice.

alternative process elimination, and interagency communication. Strong leadership support of new technology will ensure the removal of alternative processes and will facilitate interagency communication. Where agencies do communicate, they have the opportunity to learn from each others' successes. Without all three factors, full-scale change is extremely unlikely.

Introduction and Overview

To improve transparency, efficiency, and citizen interaction, the Obama administration has actively promoted increased use of interactive, web-based technologies (“Web 2.0”). On June 5, 2009, the Silicon Flatirons Center for Law, Technology, and Entrepreneurship held a roundtable discussion to explore the governmental use and implementation of Web 2.0 technologies. A diverse group of participants, including academics, venture capitalists, practicing lawyers and entrepreneurs attended the event. A full list of attendees and their affiliations is set forth in Appendix A.

The roundtable, entitled Government 3.0, was the first Silicon Flatirons discussion that used Web 2.0 technology to disseminate reading materials and drive discussion topics. Participants were invited to view and vote on pre-selected reading materials through a Digg.com-like site. Phil Weiser, Silicon Flatirons Founder and Executive Director, requested the feedback as a way to identify topics of interest and focus the discussion. Few participants voted in the Web 2.0 “test,” however, underscoring the challenge of using such technologies effectively.²

The discussion about “Government 3.0,”³ a term used to describe the implementation and use of Web 2.0 technologies to improve online citizen interaction with government, began with Weiser covering the ground rules and noting the inspirations behind the event, including the interest of Colorado’s Office of Information Technology in learning more about such opportunities. The participants agreed that increasing transparency and efficiency are two principal benefits promised by the transition to Government 3.0. When adopting new technology to convey information or involve the public, however, governments face barriers that corporations and private individuals do not. In particular, efforts to adopt such technologies can be frustrated by well-intended regulations, privacy concerns, and government culture.

The participants agreed that public engagement through Web 2.0 technologies produces a net benefit, but they voiced concern over who would provide the feedback to the government and how that feedback could be used productively. In terms of private use of publicly collected data, the participants were optimistic about the ability of third parties to utilize government data to offer value-added services by producing specific, relevant, and timely insights. The participants noted, however, that there are concerns with such use of publicly collected data, including opportunities for data misinterpretation (e.g., presenting information out of context and “unfairly”) and proprietary control over important datasets.

After providing background information, this report proceeds as follows: Part I considers the pros and cons of a more transparent government. Part II focuses on governmental use of Web 2.0 technologies to harness the talents and knowledge of its most precious resource, the American public, in a scalable and useful manner. Part III considers government as an institution, noting potential best practices for successful implementation of Web 2.0 technologies. Finally, Part IV offers a short conclusion.

² The Obama administration has faced such difficulties head on with the Open Government Initiative. Although receiving a slew of conspiracy theories and abrasive comments from the public, Beth Noveck, a New York University law professor now serving as the deputy chief technology officer of open government for the Obama administration, has found a way to locate and harness the productive comments. Saul Hansell, *Ideas Online, Yes, But Some Not So Presidential*, N.Y. TIMES, Jun. 22, 2009, at B1, available at http://www.nytimes.com/2009/06/23/technology/internet/23records.html?_r=1.

³ Alan Mather, *E-Government 3.0*, <http://blog.diverdiver.com/2008/02/e-government-30.html> (Feb. 21, 2008, 9:30:00 PM).

Background

New web technologies emerge daily from the private sector. Individuals and companies can identify and react to change by immediately adapting. Governments, historically slower to respond, are now under more pressure than ever before to update their legacy processes using Web 2.0 technologies (e.g. blogs and social networking tools). Because Web 2.0 technologies are pervasive in the private sector, individuals expect to use such tools when interacting with government. Realizing transparency, efficiency, and communication benefits, governments are beginning to respond. Notably, President Barack Obama used Web 2.0 technology to boost his campaign's effectiveness and promised a technology-driven government once in office.⁴ In practice, however, the Obama administration is encountering notable challenges to adopting such technologies.⁵

John Conley, Colorado Deputy Chief Information Officer, set the agenda for the roundtable by underscoring the importance of technologies that can increase communication between government and its citizens. He described the pandemic H1N1 flu (i.e., the "swine flu"), stating that the Division of Emergency Management ("DEM") realized that they lacked an effective way to update the public on flu developments. Because the reverse 911 emergency alert systems do not allow for rapid dissemination of information and the media outlets quickly change focus, the DEM considered Web 2.0 technologies like Twitter and LinkedIn as possible solutions. In the federal government context, Mark Chandler, General Counsel for Cisco and part of the transition team that investigated how to implement President Obama's mandate to use technology more effectively in government, noted that there are numerous government employees who have taken individual initiative to implement technological changes. The challenge, he explained, is getting those employees to interact with each other to share ideas and adopt best practices. Moreover, in light of the fact that a complete overhaul of government processes at one time is not possible, Chandler highlighted the need to use technology prudently to improve transparency, efficiency, and citizen interaction.

I. Transparency and Efficiency

Over the past ten years, open government legislation has slowly filtered out of Congress.⁶ These attempts, however, have not proven satisfactory and many, including President Obama, see a need to pursue further transparency and efficiency. To this point, the roundtable participants identified three relevant questions regarding government transparency and efficiency: What information can be released, what information should be released, and how should the information be released?

A. *What information can be released?*

Starting from the constitutional perspective, Helen Norton, a law professor at the University of Colorado, stated that government speech generally passes constitutional muster under the free speech clause when it is clear that government is providing the information. When the public does not like what government is saying, Norton suggested using the ballot box to respond. At the same time, Chandler explained that citizens have certain procedural expectations about government operations. Among other

⁴ Evan Ratliff, *The Wired Presidency: Can Obama Really Reboot the White House?*, WIRED MAG., Jan. 19, 2009, available at http://www.wired.com/politics/onlinerights/magazine/17-02/ff_obama?currentPage=all.

⁵ PETER SWIRE, IT'S NOT THE CAMPAIGN ANYMORE: HOW THE WHITE HOUSE IS USING WEB 2.0 TECHNOLOGY SO FAR, (Center for American Progress, 2009) http://www.americanprogress.org/issues/2009/06/pdf/web2.0_memo.pdf.

⁶ Jerry Brito, *Hack, Mash & Peer: Crowdsourcing Government Transparency*, 9 COLUM. SCI. & TECH L. REV. 119, 121-22 (2008), available at <http://www.stlr.org/html/volume9/brito.pdf>.

things, these expectations include compliance with the Rehabilitation Act (which requires that websites accommodate the visual and hearing impaired), public records requirements, and the Paperwork Reduction Act.⁷ These and similar requirements inadvertently limit what information government can release for public consumption.

B. What information should be released?

Privacy concerns distinctly influence the type of information disclosed. Jason Mendelson, managing director of The Foundry Group, acknowledged a lack of consensus among the roundtable discussants with regard to the type of information that should be released by government. However, requiring government transparency is more important now than ever before, he said, because “it is game over for the press, except in very limited situations.” The press, the traditional check on government accountability, is suffering from significant financial setbacks. Weiser cautioned careful consideration of the unintended consequences of releasing certain information. For example, public disclosure of California’s Proposition 8 campaign donation information “created a lot of neighborly disputes that never existed before.” Conley provided an additional example in which the Denver Post published income data for Colorado state employees. Conceding that such information is an area of legitimate public interest, he called for pragmatic disclosure in light of the fallout where the information identifying the official’s location and income lead to child support modifications and temporary restraining orders being served.

Anonymization strategies could address individual privacy concerns. On that point, Michael Bommarito, a graduate student at the University of Michigan, stated that published data can often be anonymized. He conceded, however, that this sometimes fails because sophisticated and dedicated researchers can often locate private details. Moreover, it is also possible that government-released information and generally available online data can create a potent combination. Consider, for example, that Eric Schmidt of Google and U.S. Supreme Court Justice Antonin Scalia were recently both the focus of revealing profiles based solely on web searches.⁸ Notably, Joel Reidenberg, a professor at Fordham Law, assigned his class a project that produced a fifteen page dossier on Scalia, including his home address, phone number, and wife’s personal email.⁹ Neither Schmidt nor Scalia appreciated these exercises, which underscore the limits of privacy in the Internet age. These examples highlight how publicly available information about individuals can undermine privacy interests.

C. How should the information be released?

The participants also addressed how information should be released to the public, considering two options. The first option asks governments to provide organized information for public consumption. The second option allows governments to release raw data for third party manipulation. Conley addressed the first strategy by explaining that government, one step removed from the public, does not always know what the public is looking for.¹⁰ Consequently, government organized information may not be timely or relevant.

⁷ PETER SWIRE, SIX NEW MEDIA CHALLENGES: LEGAL AND POLICY CONSIDERATIONS FOR FEDERAL USE OF WEB 2.0 TECHNOLOGIES, (Center for American Progress, 2009) http://www.americanprogress.org/issues/2009/06/pdf/web2.0_challenges.pdf.

⁸ Elinor Mills, *Google Balances Privacy, Reach*, Cnet News, July 14, 2005, http://news.cnet.com/Google-balances-privacy,-reach/2100-1032_3-5787483.html.

⁹ Noam Cohen, *Law Students Teach Scalia About Privacy and the Web*, N.Y. TIMES, May 17, 2009, at B3, available at <http://www.nytimes.com/2009/05/18/technology/internet/18link.html>.

¹⁰ A recent McKinsey Quarterly study states that Americans are increasingly unsatisfied with government Web services and E-government efforts. Barriers to increased efficiency of government Web services include ineffective

Addressing the second option, the roundtable considered EDGAR Online, the Securities and Exchange Commission's electronically accessible database containing public corporation filings.¹¹ Although Carl Malamud, a private individual, initially created the database, the SEC ultimately devoted \$30 million to its development.¹² In its current form, EDGAR highlights the most prominent issue with government-proffered data: that government may make it available in an indigestible format. Mendelson described his experience with EDGAR as impossible, "similar to searching an image file." Consequently, he suggested that government, even quasi-government, cannot effectively make available large datasets in an understandable form. By contrast, Mendelson noted, there are third-party sites that are able to present data in an accessible format. Moreover, others suggested that individuals are often suspicious of the political agenda motivating government prepared data and that by making available the underlying data in raw form, the public can verify the validity of the information offered and use it in creative ways.

The value of third party data manipulation and repackaging was strongly advocated by Daniel Katz, a PhD candidate at the University of Michigan, and widely accepted by the participants. Katz suggested, based on his own experience in utilizing government-created data sets,¹³ that third parties possess the tools that allow them to mash and remix raw data better than government. Because government cannot financially attract highly skilled programmers and is constrained by the political culture, its output often is not as relevant as that produced in the private sector. Consequently, third party manipulation serves the two goals of creating useful information and encouraging government honesty. Katz stated that raw data production could generate "a semi-robust transparent system that the [government] actors themselves can't change."

To enable effective third party use of government-collected data, the data must be publicly useable and digestible. As underscored by the EDGAR discussion, the restrictive format of government-proffered data often discourages public consumption. Bommarito stated that recent attempts by government officials to publicize information do not go far enough. For example, a recently passed rule requiring earmark disclosures in Congress does not require structured or uniform disclosures, thereby hindering possible aggregation.¹⁴ Uniformly released data, on the other hand, can be utilized and processed with minimal effort, facilitating creative use and comparison of different data sets. Other factors limiting data manipulation include the use of image files and restrictive database search options.¹⁵

governance, lack of Web-related capabilities, and reluctance to allow user participation in the creation of applications and content. McKinsey recommends that Web technologies be considered an "integral part of the services [governments] provide to constituents," receiving dedicate funding and man-power. A highly-skilled, data-driven team should constantly implement and evaluate the viability of new Web services in light of public perception and ease of use. McKinsey also suggests that government utilize third party application developers. To do so successfully, governments will need to release control of data, welcome outside innovation, and publicly reward external creativity. Jason Baumgarten & Michael Chui, *E-Government 2.0*, THE MCKINSEY Q., July 2009, http://www.mckinseyquarterly.com/E-government_20_2408.

¹¹ EDGAR Pro, History of EDGAR, <http://help.edgar-online.com/edgar/history.asp?site=pro> (last visited July 2, 2009).

¹² *Id.*

¹³ See generally, Computational Legal Studies, Visualizing the Campaign Contributions to Senators in the 110th Congress- The TARP Edition, <http://computationallegalstudies.com/2009/03/26/visualizing-the-campaign-contributions-to-the-united-states-senators-in-the-110th-congress---the-tarp-edition-the-image/> (last visited July 17, 2009).

¹⁴ Congressional Research Services, *Earmark Disclosure Rules in the House: Member and Committee Requirements*, Apr. 28, 2009, available at <http://8vsb.files.wordpress.com/2008/04/earmark-disclosure-rules-in-the-house.pdf>.

¹⁵ David Robinson et. al, *Government Data and the Invisible Hand*, 11 YALE J.L. & TECH 160, 164 (2009).

A different issue is that some important information nominally available to the public has yet to be made electronically accessible. Although the 1978 Ethics in Government Act requires that federal employees publically disclose financial information, the disclosures filed by Representatives and Senators are located in electronic databases only accessible in Washington, D.C. during regular business hours.¹⁶ Mendelson suggested that producing datasets in any consistent format will facilitate third party manipulation of the data. Along these lines, OpenGovData.org identified eight specific standards for publicly “open” government data: (1) complete, (2) primary, (3) timely, (4) accessible, (5) machine processable, (6) non-discriminatory, (7) non-proprietary, and (8) license-free.¹⁷ Katz stated that Data.gov, a website launched by the Obama administration on May 21, 2009, appears to be a step in the right direction. He voiced his excitement about its potential uses by third parties and other government agencies. The site includes a catalogue of Federal Executive Branch data, providing document search tools and “raw” datasets. Although the current database discloses limited information,¹⁸ the site calls for user feedback to achieve greater transparency.¹⁹

Third party organizations have proven that private data manipulation can greatly benefit the public at a relatively low cost. Maplight.org, for example, combines bill text and voting records, opposing and supporting bill interests, and available campaign contribution data to highlight the connection between campaign contributions and legislative votes.²⁰ Another third party site, GovTrack.us, automatically generates information from official government websites to facilitate public research and bill tracking.²¹ Joshua Tauberer created the site in his spare time with minimal expense, showing that the cost of manipulating public data to generate valuable information is low and the public benefit is significant.²² Melanie Roberts, a postdoctoral fellow at the University of Colorado’s Center for Science and Technology Policy Research, commented that the data currently available on Data.gov, including IRS annual reports for private companies, suggests that government hopes to capitalize on some of the positive externalities third parties provide when they “find ways to make the money or find out who is breaking the law.” Few agencies, she said, have the internal capacity to analyze the information quickly and accurately. Further underscoring the need for third party involvement, *The New York Times* stated that public use of the data is one way to tell government that the data “is meant for the public, not just the file cabinet.”²³

Playing the devil’s advocate, Conley argued that government officials find themselves in a difficult position when determining how to disclose data because government does not know the type or form of data citizens are interested in. The participants considered five issues that could justify

¹⁶ Brito, *supra* note 6, at 122.

¹⁷ Open Government Working Group, Open Government Data Principles, http://resource.org/8_principles.html (last visited July 2, 2009).

¹⁸ Anthony Ha, *Data.gov: Another Obama Site Gets off to an Underwhelming Start*, <http://venturebeat.com/2009/05/21/datagov-another-obama-site-gets-off-to-an-underwhelming-start/> (last visited on July 2, 2009).

¹⁹ The Sunlight Foundation, an organization dedicated to government transparency, immediately announced a contest for the best application and visualization of raw data from Data.gov. The Sunlight Foundation, Announcing Apps for America 2: The Data.gov Challenge, <http://blog.sunlightfoundation.com/2009/05/21/announcing-apps-for-america-2-the-datagov-challenge/> (last viewed on July 2, 2009).

²⁰ Maplight.org, About Maplight.org, www.maplight.org/about (last visited on July 2, 2009).

²¹ Govtrack.us, About Govtrack.us, <http://www.govtrack.us/about.xpd> (last visited on July 2, 2009).

²² Robinson et. al, *supra* note 13, at 170.

²³ Saul Hansell, *Data.gov: Unlocking the Federal Filing Cabinets*, N.Y. TIMES, <http://bits.blogs.nytimes.com/2009/05/22/datagov-unlocking-the-federal-filingcabinets/?scp=2&sq=data.gov&st=cse> (May 22, 2009, 18:38 EST).

governments in withholding data: misinterpretation, irrelevance, proprietary interference, policy implementation, and privacy implications. Bommarito addressed the harmful effects of misinterpreted data, especially because raw data can prevent consideration of contextual variables.²⁴ Wendy Seltzer, a Silicon Flatirons fellow, commented that determining what data was taken out of context or misused might often be a very paternalistic judgment. Some might say the same for outputs considered useless or irrelevant. In the Apps for America 2 contest sponsored by the Sunlight Foundation, one submitted application entitled “FBI Fugitive Concentration” could be considered merely a spin-off of a child’s game,²⁵ but the potential public benefit could be great. On the relevance front, David Skaggs, Executive Director of the Colorado State Department of Higher Education, noted that certain datasets likely wouldn’t be touched by third parties because they are too esoteric.

Katz noted that, as with many private innovations, entrepreneurs will capitalize on their work to obtain a profit. Businesses like Westlaw earn revenue from the propriety databases they create with public data. In turn, these companies seek to prevent public access to government data by fighting against government transparency to protect their established business model.

Describing the challenges of policy implementation, Pierre de Vries, Silicon Flatirons Fellow, explained that Web 2.0 technologies could “program” unproductive but politically beneficial policies into government functions. De Vries suggested that where Web 2.0 technologies enforce policies that employees do not embrace, employees may find a way to avoid the technology. As an example of this dynamic, he described the impact of an Amazon.com policy penalizing employees for taking longer than two minutes to resolve customer calls: employees began dropping calls half-way through to reduce their averages.

As discussed above, government transparency raises distinct privacy concerns. Notably, the Center for Democracy and Technology (CDT) issued a policy post discussing its privacy concerns surrounding Data.gov. and other government released data.²⁶ De-identifying released data by removing information potentially used to identify an individual could protect privacy concerns, but the CDT did not suggest that all data should be de-identified in the same manner.²⁷ In fact, it suggests that “[d]ifferent levels of data protection are appropriate in different contexts.”²⁸ Where actually removing sensitive information is low value add in light of its context, other government actions can impede re-identification attempts.

With these five issues in mind, Colorado law professor Harry Surden noted that there is “an actual substantive difference between data that is nominally available and data that is available in a structured form.” His argument asserted that image files and limited search options, while limiting transparency, do in fact serve a valuable regulatory function by protecting social security numbers and financial information. He suggested that “acoustic separation,” distinct messages sent to different constituents, helps prevent, for example, discontent in the workplace caused by co-workers knowing each

²⁴ See, e.g., Knowledge@Wharton, *The Use – and Misuse - of Statistics: How and Why Numbers are So Easily Manipulated*, Apr. 2, 2008, <http://knowledge.wharton.upenn.edu/article.cfm?articleid=1928> (noting that selections bias and relevant variables are difficult to account for, especially where there is no communication between the data provider and the analyst).

²⁵ The Sunlight Foundation, *supra* note 17, at <http://sunlightlabs.com/contests/appsforamerica2/apps/fbi-fugitive-concentration/> (last visited July 2, 2009).

²⁶ Center for Democracy and Technology, *Data.gov and De-Identification Considerations for the Open Government Directive*, July 13, 1009, http://cdt.org/privacy/Open_Govt_Directive_Deidentification.pdf.

²⁷ *Id.*

²⁸ *Id.*

other's salary information. Despite all of the potential drawbacks of third party data manipulation, the participants largely agreed that the likely benefits of disclosure almost invariably outweighed the possible harms.

II. Citizen Empowerment

Utilizing public feedback and interaction through Web 2.0 technologies appeals to democratic ideals and increases effective resolution of pressing civil and social issues. The Obama administration launched phase one of a three phase project soliciting public collaboration to create an open government on May 21, 2009.²⁹ Reviewing the comments from the initial phase, one will notice thoughtful and articulate comments suggesting, for example, the continuous update of the web browsers on government computers. Unfortunately, inane and laughable remarks are immediately obvious as well. One commenter, for example, suggested that peace officer job satisfaction and public perception could be increased by making peace officers more "ninja-like." This type of comment, as well as the comments personally attacking President and Michelle Obama, represents a particular challenge of involving the citizenry in policymaking: how can government use Web 2.0 technologies to solicit specific, responsive, and enlightened citizen views. This Part will address the potential issues created by soliciting citizen involvement before considering the productive possibilities.

A. *Potential hazards*

The roundtable participants were not optimistic as to the opportunity for mass constructive citizen involvement. Based on his experience as a blogger, Mendelson stated that he has "zero hope that there is a technology solution that will obtain good comments." Additionally, limited resources prevent government from addressing the millions of comments it is likely to receive. The Obama campaign was staffed with a media team of around 170 people, making it possible for them to adequately respond to citizen inquiries.³⁰ Today, however, the white house New Media Team is staffed with only 10 employees,³¹ and the number of comments they regularly receive has increased. Their responses must also be more thoughtful because they represent the United States of America, not just a presidential candidate.³² A flood of unproductive comments, at any level of government, could overwhelm staff and obstruct two-way communication. Newsgator CEO J.B. Holston noted that citizens have certain expectations associated with contributing ideas, notably, that they will receive some form of a response. If government is overwhelmed and non-responsive, such a dynamic could create additional levels of distaste and distrust in the government. Elected politicians concerned with re-election will want to avoid this consequence. The discussants agreed that there must be a balance between general public engagement and relevant communication.

B. *Benefits and solutions*

Because democratic ideals require a receptive and involved government, it would behoove local, state, and federal governments to, at a minimum, appear receptive to individual comments. For example, the Obama campaign did a good job of utilizing Web 2.0 technologies to involve citizens while harnessing their energy within the framework of the campaign's goals.³³ The campaign did this by keeping citizens updated and knowledgeable on campaign issues without involving them in the actual

²⁹ Open Government Initiative, <http://www.whitehouse.gov/open/> (last visited July 2, 2009).

³⁰ SWIRE, *supra* note 5.

³¹ *Id.*

³² *Id.*

³³ Ratliff, *supra* note 4.

decision-making process.³⁴ This strategy paid off, proving that citizens do not necessarily need to be directly involved in policy so long as they feel involved and are able to contribute. Holston suggested that successfully framing the citizen engagement issue by setting expectations would limit the drain on government resources while keeping the citizens happy.

The roundtable participants acknowledged that enlightened citizen involvement would create a more efficient and connected representative body. Government, even on the local level, is often too big to be immediately aware of all constituent problems. Involving citizens by giving them ways to report emergency situations or issues within the purview of the public domain would arguably increase government efficiency. In light of the dual problems of excessive and inappropriate feedback discussed above, the participants suggested three possible solutions: sentiment analysis,³⁵ third party manipulation, and mandatory self-identification. First, Colorado Research Associate Melanie Roberts suggested government “take the pulse of the average Joe.” This would avoid a feedback flood and would allow governments to consider the opinions of those outside of the political process. This would, however, require a dramatic political culture shift. Where governments usually lean heavily on lobbyists and academics, they would need to seek out and listen to everyday citizens, perhaps through sentiment analysis. Jeanette Sutton noted that, in addition to affecting policy decisions, sentiment analysis could help governments tailor public messages. For example, aggregating the Web 2.0 chatter during the H1N1 virus scare could have allowed local governments to send a message to decrease anxiety or to convey additional details where they were lacking.

It is worth noting that the way private individuals use government data reflects the issues and problems citizens are dealing with. Where, as Seltzer suggested, citizens are mashing pollution data to locate the largest polluters, governments can discern a shift in environmental interests. To the extent that governments become aware of these types of uses and experiments, they can learn a lot about their citizenry. Finally, Chandler suggested that by requiring citizens to identify themselves before leaving a comment, the number of inappropriate and irrelevant comments would decrease.

III. Institutional incentives

After discussing the transparency and citizen engagement issues surrounding government use of Web 2.0 technologies, the discussants considered how best to successfully implement such technologies. Although a few of the participants addressed this challenge from the government perspective, most were familiar with the corporate environment. Federal and state governments, similar to the private sector in many ways, can learn from private sector successes.³⁶ But, as J.B. Holston noted, the differences between corporations and governments are great. As a vendor of Web 2.0 solutions to large corporations and government agencies, Holston described the difficulties corporations face when implementing such technologies. However, because they adapt more quickly and can spend more money than governments on such initiatives, the private sector has a significantly easier time embracing Web 2.0 solutions. He explained that he is working with a government agency that is mandated to become transparent immediately. Unfortunately, the process-oriented government culture prevents the agency from soliciting

³⁴ *Id.*

³⁵ Cf. Texas Analytics News, *The Challenge is Still Accuracy of Sentiment Prediction and Solving the Associated Problems*, <http://social.textanalyticsnews.com/news/%E2%80%9Cchallenge-still-accuracy-sentiment-prediction-and-solving-associated-problems%E2%80%9D> (last viewed on July 1, 2009) (describing sentiment analysis as filtering and analyzing consumer conversations to aggregate opinions and market perceptions).

³⁶ Michael Chui et. al, *Six Ways to Make Web 2.0 Work*, THE MCKINSEY Q., Feb. 2009, http://www.mckinseyquarterly.com/Business_Technology/Application_Management/Six_ways_to_make_Web_20_work_2294.

outside vendors, leading to inefficiencies and increased public expenditures, especially when the government operations are externally visible.

Despite the differences in institutional culture, many barriers to change seen in the corporate environment are present in government, the most notable being generational factors, legacy relationships, and procedural limitations. First, Generations X and Y grew up in a world marked by constant change and have already adopted Web 2.0 technologies in their private lives. Those who have spent most of their careers using traditional processes are less likely to replace them with new tools, despite obvious efficiencies. Second, legacy systems have allowed employees to achieve a level of comfort that cannot be easily displaced. In particular, requiring employees to re-learn processes or spend valuable time familiarizing themselves with new products often generates a significant level of reluctance. Finally, procedural limitations often represent barriers to change. Where established procedures do not reward innovation or technological change, employees are unlikely to independently adopt technology.

Chandler, experienced in both the corporate and government settings, suggested three tactical solutions for changing the nature of government use of technology: 1. Leadership adoption, 2. Alternative Process Elimination, and 3. Interagency communication. Of these, he identified leadership as the key success factor, stating that he found the most successful implementations in agencies where leaders supported and drove Web 2.0 adoption. Mendelson pointed out that one must appeal to the self-interest of the leader to get their support for change. As a venture capitalist, he has invested in products greatly beneficial for corporations. Where corporate leaders were not personally interested in the product, it was never successfully employed. Without a top-down approach, it is unlikely that government agencies will successfully implement Web 2.0 technologies.

Once institutional leaders identify with the technology, Chandler stated that alternative processes must be completely eliminated. Where people are given the opportunity to use old methodologies, most will use what they are comfortable with. In that vein, McKinsey Quarterly suggests that where corporations attempt to incorporate new technologies without eliminating old processes, they inadvertently increase workload, creating a disincentive for adoption.³⁷

Finally, Chandler noted that cross-agency jealousies and fragmented missions can impede government adoption of Web 2.0 technology, but those in various agencies who have successfully implemented Web 2.0 solutions are generally open – in fact, eager – to share best practices. When working with various government legal departments, Chandler was impressed by point solutions developed by specific agencies. For instance, the Department of the Interior used SharePoint as a document repository, and for collaboration (via wikis) and social networking. The Department of Transportation developed a way to pay for Freedom of Information Act requests online through pay.gov. However, other agencies were unaware of these achievements and consequently did not implement them. To facilitate near term improvements, Chandler emphasized the importance of cross-agency communication. He asserted that forced knowledge-sharing or top-down directives are not viable options, as they will likely be resisted or lead to unintended consequences. Alternatively, facilitating communication bridges and encouraging government employees to do what works best for them will increase opportunities for cross-agency education.

³⁷ *Id.*

IV. Conclusion

The discussants agreed that additional transparency is necessary and will have a net positive impact. Releasing raw data for third party processing and presentation was discussed as a low cost, efficient, and accurate way for governments to become more transparent. The effects of self-imposed regulations in government underscore the utility of this suggestion. Points of concern regarding government transparency included misinterpretation, irrelevance, wealth transfers, policy implementation, and, most notably, privacy implications.

The roundtable participants addressed difficulties associated with involving citizens in government decisions, specifically overwhelming and unproductive public comments. Possible solutions included sentiment analysis, third party data processing, and identity disclosure. Framed by an expectation-setting public relations message, citizen engagement can successfully support democratic ideals and increase public trust.

Finally, the participants addressed successful implementation of Web 2.0 technologies by considering the corporate sector and institutional incentives. Unlike corporations, governments are slow moving and largely inefficient. However, like the corporate sector, generational factors, legacy relationships, and procedural limitations all obstruct adoption of Web 2.0 technologies. To overcome these barriers, Mark Chandler suggested three possible solutions: Leadership adoption, alternative process elimination, and cross-agency communication.

Appendix A: List of Roundtable Participants

Michael Bommarito, University of Michigan
Mark Chandler, Cisco
John Conley, Colorado Office of Information Technology
Pierre de Vries, Silicon Flatirons
Corina Gerety, Institute for Advancement of the American Legal System
Gabe Hamilton, StickyVote by InnoVoter, Inc
Dale Hatfield, Silicon Flatirons
J.B. Holston, News Gator
Daniel Katz, University of Michigan
Paul Lippe, Legal On Ramp
Jason Mendelson, Foundry Group
Helen Norton, University of Colorado Law School
Melanie Roberts, University of Colorado
Wendy Seltzer, Silicon Flatirons
Ted Sichelman, University of California Berkeley Center for Law and Technology
David Skaggs, Colorado Department of Higher Education
Harry Surden, University of Colorado Law School
Jeannette Sutton, University of Colorado
Phil Weiser, University of Colorado Law School