



IBM Center for
The Business of Government

Using Technology Series

Using Wikis in Government:

A Guide for Public Managers



Ines Mergel
Syracuse University

Using Wikis in Government: A Guide for Public Managers

Ines Mergel

Assistant Professor of Public Administration
Maxwell School of Citizenship and Public Affairs
Syracuse University



IBM Center for
The Business of Government

Table of Contents

Foreword	4
Executive Summary	6
Introduction	8
What are Wiki Technologies?	8
Wiki Use in Government	9
When, Where, and Why to Use Wikis in Government	12
Wikis in Action: Nine Case Studies	13
Wikis for Intra-Organizational Use	13
Wikis for Inter-Organizational Use.	16
Wikis for Engaging the Public	19
Challenges and Best Practices for the Use of Wikis in Government	29
Challenge One: How do you meet legal requirements for inclusiveness?	29
Challenge Two: How do you ensure privacy and security of content?	29
Challenge Three: How do you respond effectively to different levels of digital literacy?	30
Challenge Four: How do you ensure the integrity of information?	31
Challenge Five: How do you encourage participation?	32
Additional Resources	36
Bibliography	37
About the Author	40
Key Contact Information	41

Foreword

On behalf of the IBM Center for The Business of Government, we are pleased to present this report, *Using Wikis in Government: A Guide for Public Managers*, by Ines Mergel, Syracuse University.

Public leaders face the challenge of finding ways to bridge silos in their organizations. In this report, Dr. Mergel examines one tool that can help them do this—Wikis. Many of us are familiar with Wikipedia, which relies on thousands of active contributors who share their knowledge freely on a dazzling breadth of topics, with an accuracy rate rivaling that of traditional encyclopedias.

So how can government leaders spark similar outpourings of valuable knowledge—either among their employees or from the public? Dr. Mergel describes the managerial, cultural, behavioral, and technological issues that public managers face in starting and maintaining Wikis. She provides nine case studies of government organizations that launched Wikis. Each of the nine public sector organizations studied found Wikis to be valuable additions to their current workplace tools in reaching out to both employees and citizens.

Dr. Mergel doesn't wear rose-tinted glasses, though. She observes that Wikis "are on the one hand relatively easy to create. On the other hand, maintaining collaboratively produced content while sustaining the quality and quantity of contributions over time is a formidable task for public managers." She not only describes five challenges managers face, but also provides a checklist of best practices that public managers and Wiki administrators can use to improve chances for success.



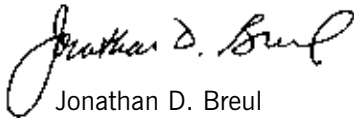
Jonathan D. Breul



Melissa Marroso

This report is a “deep dive” into one online tool that can be used to engage employees and the public. A separate new report by the IBM Center, *Using Online Tools to Engage—and be Engaged by—The Public*, by Matt Leighninger, provides a broader context of the various online tools available today, showing how and when Wikis can play a role in broader engagement efforts.

We trust that this report will provide practical and concrete tips for federal managers in deciding if a Wiki makes sense for their organization, and how to best use this tool to improve collaboration within or between organizations and, where appropriate, with citizens.



Jonathan D. Breul
Executive Director
IBM Center for The Business of Government
jonathan.d.breul@us.ibm.com



Melissa Marroso
Social Media Consulting
IBM Global Business Services
melissa.l.marroso@us.ibm.com

Executive Summary

President Obama's call for a more collaborative government arrives on the heels of new tools to increase information sharing. Based on interviews with public sector information technology professionals and managers, this report examines the managerial, cultural, behavioral, and technological issues these government professionals face when using Wikis. It can serve as a guide to managing Wikis as collaborative tools in the public sector, providing practical examples and hands-on tips.

Public managers use Wikis as collaborative technologies to improve information creation and to share capacities across organizational boundaries and hierarchies (Chang & Kannan, 2008). Wikis are traditionally used as collaborative websites to create and edit other hyperlinked websites. However, in government they may also be used on enterprise-wide intranets as creative tools for community building within and between agencies. Wikis have the capacity to replace siloed knowledge management systems that currently exist within most government agencies (Guy, 2006; Trkman & Trkman, 2009; Mergel, 2011).

In response to President Obama's Transparency and Open Government Memorandum (Obama, 2009b) and the Open Government Initiative (www.whitehouse.gov/open), federal agencies have increased their use of new media technologies. The Memorandum identifies three areas of operation to be improved upon:

- Collaboration
- Transparency
- Participation

The January 2009 Presidential Memorandum states that:

Government should be collaborative. Collaboration actively engages Americans in the work of their Government. Executive departments and agencies should use innovative tools, methods, and systems to cooperate among themselves, across all levels of Government, and with nonprofit organizations, businesses, and individuals in the private sector. Executive departments and agencies should solicit public feedback to assess and improve their level of collaboration and to identify new opportunities for cooperation. (Obama, 2009b).

The need for an increased collaborative culture and behavior among public sector organizations has recently become apparent in the failure to "connect the dots" and share information across organizational boundaries, as discovered again in the aftermath of the prevented terrorist attack in Detroit (Hansen, 2009; Lowery Massey, 2009). The goal of this report is to highlight not only the technological challenges of implementing a Wiki, but also to share hands-on experiences and lessons learned during the implementation and subsequent organization-wide adoption process in a number of public sector organizations.

Wikis, as collaborative software tools, are on the one hand relatively easy to create. On the other hand, maintaining collaboratively produced content while sustaining the quality and quantity of contributions over time is a formidable task for public managers. This report will discuss key elements in the successful creation and maintenance of Wikis in the public sector, including:

- **Evolution and management of Wikis.** Who was involved in the early stages to create a critical mass of content pages? How was initial content seeded?
- **Types of Wikis.** With what type of information did the projects start? How are the writing and collaborative efforts supported?
- **Best practices for Wikis.** How did public managers convince public servants and citizens to participate and provide their knowledge in a Wiki project? How did they initiate change in behavior so that working with Wikis became the new standard operating procedure? What were the determinants in initiating change in the existing knowledge paradigm and the collaborative culture?

The report examines the use of Wikis in nine case studies where Wikis are used intra-organizationally, inter-organizationally, or for public engagement. Based on these case studies, the report identifies five challenges that public executives will face when deciding whether to use Wikis. The report concludes with a description of best practices for Wiki managers and Wiki administrators who are in the process of implementing or considering implementing Wikis in their own organization.

Introduction

What are Wiki Technologies?

Wikis are websites whose content can be created, edited, discussed, and changed by users working in collaboration. The word Wiki comes from the Hawaiian; meaning “quick,” it highlights the easy, fast editing capability of Wikis.

Wikis facilitate interaction and project collaboration. The most prominent Wiki is Wikipedia, known as the world’s online encyclopedia. Wikipedia was founded in 2001 by Jimmy Wales to quickly create, edit, and change information on every term its contributors want to define. Authors can create a page on a specific topic and publish a draft, which is then open to the whole world for edits and changes—and even deletion.

The original Wikipedia page is structured through hyperlinks that connect keywords used in one article to the definitions provided in other articles. Definitions or content should not be replicated; instead, authors link to the original.

The WYSIWYG principle (What You See Is What You Get) makes editing simple and easy. The formatting possibilities are reduced to a minimum, and pages are not intended to be flashy or nicely decorated, so that the content of the page is the focus of its authors and readers. Every registered user—but also every anonymous web surfer—can edit content with a simple mouse click.

Edit Mode in MediaWiki

The screenshot shows the Wikipedia editing interface for the talk page 'Talk:Social media'. The page title is 'Editing Talk:Social media' and it is identified as a talk page. A notice at the top states: 'This is a talk page. Please respect the talk page guidelines, and remember to sign your posts by typing four tildes (~~~~). You are not currently logged in. If you save any edits, your IP address will be recorded publicly in this page's edit history. If you create an account, you can conceal your IP and be provided with many other benefits. Messages sent to your IP can be viewed on your talk page. Please do not save test edits. If you want to experiment, please use the sandbox. If you need any help getting started with editing, see the Wikipedia: new contributors' page.' Below this, there is a rich text editor with various formatting options (bold, italic, link, etc.) and a text area containing a discussion about the definition of social media. The discussion includes a user's comment: 'Social media is a buzz but also a change in media== As I look at it after studying it for almost half a year, I think it isn't about the definition but about what has changed since traditional and new media. I think that social media should refer to all media (most likely on the social behavior like sharing, debating, recommending, playing games and so on, so in terms of definitions I would prefer -- also for future and earlier forms of this kind of media - to define it by the sum of channels that Social behavior will only occur when 2 or more people communicate with each other. This doesn't have to mean they have to speak to each other as a form of communication but also can be other forms of communication. If we would define it like this a phone call or text message could be defined within social media. I don't think a phone call or text message shapes a new term but together with all other technologies - which we can use today - do.' and another user's response: 'I agree with most of the above, but have suggested some modifications to the core definition. I wrote a book on social media entitled "Content Nation," in which I define social media in terms of highly scalable publishing people to influence others. I've refined that definition here to focus on the fact that social media is, first and foremost, content, not technology. Please reference the Wikipedia definition of [[Content, media, and publishing]] four years ago and contributed to its development here on Wikipedia. If content is both information and experiences, then this aligns with your concept of communications such as phone conversations being social media. The other factor that I think distinguishes social media in today's sense is the availability of readily accessible and highly scalable publishing technologies. Personal phone calls don't scale up easily into global audiences. In that a very personal set of communications can be shared rapidly with a global audience through the highly scalable communications of the Internet and mobile communications networks. The technologies that make accessible, many of them available for free or for minimal expenditure. This makes them more readily used as a direct extension of human communications patterns: you don't have to be an "itinerant" person to access them.'

Source: http://en.wikipedia.org/w/index.php?title=Talk:Social_media&action=edit

Disputes between authors can be discussed and tracked using the discussion page. Especially on high-profile articles that are constantly monitored by authors who feel a sense of pride or ownership over the content, it is wise for new authors or any editor to explain why they made changes and to provide an original source to support the changes and defend them against the assertions of other authors. When multiple authors can't agree on changes made by another author, the article can be reverted to the previous version—once created and edited, content is not lost. Therefore, content that is considered off-topic can be easily excluded from an article. The authors can also suggest that content needs to be reviewed by administrators, merged with other existing articles, or moved onto a page of its own if it is of significant stand-alone value.

The original Wikipedia idea was to give editorial rights to anyone, making Wikipedia a democratic content production site. Over time, the Wikipedia community has evolved into a hierarchical editorial system with several different levels of access. In addition, an informal culture has evolved in which some Wikipedia users perceive themselves as article owners, reacting immediately to even the smallest changes made by random Internet surfers and correcting mistakes within seconds or minutes.

It has become clear over time that the fear of vandalism, based on Wikipedia's open community structure and editorial system, has been much more limited than originally anticipated. While there are always "trolls" who might try to vandalize an article, the community is very quick to respond to errors or to revert an article to its previously agreed-upon status. Overall, the number of contributing authors follows a power-law distribution: a few authors contribute a very high number of articles, while the majority only make incremental changes.

A recent study published in *Nature* showed that Wikipedia comes close to *Encyclopedia Britannica* in the accuracy of its science entries. While error rates are comparable, the error correction process shows remarkable differences: on average the *Encyclopedia Britannica* is reprinted every four years, while Wikipedia authors are able to detect errors within four minutes and can eliminate them immediately (Terdiman, 2005).

Wikipedia is built on Wiki software called MediaWiki. Recently a host of other free Wiki applications have emerged, such as PBWorks, Socialtext, Wikia, Wetpaint, or Wikispaces. All of these freely available tools are easy to navigate or maintain. They can be used as an open Wiki or as closed systems with restricted user access. Some of the Wiki software applications include instant messaging services among the authors, blogging, and other features supporting the collaborative process.

Wiki Use in Government

Wikis can be used for different purposes:

- **Open information creation environments**, such as Wikipedia, in which everyone can freely create collaborative content
- **Specific purposes**, in which case authorship rights might be limited to specific authorized users to co-create and share professional knowledge (Binz-Scharf, Lazer, & Mergel, 2011)
- **Personal note taking or full-fledged knowledge management systems** on the corporate intranet

In government, one example has recently made it onto the front page of the *New York Times*: The Army was rewriting its counterinsurgency manual and called for authorized personnel to help with the rewriting by using a Wiki application (Carafano, 2011; Cohen, 2009).

Other Wiki approaches are used to collect user-generated information, such as WikiCrimes, which mashes content from police logs with citizen input and displays crimes in specific neighborhoods on a Google map (see <http://wikicrimes.org>).

Applications, such as WikiCrimes, are based on the OpenStreetMap Wiki that creates and provides free geographic data such as street maps—collected again in a collaborative effort. OpenStreetMaps were, for example, used for applications in the aftermath of the Haiti earthquake to show relocated hospitals and emergency response locations. Other interesting applications include the CrisisCommons Wiki—a collaborative management and teamwork Wiki used to accelerate the creation and sharing of knowledge. (See page 23 for a discussion of CrisisCommons.)

Wiki Software

For an up-to-date overview and a comparison of existing Wiki software, please visit the following Wikipedia pages:

- http://en.wikipedia.org/wiki/List_of_wiki_software
- http://en.wikipedia.org/wiki/Comparison_of_wiki_software

Wikis are highly interactive tools. They allow single authorship, joint authorship, bidirectional exchanges, and interactivity with their content. In the current Open Government environment, they can be used as externally facing tools to share content with stakeholders and will therefore contribute to potentially increasing the transparency of processes, decision-making, and information sharing. In addition, they are a way to increase participation in the public sector. For example, citizens can discuss the current content or contribute their own. Finally, they can be used as collaborative technology to support intra-, inter-, and extra-organizational collaboration and coordination of projects.

The Government and Social Media Wiki uses the Wiki format to produce a central hub for information and practical examples of how government organizations can use social media applications. For more information on this website, see <http://govsm.com>.

The Government and Social Media Wiki



Source: <http://govsm.com>.

ExpertNet Wiki (White House)

Introduced in December 2010 as part of the Open Government Initiative, the WikiSpaces application ExpertNet Wiki is being proposed by the Office of Science and Technology Policy as a way to collect ideas and opinions from the public about any topic.

For more information on the ExpertNet Wiki, visit the White House Blog: www.whitehouse.gov/blog/2010/12/29/expertnet-wiki-update

The screenshot shows a web browser displaying a blog post from the White House Open Government Initiative. The page header includes the White House logo and navigation links for 'BLOG', 'PHOTOS & VIDEO', 'BRIEFING ROOM', 'ISSUES', 'the ADMINISTRATION', 'the WHITE HOUSE', and 'our GOVERNMENT'. The main content area features the article title 'ExpertNet Wiki: An Update' with a 'Subscribe' button. The article text discusses the initiative's goals and provides examples of user contributions. On the right side, there is a sidebar with a featured article 'EARTHQUAKES AND TSUNAMI IN JAPAN' and a 'WHITE HOUSE BLOGS' section listing various government departments and agencies. A 'CATEGORIES' list is also present at the bottom right of the sidebar.

ExpertNet Wiki: An Update Subscribe

Posted by Anesh Chopra and Shelley Metzenbaum on December 29, 2010 at 10:21 AM EDT

Earlier this month, the White House Open Government Initiative and General Services Administration requested your [input](#) in helping us to design an effective public engagement tool that will make it simple for public officials to pose questions that you can share your expertise in ways that are timely, relevant and informative for policymaking. Here's a detailed description (what technologists call a "use case") of the online process in hopes of getting specific suggestions in response:

First, public officials use ExpertNet to [pose questions](#) to the public about any topic we're working on -- from creating new jobs to preventing homelessness among Veterans or developing next-gen transportation systems. A simple, online "wizard" will help them make their questions clear. There's an active discussion on the ExpertNet wiki about how to design constraints into questions to improve the quality of responses. One user, [Govt.org](#), writes "It is really hard to write great questions. In survey research, a lot of time and effort is spent on the question formation." Another user, [AngieChopra](#), points to the Delphi Approach of posing questions to encourage an interchange of views. Check out "[Defining the Topic and Asking Questions](#)" for more.

Second, we want to make sure that the questions reach people with the greatest expertise or enthusiasm for a topic. We imagine [distributing questions](#) to professional, online communities; user [MDickey1](#) suggests simply using RSS feeds. [Mxmedia](#), another wiki user, also adds that better distribution of news about public participation opportunities will attract citizens serving their democracy, entrepreneurs wishing to impress government and others with their marketable know how. Check out "[Distributing Questions to Professional Networks](#)" for more about whether to enable people to rate and rank one another's submissions - in the way we now rate movies or books. Check out "[Facilitating Structured Responses](#)" for more.

Finally, we know that no system will work unless public officials participate actively and explain how the agency uses [public ideas](#). For example, [David Stern1](#) offers a detailed design for a feedback template. Check out "[Synthesizing Public Input and Returning Feedback](#)" for more.

What We Want to Hear More Of

Submissions that have been helpful include those that offer suggestions or solutions to queries or offer a new way of thinking about an aspect of the platform. We are eager to hear about specific examples of tools that will achieve goals outlined here (or something different and why that's preferable). We'd like specific examples of people using such practices, what works well, and what doesn't. We want prototypes, wireframes, and designs. Our goal is to implement a new system for citizen participation as quickly and cost effectively as possible.

Expertise Understood Broadly

We chose "ExpertNet" as the working title (we have a page where you can [suggest an alternative](#)) because we believe that everyone has expertise, experience and enthusiasm which, if shared in manageable ways, will help us make smarter decisions together. We aren't just looking for participation from people with the highest professional qualifications. We want to make sure that everyone who is interested and has something relevant and useful to share has an opportunity to participate. This is a government "of the people, by the people, for the people" and we have the technology to collaborate on solving the major issues that confront us.

Anesh Chopra is U.S. Chief Technology Officer

Shelley Metzenbaum is Associate Director of the U.S. Office of Management and Budget for Performance and Personnel Management

[Share/Bookmark](#)

See more about [Technology](#)

EARTHQUAKES AND TSUNAMI IN JAPAN
How You Can Help

WHITE HOUSE BLOGS

- The White House Blog
- Middle Class Task Force
- Council of Economic Advisers
- Council on Environmental Quality
- Council on Women and Girls
- Office of Management and Budget
- Office of Public Engagement
- Office of Science & Tech Policy
- Office of Urban Affairs
- Open Government
- Faith and Neighborhood Partnerships
- Social Innovation and Civic Participation
- US Trade Representative
- Office National Drug Control Policy

CATEGORIES

- Civil Rights
- Defense
- Disabilities
- Economy
- Education
- Energy & Environment
- Ethics
- Family
- Fiscal Responsibility
- Foreign Policy
- Health Care
- Homeland Security
- Immigration
- Poverty
- Rural
- Seniors & Social Security
- Service
- Taxes

When, Where, and Why to Use Wikis in Government

Wikis can be used for different purposes. This report presents nine case studies that show the breadth of Wiki use in the public sector. The cases are organized by primary audience.

- **Case Studies One and Two:** Wikis designed for use by a single organization to allow its employees to share information internally. These Wikis are used for internal knowledge creation and sharing. Outsiders do not have access, and the Wikis are used in parallel with existing information-sharing applications.
- **Case Studies Three and Four:** Wikis designed primarily for information sharing across organizational units in government. These Wikis help government agencies provide a collaborative and information-sharing environment for a number of different agencies whose intranets are not connected.
- **Case Studies Five to Nine:** Wikis designed to engage the public by both sharing information and collaborating with citizens. The government organizations in these case studies created Wikis to engage citizens in the idea generation and policy definition processes. Citizens are invited, often for a bounded time, to submit their own ideas, comment on submissions, and help formulate final policy documents.

An overview of the nine cases is described on the following pages.

Summary of Case Studies

Type	Case Study	Goal	Sector	Duration	Access
Wikis for Intra-organizational Use	1. Diplopedia	Intra-organizational knowledge creation and sharing	Federal government; Department of State	Launched in 2006	Only DOS access
	2. DoDTechiPedia		Federal government; Department of Defense	Launched in 2008	Only DoD access
Wikis for Inter-organizational Use	3. Intellipedia	Inter-organizational knowledge sharing	Federal government; multiple intelligence agencies	Launched in 2006	For members of U.S. intelligence community (IC), by invitation
	4. GCPedia (Canada)		All levels of Canadian government	Launched in 2010	With gc.ca e-mail address
Wikis for Engaging the Public	5. BetterBuy Wiki (GSA)	Include stakeholders across government, industry, and public	Federal government including external users	Launched in 2010 (time bound for specific RFPs)	Public access, anonymous postings, login required
	6. EPA Watershed Wiki	Bring experts together in joint information-sharing environment	Federal government including external experts on all levels; serving local Watershed conversations	Launched in 2009	Pre-approved access
	7. Future of Melbourne, Australia Wiki	Citizen-government interaction	Local government	Time-bound: May–June 2008	Open for citizens and other stakeholders
	8. San Jose, California WikiPlanning	Citizen-government interaction	Local government	Launched in 2009	Pre-approved access
	9. Manor (TX) City Wiki	Citizen-government interaction	Local government	Launched in 2010 (ongoing)	Pre-approved access

Wikis in Action: Nine Case Studies

Wikis for Intra-Organizational Use

Case Study One: Diplopedia



Source: <http://en.wikipedia.org/wiki/Diplopedia>.

Goals of Diplopedia

Launched in 2006 by the Department of State, Diplopedia was one of the first Wikis used in the federal government. Diplopedia is located in the Office of eDiplomacy.¹ Created as the State Department's Wiki, Diplopedia is operated on MediaWiki software—the same platform used by Wikipedia. Many of the other examples mentioned in this report are also operated on MediaWiki (Anderson, 2010). Diplopedia currently has more than 10,000 pages of content. The goal is to provide in one central space information for foreign affairs specialists. Initially launched as part of former Secretary of State Condoleezza Rice's "Transformational Diplomacy," Diplopedia has recently expanded to include a set of social media tools, such as blogs, communities, and virtual work environments for teams.

Diplopedia's goal is to connect foreign affairs officers whose experiences and knowledge are similar or complementary, enabling horizontal sharing of analytical—but also informal—information (Bronk & Smith, 2010). As an example, a diplomat assigned to a foreign country can connect to current personnel abroad, read their blogs, interact directly with them, ask questions, and therefore prepare for the upcoming assignment more efficiently than would be possible without these

1. See www.state.gov/m/irm/ediplomacy/.

tools. In turn, personnel who have specialized experience and knowledge about a specific region can chime in and help solve problems.

Evolution and Management of the Wiki

Access to Diplopedia is only granted with the appropriate Department of State ID and clearance (Department of State, 2009). Editing is only allowed with attribution, unlike Wikipedia which allows anonymous contributions. A neutral panel of knowledge experts is called in cases of conflicting information that cannot be resolved by the authors. Moreover, articles are seen as “rolling documents” that are continuously updated and linked to original sources, not as authoritative final products. Some Wiki pages are edited by the administrator to ensure that the data provided has an enduring value for the whole department.

Outcomes to Date

Measuring the exact outcomes of collaborative experiments using a Wiki is difficult. The standard operating structures are still in place and are used in parallel with innovative tools such as Diplopedia. Nevertheless, there is evidence that the use of Wikis can increase the speed, accuracy, and inclusiveness of reports created by State Department employees. For example, one respondent points out that multiple embassies around the world can contribute information to a departmental report “instead of e-mailing it to a person whose inbox is all clogged up.”

Case Study Two: DoDTechipedia

The screenshot shows the DTIC Online website interface. At the top, there is a logo for DTIC Online with the tagline "Information for the Defense Community" and a promotional banner for "Try our new beta SEARCH". Navigation links include Home, Site Map, Contact Us, and About Us. Below the logo, there are menu items: Home, DTIC A-Z, Submit Documents, Current Issues, Ask a Librarian, and S&T Resources. A search bar is present with a dropdown menu for "DoD Sites & Collections" and a "GO" button. Below the search bar, there are links for MultiSearch, Registration, Search Technical Reports, Information Analysis Centers, and Customer Support. A message states: "DTIC has a new public search. The prototype is running in parallel and will soon replace the current DTIC Online search. Please try our beta Search now and send us your Feedback." The main content area is titled "DoDTechipedia" and features two columns. The left column has a "Connect Now" button and text: "If you are already registered with DTIC, log on to DoDTechipedia with your Common Access Card (CAC) or your DTIC ID/Password." The right column has a "Register" button and text: "If you are eligible for DoDTechipedia, proceed to this site now to register your Common Access Card (CAC) or set up your DTIC ID/Password." On the right side, there is an "Announcements" sidebar with a list of items: Aristotle, DTIC Online Access Controlled, DTIC Scheduled Maintenance, DoDTechipedia, DTIC Annual Conference, Current Issues, DoD Root Certificates, Having Trouble Downloading, SBIR Toolkit, and Submitting Classified to DTIC.

Source: <http://www.dtic.mil/dtic/announcements/DoDTechipedia.html>

Goals of DoDTechipedia

DoDTechipedia was created in response to a requirement specified by Congress in the 2009 National Defense Authorization Act. It was designed as a tool to help science and technology-related employees create an internal community for improved information sharing.

DoDTechipedia consists of two parts:

- An internal part, at DoDTechipedia.mil
- An external part, found online at DefenseSolutions.gov

The goal is to support information and expertise sharing among Department of Defense employees who are interested in research and development, science, and technology, and to start matching employee knowledge with information gaps. Access is granted to all DoD employees with a common access card, and to DoD contractors. In addition, anyone in government with a valid interest in the exchanges can apply for access through an internal registration process.

Evolution and Management of the Wiki

DoDTechipedia is run and managed by the Defense Technical Information Center, a team of people including developers, administrators, and community managers that helps spread the word about the tool and helps users get up to speed so that they can become contributors. In addition, marketers—or so-called evangelists—distribute brochures and do road shows where they inform and train people in various defense organizations on how to use the Wiki tool.

The Wiki is used to support a crowdsourcing process for all science- and technology-related problems within the department. Anyone with a valid ID can contribute a problem description and all participants can then suggest solutions. The process starts out with the collection of coalescing information on the state of practice for each of the technology areas and describes what other sections within DoD are already doing with their projects.

The Wiki is tied to a library of technical research documents at the Defense Technical Information Center which provides government-funded scientific, technical, engineering, and business-related information by specific technology areas. The tool itself is used to support the crowdsourcing process, by helping people with a need for a specific technology think through their local problems, search for available solutions, or refine the problem statement to the point that it can receive funding. The best solution is then funded. As of early 2011, there have been:

- 400,000 page views
- 9,000 pages created
- More than 20,000 DoD employees signed up as users
- Editorial team assembled, consisting of 24 “gardeners” (editors who review documents, merge them with existing documents when necessary, or suggest connections)

Outcomes to Date

This Wiki is used to fill the gap between technological needs and experts’ knowledge. Bringing the two together has helped increase awareness of the existing needs within DoD which can then be matched with available solutions. Moreover, the Wiki allows DoD to include industry in the Request for Information process of an acquisition early on, so that offers can be made to match needs. As of early 2011, DoDTechipedia had over 20,000 users.

Wikis for Inter-Organizational Use

Case Study Three: Intellipedia



Source: <http://en.wikipedia.org/wiki/Intellipedia>. Intellipedia is an application that is only accessible with ID via IntelLink, the intelligence community's Intranet.

Goal of Intellipedia

Intellipedia was started in 2005 as a pilot project and was officially launched in 2006. Today, Intellipedia is a brand name for a range of tools to help the United States intelligence community improve the way it captures and manages information. Intellipedia is a synonym for a whole host of interactive Web 2.0 applications used among agencies within the intelligence community. The Wiki element is based on an initial idea described in a seminal article by Cal Andrus, called the "The Wiki and the Blog," which received the Galileo award. The award recognizes unclassified papers describing innovative solutions in the intelligence community (Andrus, 2005). The core idea Mr. Andrus provided in his article was that the intelligence community needs access to diverse information resources for a specific problem and also needs the flexibility to discuss and write freely about these problems within the community.

The goal of Intellipedia is described by one user as providing new ways of capturing knowledge of "what we know, what the intelligence community knows about various topics." Recent information sharing failures have exposed the need for collaboration within the intelligence community, instead of current operating procedures in which "what we do right now is buried in e-mails, attachments and shared occasionally at conferences." The MediaWiki application used to host Wikipedia allows linkages between a prospect or an idea and the users who are interested in it. The information-sharing environment helps to discover areas throughout the intelligence community where people are working on similar issues and might be able to contribute to the overall organizational knowledge base.

Evolution and Management of the Wiki

Content provided on Intellipedia is directly linked to specific people using a "breadcrumb concept" that allows for deeper knowledge discovery even when content is classified and the searcher's security clearance does not allow full access. Links to the initial authors and contributors' contact information allow users to find people who are working on similar problems. As one Intellipedia manager puts it, Intellipedia helps to "... allow connections of the who with the what and the what with the who."

Participation in and contribution to Intellipedia are voluntary. Contributors need to actively decide that they want to use the Wiki to capture their knowledge, even though their contributions might not be rewarded immediately by their home organization.

Outcomes to Date

Outcomes are difficult to evaluate, as contribution is still voluntary and impact on individual knowledge sourcing and sharing is hard to measure. The intelligence community is making efforts to change from a “need to know” to a “need to share” collaboration culture, which is one of the most challenging tasks to accomplish for any government organization. The intelligence community itself consists of many relatively independent organizations that were trained to safeguard proprietary information. Therefore, adoption of innovative processes within the standard operating procedure is a time-consuming task. Innovation does not happen overnight and cultural changes will take time.

Case Study Four: GCPedia (Government of Canada)

The screenshot shows the main page of GCPedia, a collaborative work tool for federal employees. The page features a header with the Government of Canada logo and navigation links. A central quote by Vince Lombardi reads: "Individual commitment to a group effort- that is what makes a team work, a company work, a society work, a civilization work." Below this, a paragraph states: "GCPEDIA is a collaborative work tool for federal employees. Accordingly, the opinions and content presented here may not always represent the government's views. The Government of Canada disclaims any liability for any actions taken as a result of content on this wiki." The page also includes a search bar, navigation links, and a sidebar with "GCPEDIA 101" and "POPULAR" sections.

Source: http://spaghettitesting.files.wordpress.com/2010/04/gcpedia_main_e_2010-04-28.png

In 2008, the Government of Canada launched a government-wide Wiki modeled after Intellipedia, called GCPedia. It is located in the Treasury Board under the authority of the Chief Information Officer and was launched with the goal of increasing inter-organizational knowledge sharing and collaboration. In 2009, a report by the Canadian Privy Council stated that the Canadian Public Service needed to adopt Web 2.0 tools and explicitly mentioned GCPedia as one of the tools that should be applied. In addition, GCPedia received attention in 2010, when Wayne Wouters, Clerk of the Privy Council and Secretary to the Cabinet, joined GCPedia by creating his personal user page and starting to invite ideas from Canadian government employees.

Goals of GCPedia

GCPedia was created for several reasons. Canadian public sector employees articulated the need for a collaborative space in which to share knowledge. Similar to governments everywhere, knowledge is mainly stored and archived in separate knowledge silos operated by individual agencies, so-called silos within silos, that make it difficult to identify what knowledge is available where. The general sense is that government organizations do not always communicate the

knowledge they possess and government employees are therefore constantly reinventing the wheel. GCPedia provides an open collaboration space with the support of various departmental CIOs and individuals who work together, share knowledge, co-produce material, and make it available for comment. The chief business reason for the creation of GCPedia is to share and reuse existing knowledge in order to increase the efficiency and effectiveness of government work.

Moreover, the hope is that employees searching for knowledge will spend less time recreating work that has already been done elsewhere. Efforts can then focus on improving existing knowledge, rather than recreating it. Ultimately, GCPedia's objective is to create a national inventory of the Canadian government's knowledge base.

Evolution and Management of the Wiki

Initially, GCPedia started as an informal initiative. In the early seeding phase students created 300–400 initial pages, documenting the Wiki project, a charter of Wiki project plans, its architecture, rules on how-to-do-it, assurance on policy compliances, training, and initial ideas on how to generate value in using the Wiki.

Contributions can only be made by government employees who have access to the Canadian government network. To establish a high level of transparency and accountability, only attributable contributions are allowed.

So far there are no compartmentalized security levels and all contributions are open to all contributors. The rule of thumb for the type of information allowed is: "If you can e-mail it, it can go on GCPedia."

Knowledge sharing is defined very broadly and the initiators are mostly letting the contributors use the platform for their purposes, allowing them to observe the emerging patterns of collaboration. One area in which an apparent need was met was the coordination of classified documents by policy groups who are now using GCPedia to coordinate their efforts.

The general approach follows a simple rule: "You don't need permission to do your job"—and part of a government employee's job is collaboration and knowledge sharing. The use of this innovative, collaborative tool therefore follows the rule: "You don't need permission to use a word processor."

Very few incentives for contributions are given. The adoption is mainly a result of word-of-mouth recommendations by colleagues.

Outcomes to Date

According to some of the active contributors and GCPedia evangelists in the Canadian government, collaboration among government employees is organized by formal e-mail lists and results are sent by e-mail to supervisors. In those cases where the formal knowledge-sharing process does not get an employee access to the necessary knowledge, some revert to informally shared knowledge via external channels such as Yahoo Groups.

GCPedia has demonstrated that public servants have an interest in sharing information and collecting feedback on their projects. Some have started to build collaborative and interdepartmental communities of practice (Janelle, 2009). Efforts are put forward to train more and more public servants to increase the knowledge about the tools and the awareness of potential benefits for the use of collaborative technologies.

A similar initiative to GCPedia is under way in the Australian government. There, the GovDex Wiki is used to create collaborative workspaces for government employees. A Wiki for the co-creation of content is combined with a task and issue tracker to improve collaborative project management activities (see www.govdex.gov.au/).

Wikis for Engaging the Public

Case Study Five: BetterBuy Wiki at GSA



Source: https://betterbuy.fas.gsa.gov/index.php/Main_Page

Goal of BetterBuy Wiki

The BetterBuy Wiki is located in the Office of Assisted Acquisition Services of the General Service Administration (GSA). The GSA is responsible for a worldwide program of people who are contracting officers inside or outside government, government employees, private managers, financial managers that help other agencies procure information technology, and professional services providers. One of the largest customers is the Department of Defense. GSA supports a wide range of civilian agencies and has an operating budget of about \$4 billion a year.

A Wiki concept was developed in 2010 to address the fact that in a time of increased complexity in the federal acquisition process, there is a shrinking acquisition workforce whose skill sets are not keeping pace with the intricacy of the acquisition process. A Wiki was therefore chosen as the place to exchange information and share experiences with the acquisition process and its challenges. Moreover, knowledge is organized and stored in “stovepipes” in each organization that make it very complicated for the private sector to conduct business with the federal government. To reduce the high degree of uncertainty connected with the process, all stakeholders were invited to exchange experiences with each other, learn from their experiences dealing with different federal agencies and industry, and ultimately improve the acquisition process and get better outcomes for government and for the taxpayers.

Evolution and Management of the Wiki

The process started with a discussion group on GovLoop.com (a non-profit social network of mainly United States public sector employees) called “Acquisition 2.0” (for more information see www.govloop.com/group/acquisition20) whose purpose is to share innovative ideas and

experiences in the federal acquisition process. For example, the group discussed how collaborative technologies can be applied to a specific product specification to make the definition and solicitation process more open and participatory.

The group soon had over 600 members with federal, state, local, and international representation, including academics. Over time, it generated ten initial ideas, among them one on how to use collaborative technologies. In collaboration with the National Academy of Public Administration and The American Council for Technology, the Betterbuyproject.com was piloted to test how collaborative technology can be used to make the federal acquisition process more open, participatory, collaborative, efficient, and effective. In the initial stage it was created as a user platform to allow members to submit, comment, and vote on ideas in three different phases: requirements definition, market research, and the pre-solicitation and solicitation phase. This has ultimately resulted in a pilot project that will, if widely adopted, change the federal acquisition process: During the pre-award phase, the process will be open to the public, allowing suggestions to come from anyone who wishes to provide them.

Over 140 different ideas on acquisition-related topics were submitted, and thousands of page visits from citizens across the country were logged. Among the suggestions was the idea of employing a Wiki to collect requirements input, using microblogging via Twitter to update the procurement status, and adding web passes to make question-and answer-sessions with industry representatives possible.

The GSA procurement process was the first choice for a Wiki to develop ideas for reducing the complexity of the federal buying process. So far, three different requirements have been posted:

- A background section explaining what GSA is trying to buy and what the environment is
- An RFP section
- A solicitations section

Twitter is used to let people know when a draft solicitation document is uploaded and is open for comments on the Wiki, and to encourage industry members to take a look at the requirements, edit, and provide their own ideas. GSA employees posted questions regarding the requirements and encouraged industry members and vendors to answer on how to procure a product or service specifically, what new ideas the market was offering, and what it was that GSA needed.

An editorial team is in place that includes a project manager, contracting officer, and contract specialist. The editorial team has assigned roles to monitor input, respond to input on the Wiki, collect and structure the information, and vet the content together with legal counsel. The team then decides whether and how to respond to comments on the Wiki, or whether to simply take the information and go back to internal customers or managers who are running data.gov and share all the comments with them, and then decide how to make changes to the solicitation documents. The input solicited through this process will inform the final solicitation document that is published as the formal request for a proposal.

Outcomes to Date

Currently, the traditional procurement processes are still being used, but augmented with collaborative technologies. The Wiki approach allows for anonymous commenting, but the account holders still need to provide all account information, such as name, industry, organization name, and affiliations, for internal purposes. For accountability purposes, GSA must understand whether larger companies may try to steer the competition toward their own technical solutions. Nevertheless, the public record of a specific editorial contribution on the Wiki

page will be anonymous. Because the page is a public commenting system, all competitors can notice if a specific vendor is steering toward a single company solution, and all contributors can publicly comment on it.

The Wiki process has had an impact on existing operating procedure: The traditional solicitation process puts out an internal requirements document known as clear path hosting to ask experts internally if, for example, there is a better way to use technology in the given instance. The process usually receives very few comments. The new open commenting form, on the existing acquisition strategy alone, has generated quite a bit of input. It creates a dialogue between government and industry, helping GSA to get the best solicitation available and giving industry access to as much information as early as possible to make bidding proposal decisions and give the best possible solutions when they do bid.

The success of the BetterBuy Wiki project has led to similar initiatives by other agencies. As an example, the U.S. Coast Guard has started a Wiki to seek ideas about streamlining their RFI and FFP processes. A MediaWiki platform is used to address issues about major IT projects. The information collected and provided is used to build a better informed acquisition strategy for new IT projects. (See <http://wiki.citizen.apps.gov/CGLIMS/>.)

Case Study Six: Watershed Wiki (EPA)

The screenshot shows the EPA Watershed Central website. At the top, it says "U.S. ENVIRONMENTAL PROTECTION AGENCY" and "Watershed Central". There is a search bar with "All EPA" and "This Area" options. Below the search bar, it says "You are here: EPA Home » Water » Wetlands, Oceans, & Watersheds » Watersheds » Watershed Central". The main heading is "Watershed Central" with a sub-heading: "-Designed to provide state, local, and voluntary watershed management entities with a variety of tools and information that will aide in successful watershed management." Below this are four buttons: "Watershed Management Process", "Wiki", "Calendars", and "New User". There is a "News|Recent Updates" section with the text: "Watershed Central is up and running!! Check out the [Basic Information](#) page for more." To the right of this text is a 3D illustration of a watershed. At the bottom, there are links for "EPA Home", "Privacy and Security Notice", and "Contact Us", along with the URL "http://www.epa.gov/owow/watershed/watershedcentral/" and "Print As-Is". The page was last updated on November 19, 2010.

Source: www.epa.gov/owow/watershed/watershedcentral

Goal of the Watershed Wiki

The EPA Watershed Wiki is part of a larger project called Watershed Central. The goal of Watershed Central is to provide technical guidance and information about non-point source pollution—all pollution that runs off the land or falls from the atmosphere. The Wiki is used to collect maps, models, GIS applications, and technical guidance information. In addition, Watershed Central provides states with information they need to apply for pollution-fighting funding. Beyond the enumeration of tools, data, and applications, it became clear over time that local experts and groups also need a space to collaborate with each other and a platform on which to share previously unrecorded information.

Evolution and Management of the Wiki

The Watershed Wiki is connected with a host of other social media applications, such as the Greenversations blog, Twitter accounts, and shared calendar of events. New users are required to create login information for a pre-screening. Access to the Wiki is given relatively liberally to encourage widespread participation among readers and potential contributors.

The editing process follows an internal policy set up through disclaimers, although so far no malicious content has been posted to the Wiki. The internal steering committee reviews recent contributions on a regular basis, provides additional formatting or minor editing, checks tags, and then marks the additions as controlled. As one of the project community managers puts it, “We do have a set of eyes that looks at everything that goes on the Wiki. And part of that is to make everyone comfortable with something like [the Wiki] on EPA’s website.”

In order to encourage participation and show examples of appropriate content, the Wiki was seeded with initial content. After that first step, the Wiki was supplied by the steering committee with additional articles, useful models, and other information. Then the Wiki was advertised on the EPA homepage, news releases, newsletters, presented at Watershed conferences, and discussed in other public announcements through regional EPA offices.

Outcomes to Date

The Watershed Wiki provides a collaborative space for regional and local Watershed specialists to share their knowledge. Before the Wiki was introduced, sharing was accidental, mainly occurring through newsletters or conference visits. Now the regional communities have a space not only to display the newest information, but also to discuss the content and exchange experiences across state boundaries. EPA is making an effort to distribute information provided in one state across regions and is therefore serving as a knowledge hub and catalyst for knowledge sharing within the entire community.

Case Study Seven: The Future of Melbourne Wiki

Source: <http://www.futuremelbourne.com.au/wiki/view/FMPlan>

The CrisisCommons Wiki

Non-profit organizations have also used Wikis as an important tool for their activities. For example, the CrisisCommons Wiki is a project and knowledge management tool that supports and coordinates geographically distributed technology projects for emergency relief situations. The founders envisioned an open forum for practitioners, first responders, humanitarian aid workers, IT professionals, academics, and the private sector (Brewer, 2010; Goetz,



Source: http://wiki.crisiscommons.org/wiki/Main_Page

2010). The goal of the network is to use the IT skills of volunteers who want to help out in the aftermath of a disaster, but are unable to be on-site. The first project was initiated as a response to the Haiti earthquake; tools and learned practices were reused after the 2010 Chile earthquake.

The initial CrisisCommons meeting attracted over 400 participants, who then started their own local CrisisCamps on the U.S. east and west coasts. The concept was quickly picked up in several international locations, providing a context and meeting platform for so-called civic hackers. The initial meeting included conversations with representatives of Google, Yahoo, and Microsoft and resulted in the formation of a partnership with the World Bank called “Random Hacks of Kindness” (Goetz, 2010 #2450). The decentralized groups all work on a volunteer basis and there is no specific task that they all have to agree on, nor must they work toward a joint goal. The relative openness of the meetings leads to creative idea generation and an entrepreneurial culture among the participants.

The group coordinates activities and outcomes through a host of social media applications: a Twitter account (@crisiscamp), a Facebook group (<http://www.facebook.com/crisis-commons>), blog feed (<http://crisiscommons.org/feed>), Eventbrite to schedule events, and WordPress blogs used by local teams to share information.

The CrisisCommons Wiki provides mostly a project and knowledge management platform to collect and coordinate project ideas emerging from diverse and decentralized locations across the U.S. and from all global initiatives. The Wiki provides a workspace for local project teams to coordinate their own projects. The content is evolving with emerging project ideas and was described by its co-founder Noel Dickover as “pure chaos at times.” The projects are self-selecting—whatever evolves into larger projects that are supported by several project members—or are dropped after a while. Over time, projects rise in profile and attract more supporters, resulting in applications that are actively in use during crisis relief situations. The CrisisCommons administrators only intervene insofar as to make suggestions on how to merge projects or consolidate Wiki pages.

A host of technological applications have resulted from the emergent collaboration among the CrisisCommons participants and their interactions on the Wiki platform. By using open-source tools, such as situational awareness tools or OpenStreetMaps, applications for real-time information provision are created. Examples include a Haiti hospital capacity finder and the Haiti Diaspora, which collects stories of how people survived the earthquake. The Wiki serves as a coordination platform to track the maturity of each project and to find volunteers. In an ongoing project, the lessons learned from large-scale responses, such as Haiti or Chile, have been applied to the local context as well. Using the Twitter hashtag #eastsnow, volunteers are tracking how social media applications are used by citizens and government agencies to connect with each other and share information during the snowstorms of the winter season 2010–2011 (see http://wiki.crisiscommons.org/wiki/East_Coast_Snow_AAR).

Goal of Future of Melbourne Wiki

The City of Melbourne in Australia launched a Wiki as an organization-wide project to help with strategic planning and to embrace a broader spectrum of issues beyond land use development and transportation. The project team expanded the traditional definition of city planning to include social, economic, and cultural dimensions, as well as a plan for the next ten years of city development. The result is the “Future of Melbourne Wiki.”²

Evolution and Management of the Wiki

The project team realized early on that existing planning methods were not inclusive enough and that planning itself was mostly a “black box” for citizens. Therefore, in partnership with the University of Melbourne, the city set up a Wiki as a collaboration space for users with special areas of interest to work on community engagement and city planning from a number of perspectives.

The citizens were included in the public consultation phase, six public panel forums at which a wide range of issues were explored. This initial phase also included a pilot at the University of Melbourne and included researchers and academics. The academic community focused on certain specific research and campus development issues that they wanted to get on the agenda.

The overall visioning project was designed as a highly collaborative process with the goal of including all stakeholders around the city. First, a reference group was initiated as the sponsor for the process; it included various community groups: art, business, science, education, environment, etc., to take on leading roles in the Future of Melbourne process.

In addition, public managers from various parts of the city council were enlisted in a working group to get them to engage in their networks in the community. The goal is to expand network engagement to include interested parties in the visioning process and ensure a broad-based, comprehensive engagement with the community in a genuine collaborative approach.

All conversations and public meetings were transcribed from recordings of events, then used along with written submissions for initial population and prime content for the Wiki: “Here is what you have said, now work with us to help fashion this into a vision and strategy for the future.” In addition, full sets of protocols approved by the city council were posted as background information for the citizens.

Outcomes to Date

Overall, the project team worked closely with the citizens to ensure quick turnaround, but also direct engagement with the content that was provided by all contributors. An editorial team worked constantly to approve comments and posts as soon as citizens made them. The editorial team reads the posts, makes suggestions to whoever posts the material (better located in other parts of the Wiki) and moves or deletes material after negotiations and interactions with those who posted it. The goal of the editorial team was close engagement with those who contributed in order to manage the risks: fast feedback cycles were used, so that citizens never had the impression that their comments were not heard or that the process was a black box into which their ideas disappeared.

2. See http://www.futuremelbourne.com.au/wiki/pub/FMPlan/WebHome/Future_Melbourne_Wiki_Post_Implementation_.pdf

Case Study Eight: WikiPlanning, City of San José, California

Home About Us Services Thinking Green Help Contact Us

Wikiplanning™

Welcome to Wikiplanning!

Now that you're here, take the next step and sign into your community's project.

From there, you'll be guided through a rewarding interactive experience, where you'll learn all about the plans that are being considered for making your community a better place to live.

You'll also have lots of opportunities to offer your personal feedback on what these issues mean specifically to you.

So join in with your neighbors, and let's get started.

Get Started Now ▶

News & Reviews

Wikiplanning is taking planning sessions into the 21st century.

Carol Coletta, Smart City Radio

Both the total number and the demographic distribution of participants establish this technology as a very effective outreach tool. The 4,463 participants swamp the total number of distinct participants that we've had in our 2+ year process!

Lee Butler, Senior Planner, City of San Jose

Wikiplanning has been the most

Source: www.wikiplanning.org

Goal of WikiPlanning, San José

The WikiPlanning project of the City of San José, California, is part of its online effort to improve civic engagement in urban planning initiatives. The project team describes the WikiPlanning project as a “virtual charrette” for city planning. According to the project website, a virtual charrette is defined as a “collaborative session in which a group of designers drafts a solution to a design problem. Charrettes often take place in multiple sessions in which the group divides into sub-groups. Each sub-group then presents its work to the full group as material for future dialogue. Such charrettes serve as a way of generating a design solution while integrating the aptitudes and interests of a diverse group of people.” (See: <http://www.wikiplanning.org/index.php?P=virtualcharrette>.)

The San José Wiki was set up with the goal of incorporating the values of the community into major architectural changes and to ensure that the city was reflecting the values of the community in the final plan. The Wiki approach allows the city to reach out to different neighborhood groups, businesses, and other stakeholders and to ask people to post information in the form of either photographs or comments on the message board. Other citizens are then allowed to answer questions or provide other input.

Evolution and Management of the Wiki

At the beginning of the project, citizens responded to a fifteen-question initial survey. The results were then used to develop the policies, actions, and goals that were ultimately incorporated into the plan.

In the next step, a collaborative session was initiated in which a group of designers drafted solutions to city planning problems. Citizens were then asked to discuss the drafts in multiple sessions in which the citizen groups divides into sub-groups (charrettes). Each sub-group prepared material for future dialogue. This form of citizen deliberation helps to form solutions that

carry the values of the citizens and integrate all interest groups. Throughout all the steps of the deliberation, intermediary results were posted on the Wiki and citizens were allowed to leave comments and questions—in this case the organizers decided that contributions could be optionally anonymous, or attributable to a specific citizen. The process is described by the project team as consisting of the following steps: “Teach, Discuss, Gather Input, and Build Consensus.”

In addition to the deliberation results, other multimedia content and events were constantly provided and posted to the Wiki to support the decision-making process: multimedia learning sessions, online chat events, message boards, surveys, or podcasts; plans, status of the discussion in the community, and background information for citizens who were not necessarily engaged in the process or are not usually voluntarily involved in these types of planning processes.

Outcomes to Date

The major outcome of this charrette-like planning process can be seen in the high degree of inclusiveness achieved by the initiative. Feedback from the community was incorporated into the new city plans and the results were posted, presented, and discussed at public meetings and task force meetings. Information collected was maintained and presented on the publicly facing side of the Wikiplanning project.

The outcomes of the Wikiplanning process in San José included:

- A higher degree of support for the final solutions
- Integration of values and interests from all stakeholders
- Inclusion of younger people, who usually don’t take part in public meetings or any kind of policy-making processes
- Convenience of access and participation during off-hours

Case Study Nine: ManorLabs, City of Manor, Texas

Source: <http://wiki.cityofmanor.org/>

Goal of ManorLabs Wiki

The goal for the Wiki of ManorLabs, City of Manor, Texas, is to provide a collaborative environment for citizens to share their ideas, edit existing content, and comment on ongoing or future projects. For the city itself, it is a way to solicit feedback with a very low financial investment (\$200 to set up a WikiSpaces page, and additional staff time spent as part of the day-to-day operating time).

Evolution and Management of the Wiki

The city posts information about ongoing projects and asks citizens to provide feedback. The content of the Wiki itself is publicly available (<http://wiki.cityofmanor.org/>). To edit the content or leave comments, citizens are asked to create a login on their own to provide their feedback on ongoing projects. In Manor, the Wiki was seen as a way to not only collect different views from employees within the government organization, but also to collect views from a wide range of citizens and interest groups. Manor itself has the advantage of a small city with approximately 3,600 citizens and 35 government employees. Although there are regulations in place, so far no major cases of content or conduct violations have called for additional regulations.

Engagement was triggered mainly by showing citizens how to use the ManorLabs platform in meaningful ways. The city made an effort to show that this was not just a public relations ploy, but a platform for citizens to directly engage with government officials and among themselves. Progress on ideas is documented and the content and ideas citizens are providing does not seem to disappear into a black box. Topics discussed on the platform have also been reflected in newspaper articles and presented at community events. These events are simultaneously used for training: a short presentation of how accessible and easy to use the platform is helps citizens to lower initial technology anxieties and jump on board. Training is also carried out in high schools to integrate ideas and support early education on how to interact with government in innovative ways.

The Wiki administrators monitor the content so that vendors and companies are not using the space to promote their own products. Therefore, moderating the content and weeding out inappropriate postings that might derail from the initial purpose has become an important element in keeping the Wiki environment attractive for citizen contributions. As former Assistant City Manager and CIO of Manor, Dustin Haisler, puts it: "... our view [initially was] that anyone can participate, and so we had really no moderation form. We changed that as we went on, because we realized that there were too many companies that were abusing that, and it got to be too much work."

Manor is unique in its approach to initiating citizen engagement with the Wiki platform, but also in how to keep up momentum. With the use of game mechanics, participation is rewarded and sustained over time. Citizens receive points for checking in online, as users do on commercial social media websites such as FourSquare or Gowalla. With every login, users receive points that they can trade in for tangible products. For example, they can become mayor for a day, accompany the sheriff for a day, or receive other honorary products. The internal reputation and ranking system fluctuates based on the values citizens have added to the Wiki.

Outcomes to Date

Going the Wiki way not only increased the transparency of government operations, but also reduced the incoming phone calls of citizens: it is now easier for citizens to go online at a time that is convenient for them, inform themselves about the progress the city has been making on projects—and evaluate how their taxpayers' money is used. In describing the Manor initiative, Haisler said:

There was really no collaboration [with citizens] before. Our community was very disconnected, laid out geographically... There was a big disconnect between both sets of people [of the two different parts of Manor] as well as with individuals with the government. We had a very low attendance at council meetings, and people were just disconnected, and no one wanted to run for council.... So what we tried to do was to bring government to them through the use of technology.... It really turned the community around and [resulted in] more people with a vested interest in the community and you get really hot discussions on the threads on Manor Labs with some of the ideas that are coming in from the city. And we love it, because it's really shoring up engagement, and people to take an interest in their community and they're empowered to want to help their community and contribute.

As a result of the Wiki, Manor was able to not only engage formerly disengaged or even completely disconnected groups, but to access "baby boomers" who are now heavily invested in discussions and contributing new ideas.

Challenges and Best Practices for the Use of Wikis in Government

Challenge One: How do you meet legal requirements for inclusiveness?

Often public managers are hesitant to jump on the social media bandwagon, so it is not surprising that there is also hesitation to start using Wikis. It is—as one of the Wiki managers said—“still an uphill struggle to do it.” To remedy this, GSA has developed model contracts with a series of social media vendors that can be easily adapted to each agency and department in the U.S. government (Aitoro, 2009; GSA, 2010). The result are Terms of Service (TOS) with providers of no-cost social media products to comply with existing federal laws and government practices and needs (for more information see: https://forum.webcontent.gov/?page=TOS_FAQs).

For example, many public managers are concerned that social media tools—among them Wikis—are not compliant with Section 508 of the Rehabilitation Act (Bretschneider & Mergel, 2010).³ This is relevant both for internal and external use. Section 508 requires that the federal government has to purchase and maintain information technologies that meet the accessibility standards of the Act and make online information and services fully available to all Americans who have disabilities. The model contracts with social networking service providers and the applications listed on the citizen.apps.gov website all comply with the accessibility requirements and can be adopted across all levels of government (for more information see Chapter 4 of GSA's social media handbook).⁴

Another element of access concerns multilingual inclusiveness. Especially in areas with multiple language needs, translations into Spanish or French have to be considered in order to comply with Executive Order 13166, “[Improving Access to Services for People with Limited English Proficiency](#)”—abbreviated as LEP.⁵ This effort might in turn increase inclusiveness.

Challenge Two: How do you ensure privacy and security of content?

In addition to the legal issues, there are also privacy concerns that present another challenge to public managers who want to adopt a Wiki approach in government. One response to this challenge is to seek to mitigate the risks of leaks or accidental exposure of proprietary information. Managers should work with legislative staff and lawyers to avoid constant scrutiny. Moreover, it is important to set up an information-vetting process to address all privacy concerns. For an in-house Wiki, users should be reminded that it is an internal application that only runs on the firewall-protected Intranet—data should, in theory, be inaccessible to anybody outside of government.

3. For more information on Section 508 see: www.section508.gov/ and <http://www.gsa.gov/portal/content/101096>

4. GSA social media handbook: www.gsa.gov/graphics/staffoffices/socialmediahandbook.pdf

5. For more information on LEP see: www.justice.gov/crt/about/cor/Pubs/eolep.pdf

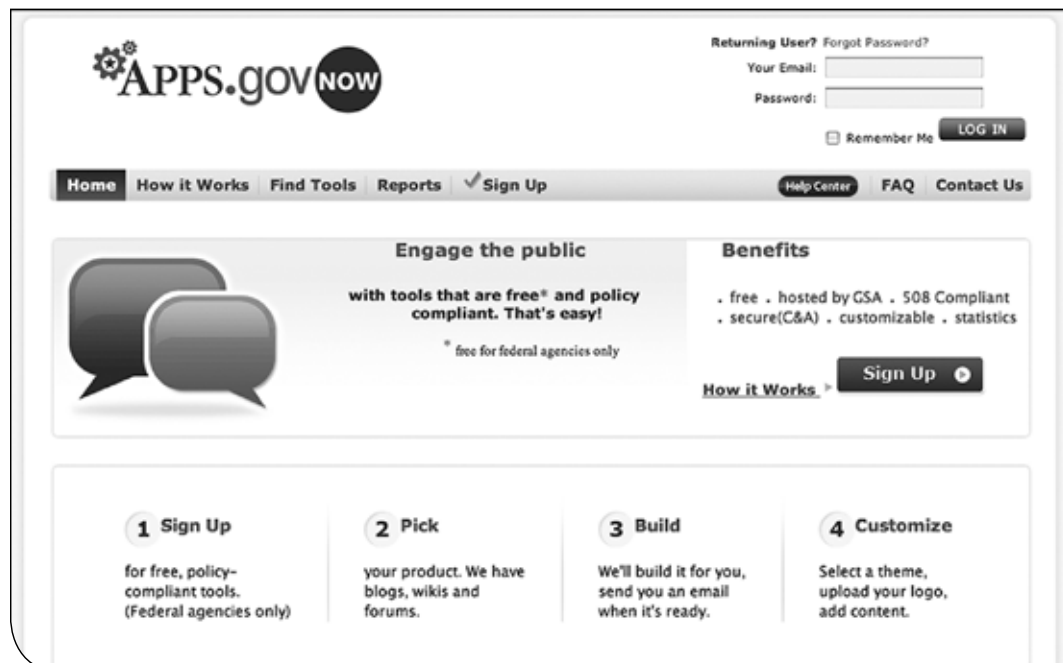
Challenge Three: How do you respond effectively to different levels of digital literacy?

For public sector Wikis, inclusion is a very important issue. Citizens can very easily be excluded because of digital literacy issues, and therefore find no alternative to the information collaboratively collected, commented on, and reengineered on a Wiki. The interactivity with other citizens who are solely contributing and collaborating on the Wiki is lost for those potential contributors who aren't able to access the Wiki. A remedy for this is to use other tools, such as e-mails, phone, or other forms of surveying the public participants.

Moreover, digital literacy or a low acceptance rate of new technological tools is also a problem among employees. Innovation takes time to spread. The suggestion is therefore to use a Wiki approach in-house first. Select a group or topic that lends itself to a collaborative approach. After the first steps are taken in-house with a friendly group of participants who are willing to help work out the technological and cultural challenges, the Wiki access can be open to other departments. The last step should be to include citizens and make the Wiki publicly available where appropriate.

The success of publicly facing Wikis has been picked up by the General Service Administration. The apps.gov website provides helpful advice on how to select the right tool for different purposes. GSA is making it easy to choose the right tool by providing guidance on available policy-compliant tools and their purposes in the public sector. After selecting a tool that helps to fulfill their purpose, agencies can make changes to the design and customize the Wiki with their own logo and additional customized widgets. A blog helps users to learn about Section 508 compliance, how to monitor the security of the site, and how to understand the analytics provided for each site. The FAQ section provides updated guides on how to administer a MediaWiki or a TWiki (see <http://citizen.apps.gov/faqs.php> for more information). The tools provided on the citizen.apps.gov website are free to federal agencies. Usage numbers per tool and by agency are provided on: <http://citizen.apps.gov/usage.php>. The following screenshot shows the apps.gov process on how to sign up, pick the right tool, and customize it.

Apps.gov NOW—Tool Statistics



Source: <http://citizen.apps.gov>

Best Practices to Encourage Participation

One way to understand what is needed and what can be asked of contributors is for **managers to use the tool themselves** to create energy and vibrancy so that others start finding value in it. Share the value and provide useful knowledge that makes it worthwhile for agency employees to come back on regularly. It will help them to incorporate the Wiki into their day-to-day routines. Ultimately, the goal should be to create an environment that others want to join. As one of the Wiki managers said: “Create the party everyone wants to join. No one wants to be the first or the last one at a party. Create a very basic joyful construct that social creatures want to be involved in.”

For specific tasks—such as public ideation processes on WikiPlanning or Future of Melbourne Wiki—a **time limit for public contributions** increases the likelihood of contributing. People feel that this is their one shot at participation during a restricted time frame. Allow for brief windows of opportunity and publicly announce this participation event. Promoting the project in newspaper articles or during face-to-face forums increases the likelihood of online participation. As one Wiki manager states: “Engagement seemed to [be] incentive enough.”

Another remedy is to **use “gardeners” or moderators** to actively keep the platform clean of “trolls” who are following their own agenda but are not contributing on topic. An easy way to do this is to require only directly attributable contributions by users who have registered with a confirmed e-mail address. Anonymous contributions should not be allowed in a Wiki environment where a sense of online discipline and netiquette is necessary. This will help to increase the value of contributions and avoid chasing away potential contributors. Some industry contributors might be concerned about revealing too many insights that are attributable to their companies—in those cases, the Wiki administrator can post the information on their behalf without direct attribution.

The already **existing material needs to be easy to read, accessible**, but not too perfect, so that potential contributors find it easy enough to comment and get over the first bump of writing and contribution anxiety. People feel more comfortable initially making minimal contributions, such as typo changes and correction to the material, before they become willing to contribute whole pages of new content. Contributions need to be manageable for both contributors and the editorial team, so as not to create information overload and early frustrations.

A reference group whose members are highly regarded in the organization can be helpful in supporting the project. They will be the champions who bring more people on board—showing their commitment might in turn encourage others to follow. As an example, political bodies might need to step back to allow for free, open, and creative knowledge sharing. Bringing in high-profile users, who lead by example, can also help to convince others to share their knowledge.

Another best practice is to **actively thank contributors**. People need to feel the satisfaction that their contribution made it into the formal part of the adopted final document, the vision of the new city or the new policy, or that their idea was endorsed by the city council. At the end, contributors generally need to feel that they are being heard and that they made a difference spending time on their contributions. Other recognition techniques include badges or highlighting people by name.

Challenge Four: How do you ensure the integrity of information?

Public managers will also face the challenge of responding to concerns about information overload and the potential loss of control over information contributions. As one Wiki administrator puts it, “I think the bigger barrier to entry is that people think the minute they put something out there, people will jump all over it and mess it up.”

In most cases this is a relatively unnecessary concern, because most people search for information on Wikipedia or other publicly available, specialized Wikis. They mostly read rather than contribute actively to content. Users rarely leave comments or edit content on the web.

But even when they do, it does not necessarily detract from the original content. The good news, based on the experiences of Wiki administrators, is that users are usually adding value and almost never vandalize the existing content. In an interview, the Wiki manager involved in the U.S. Coast Guard's Logistics Information Management System (LIMS) program recalled that he had to ban one single user, because he was pushing his own agenda instead of adding value to the designated content areas.⁶

A response to this challenge is to explain and help to diffuse the fear of losing control by establishing clear guidelines and communication policy. Managers should explain in detail how Wikis work and help coworkers understand the logic of the technology, and that there is always a way to revert back to previous versions, that content is never lost—even though it might appear to be on first view. This will raise their awareness and confidence in the tool itself.

Challenge Five: How do you encourage participation?

The most difficult challenge is to create a new, collaborative culture that respects the existing hierarchical knowledge-sharing culture established in any government organization. The traditional forms of collaboration, networking, knowledge sourcing and information sharing are very much organized along clear reporting structures and usually flow bottom-up. The emancipated and open knowledge creation and sharing approach of a Wiki environment is—on the surface—challenging, and presents a paradox for public sector organizations. This paradox must be addressed because whenever new technology (or any kind of innovation) is adopted, the benefits won't be visible right away; improvements may be apparent only in the long run. There might even be an increased workload at the beginning, when parallel systems have to be in place and the Wiki itself needs an initial set-up phase.

Especially in environments where knowledge comes prepackaged through the hierarchical reporting structure or is embedded in clear standard operating procedures, employees might not see the need to collaborate. Without an existing offline collaboration culture, it is difficult to introduce online collaboration.

Moving to an open collaboration format will be challenging no matter the context. One remedy to this is to highlight how a Wiki environment can be an improved method of reaching everyone potentially interested in contributing—moving toward a true crowdsourcing practice of knowledge sharing in the public sector. It is also necessary to find ways to keep the public and stakeholders informed so that they are not excluded from new collaborative tools.

It could be helpful to highlight that existing processes are expensive and time-consuming for all stakeholders. A Wiki environment can help to make processes more efficient. A recommendation from seasoned Wiki administrators is to start with closed collaboration spaces where appropriate and start with a password-protected Wiki first. Users can first get into the groove of working collaboratively online in a closed environment. After a while, the team might decide to move the Wiki into the open space and share it with a broader audience.

Allowing for and incentivizing online participation is one of the toughest goals to accomplish—especially in the public sector. There are many myths surrounding the extent to which people want to share or “overshare” their knowledge online. The main challenge is how to get smart people involved and incentivize them to share their knowledge, while avoiding contributions from those who don't actively contribute valuable knowledge.

6. Interview with Captain Dan Taylor, Federal News Radio, February 14, 2011: http://www.federalnewsradio.com/?sid=2268220&nid=150&_hw=coast+guard+wiki.

Take, for example, contributions to the online encyclopedia Wikipedia. They follow a power law distribution of knowledge contribution. Only a few users are creating large amounts of information and the majority are only willing to make incremental changes, such as correcting typos (Hindman, 2008). In reverse, this means that every new Wiki project might also suffer from those who are either willing to overshare or are only making small contributions. The real objective is for as many people as possible to be willing to contribute freely to this new form of organizational knowledge, instead of contributing to the smallest degree possible, lurking, or not contributing at all. It is therefore important to understand the incentives public sector employees might respond to, thus helping to convince them to change their current organizational knowledge search and sharing habits, accept a new medium, and make valuable contributions.

Best Practices in Creating and Maintaining Wikis

The following best practices are based on the lessons learned by Wiki administrators and public managers reported in the nine case studies.

Best Practices for Public Managers

- 1. Allow your own organization enough lead time to use a Wiki:** The organization needs to understand changes in the collaborative process, know what is needed to support the collaborative culture, understand the technology, and set up an appropriate support context (reference group, editorial team, neutral dispute coordinators, gardeners, etc.).
- 2. Understand your audience(s):** Look at your audience and understand existing dynamics and responses to new challenges. What kind of knowledge is needed to address the dynamic and complex environment of your agency? How does your agency prefer to interact with citizens?
- 3. Make a conscious decision about acceptable content and behavior on your Wiki:** Do not allow copy and paste of already existing internal documents that are located somewhere on the intranet or are publicly available on the web. Instead, link to locations, people, or content and focus only on innovative and new content creation on the Wiki. As result, content will not be replicated, and contributors or readers will come back for only unique content. Post your acceptable use strategy and policy prominently on the Wiki—repeat as often as necessary.
- 4. Resolve disputes about content:** Forming a panel of knowledgeable and neutral parties to review content-related disputes helps to neutralize discrepancies about the content in an acceptable way. Following a clear, well-formulated strategy that is transparent to the contributors helps them understand how the conflict is resolved, encouraging them to keep up their great contributions.
- 5. Formal ways of collaboration trump informal ways:** Formal ways of collaboration, for example at conferences, are long established. In addition, people tend to trust face-to-face networking with key people to talk about necessary activities. It is therefore difficult to change to informal ways of collaborating on a Wiki. A way to remedy this is to manage people and content by “walking around”—make sure that users don’t think that their content disappears into a black box, but actively engage them in periodic face-to-face conversations to help increase trust in the process and show top management support for this form of collaboration.
- 6. Let people pick their area of expertise:** People will be most likely to participate on Wiki pages that contain topics on which they either have an explicit expertise or on which they believe they can make a contribution. In order to support this natural tendency, move publication responsibilities as well as information management, creation, and knowledge sharing onto the actual knowledge users and experts. Provide additional incentives, such as SWAG (“stuff we all get”), recognition in employee evaluations, etc., to honor contributions and constant improvements.
- 7. Knowledge moves with people:** People move on to other jobs before they can share all the information they have acquired and haven’t yet downloaded onto information-sharing instruments such as Wikis. There are several ways to remove the information-sharing barrier. Make knowledge sharing a daily routine instead of a one-time download activity. Implement knowledge stewards and “gardeners” who help employees learn how to formalize their knowledge on a Wiki, and support them by fitting it into the organizational knowledge base.

Best Practices for Wiki Administrators

- 1. Start with a seeding phase:** In the early phases of a Wiki, it is important to generate content and support the editing process. Make it easy for people to get into online publishing: Encourage them to provide initial content that they think might be of value to the community, but have not widely shared so far.
- 2. Don't write about transitory matters:** Unless the topic warrants the magnitude of an article, people should let the content grow and emerge as they find necessary. Introduce a "gardening" principle to keep content clean and on topic, merge topics if necessary, and constantly stay in contact with contributors to help them understand the established writing principles.
- 3. Keep information alive:** Another way to think about content is to create information that is constantly updated, so that users want to contribute whenever new ideas arise, ideas that might be extending the existing norms or trains of thought. Instead of working toward a final document—in an encyclopedic style—the document can be supported by source material instead of replicating material. Ongoing conversations and knowledge production can be organized "rolling docs" and create what is called by Chris Rasmussen "living intelligence".⁷ Rolling documents are constantly in a beta status and are collectively improved over time.
- 4. Training, training, training:** Training is essential to understand how technology works in general. Never believe that users are as tech-savvy as it may seem. There is a great deal of variety in online read-write literacy, and a hesitation to share knowledge online (loss of control). "I don't think people really know just how much they are responsible for once they become the owners of that entire process." Top management buy-in results in bottom-up participation.
- 5. Set clear community rules and enforce online professionalism and netiquette:** As with every technology or innovation that is introduced to an agency, it is necessary to set standards for the appropriate and accepted use for a Wiki. Topics such as appropriate language, conduct, and defamations must be set in stone. Rules for an appropriate online discussion culture need to be addressed, and respect for contradicting and opposing opinions need to be made explicit. Moreover, think about "what ifs:" What if contributors fail to comply with the rules of the online community? Feel free to take action and remove "trolls," defamation, and inappropriate content to keep the value of the content and the overall site as high as possible.
- 6. Accountability is more important than anonymity in the public sector:** On public Wikis, it is especially important to honor the principles of accountability. Contributors should sign in with a password and contact information. For internal Wikis, decide about the publishing format and make content available in an attributable manner, so that content and knowledge is connected to people. Reliability and accountability can be increased through discussions that add different perspectives, theories, and arguments. To accomplish this, apply a discussion section to encourage users to share their thoughts and justify why they made changes to existing content. This will increase the acceptance and overall accountability of the site. Content should be clearly described as non-authoritative. Wiki content should not be designed as final products, but should be seen as discussion documents that portray the overall process through which contributors arrived at decisions or knowledge. The discussion document can be seen as part of the content creation process and as a deliberative element of the overall process.

7. For more details watch the "Living Intelligence" video produced by Chris Rasmussen: <http://www.youtube.com/watch?v=nbq1V2BLEs>.

Additional Resources

GSA [Citizen.Apps.gov](#) website: Provides selection of tools, how-to descriptions, and FAQ blog and discussion platform to exchange ideas and solutions with other Wiki managers.

National Academy of Public Administration's Collaboration project:

<http://www.collaborationproject.org/>—hosts a description of the BetterBuy Project (<http://www.collaborationproject.org/the-betterbuy-project/>) and a list of Wiki projects in the public sector (http://www.collaborationproject.org/content/cases/#case_studies-wiki).

Federal Web Managers Council: <http://www.usa.gov/webcontent/about/council.shtml>

Web Content Managers Forum: <https://forum.webcontent.gov/>

Bibliography

Aitoro, J. R. (2009). GSA Signs Deals for Agencies to Use Social Networking Sites. *NextGov*, 03/25/2009, online. Retrieved from www.nextgov.com/nextgov/ng_20090325_5490.php?oref=search.

Anderson, N. (2010). State Department Moves from Telegrams to Wiki. *ArsTechnica*. Retrieved from <http://arstechnica.com/tech-policy/news/2010/05/diplopedia-how-the-state-dept-embraced-wiki-diplomacy.ars>.

Andrus, D. C. (2005). The Wiki and the Blog: Toward a Complex Adaptive Intelligence Community. *Studies in Intelligence*, 49(3).

Benbya, H., & Van Alstyne, M. (2011). How to Find Answers Within Your Company. *MIT Sloan Management Review*, 52(2), pp. 65–75.

Bingham, L. B., Nabatchi, T., & O’Leary, R. (2005). The New Governance: Practices and Processes for Stakeholder and Citizen Participation in the Work of Government. *Public Administration Review*, Vol. 65, pp. 547–558.

Binz-Scharf, M. C., Lazer, D., & Mergel, I. (2011). Searching for Answers: Networks of Practice Among Public Administrators. *ARPA—The American Review of Public Administration*.

Blomgren, L. B., Sandfort, J. R., & O’Leary, R. (2008). Learning to Do and Doing to Learn: Teaching Managers to Collaborate in Networks. In L. B. Bingham & R. O’Leary (Eds.), *Big Ideas in Collaborative Public Management*, pp. 270–285. Armonk, New York: M.E. Sharpe.

Boyd, D. M., & Ellison, N. B. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, 13(1). Retrieved from <http://jcmc.indiana.edu/vol13/issue1/boyd.ellison.html>.

Bretschneider, S. I., & Mergel, I. (2010). Technology and Public Management Information Systems: Where Have We Been and Where Are We Going. In D. C. Menzel & H. J. White (Eds.), *The State of Public Administration: Issues, Problems and Challenges*, pp. 187–203. New York: M.E. Sharpe, Inc.

Brewer, J. (2010). Civic Hackers for Haiti. Retrieved from http://www.huffingtonpost.com/jake-brewer/civic-hackers-for-haiti_b_425176.html.

Bronk, C., & Smith, T. (2010). *Diplopedia Imagined: Building State’s Diplomacy Wiki*. Paper presented at the 2010 International Symposium on Collaborative Technologies and Systems.

- Carafano, J. J. (2011). Mastering the Art of Wiki: Understanding Social Networking and National Security. *60* (1st quarter 2011), pp. 73–78. Retrieved from <http://www.ndu.edu/press/social-networking-national-security.html>.
- Chang, A.-M., & Kannan, P. K. (2008). Leveraging Web 2.0 in Government. *E-Government/Technology Series*. Retrieved from <http://www.businessofgovernment.org/report/leveraging-web-20-government>.
- Christensen, C. M., & Overdorf, M. (2000). Meeting the Challenge of Disruptive Change. *Harvard Business Review*, *March-April 2000*, pp. 65–76.
- Cohen, N. (2009). Care to Rewrite Army Doctrine? With ID, Log On. *New York Times*, August 13, 2009. Retrieved from <http://www.nytimes.com/2009/08/14/business/14army.html>
- Department of State (2009). About Diplopedia. Retrieved from <http://www.state.gov/m/irm/ediplomacy/115847.htm>.
- Franks, P. C. (2010). *How Federal Agencies Can Effectively Manage Records Created Using New Social Media Tools*. IBM Center for The Business of Government.
- Goetz, K. (2010). Hackathon: 2 Days, 1,000 Developers, Lots Of Caffeine. Retrieved from <http://www.npr.org/2010/12/06/131853415/hackathon-2-days-1-000-developers-lots-of-caffeine>.
- GSA press release (2010). Landmark Agreements Clear Path for Government New Media. www.gsa.gov/portal/content/103496.
- Guy, M. (2006). Wiki or Won't He? A Tale of Public Sector Wikis. *Ariadne*, *49* (October).
- Hansen, M. (2009, 02/17). Preventing the Terrorist Attack: Massive Failure in Collaboration. http://blogs.hbr.org/cs/2009/12/the_terrorist_attack_massive_f.html.
- Hicks, R. (2010). Singapore to Mine Citizen Sentiment Online. *Government Analytics*. Retrieved 11/28/2010, from <http://www.futuregov.asia/articles/2010/nov/22/singapore-mine-citizen-sentiment-social-media/#>.
- Hindman, M. S. (2008). *The Myth of Digital Democracy*. Princeton University Press.
- Janelle, R. (2009). GCPedia a success, says Government of Canada CIO. Retrieved from <http://www.techvibes.com/blog/gcpedia-a-success-says-government-of-canada-cio>.
- Joinson, A. N. (2008). 'Looking at', 'Looking up' or 'Keeping up with' People? Motives and Uses of Facebook. Paper presented at the CHI 2008.
- Library of Congress (2010). Twitter Donates Entire Tweet Archive to Library of Congress. Retrieved from <http://www.loc.gov/today/pr/2010/10-081.html>.
- Massey, Liza Lowery. (2009). Despite Wikis and Other Web 2.0 Tools, Government Collaboration Is Still Slow to Catch On. *Government Technology: Solutions for State and Local Government in the Information Age*. Retrieved from <http://www.govtech.com/pcio/Despite-Wikis-and-Other-Web-20.html>.

Mergel, I. (2011). The Use of Social Media to Dissolve Knowledge Silos in Government. In R. O'Leary, S. Kim & D. VanSlyke (Eds.), *The Future of Public Administration, Public Management, and Public Service Around the World*.

Mergel, I. (2010). Government 2.0 Revisited: Social Media Strategies in the Public Sector. *PA Times, American Society for Public Administration*, Vol. 33, No. 3, pp. 7 & 10.

Milward, H. B., & Provan, K. G. (2006). *A Manager's Guide for Choosing and Using Collaborative Networks*. IBM Center for The Business of Government.

Obama, B. (2009a). *Prepared Remarks of President Barack Obama: Back to School Event*. Retrieved from <http://www.whitehouse.gov/MediaResources/PreparedSchoolRemarks/>.

Obama, B. (2009b). Transparency and Open Government: Memorandum for the Heads of Executive Departments and Agencies. *Whitehouse Blog*. Retrieved from http://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment/.

Orszag, P. R. (2010). Guidance for Agency Use of Third-Party Websites and Applications—Memorandum for the Heads of Executive Departments and Agencies. *M-10-23*. Retrieved from http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m10-23.pdf

Sunstein, C. R. (2010). Social Media, Web-Based Interactive Technologies, and the Paperwork Reduction Act. 7. Retrieved from http://www.whitehouse.gov/sites/default/files/omb/assets/infogeg/SocialMediaGuidance_04072010.pdf.

Terdiman, D. (2005). Study: Wikipedia as Accurate as Britannica. *CNET News*. Retrieved from http://news.cnet.com/Study-Wikipedia-as-accurate-as-Britannica/2100-1038_3-5997332.html.

Trkman, M., & Trkman, P. (2009). A Wiki as Intranet: A Critical Analysis Using the Delone and McLean Model. *Online Information Review*, 33(6), pp. 1087–1102.

About the Author

Ines Mergel is an Assistant Professor of Public Administration at the Maxwell School of Citizenship and Public Affairs and The Information Studies School (ischool) at Syracuse University. She was previously a postdoctoral research fellow at Harvard's Kennedy School of Government, Program of Networked Governance and the National Center for Digital Government. Professor Mergel teaches in the Master of Public Administration program courses on Government 2.0, New Media Management in the Public Sector, Networked Governance, and Public Organizations & Management. Her research interest focuses on informal networks among public managers and their adoption and use of social media technologies in the public sector. In particular, she studies how public managers search, share and reuse knowledge they need to fulfill the mission of their agency.



A native of Germany, Professor Mergel received a B.A. and M.B.A.-equivalent in business economics from the University of Kassel, Germany. She received a Doctor of Business Administration (D.B.A.) in information management from the University of St. Gallen in Switzerland and spent six years as pre- and post-doctoral fellow at Harvard's Kennedy School of Government, where she conducted research on public managers' informal social networks and their use of technology to share knowledge.

Professors Mergel's work has been published in, among others, *Public Administration Review*, *Journal of Public Administration Research and Theory*, and *American Review of Public Administration*. Her thoughts on the use of social media applications in the public sector can be read on her blog: <http://inesmergel.wordpress.com>.

Key Contact Information

To contact the author:

Ines Mergel

Assistant Professor
Department of Public Administration
Maxwell School of Citizenship and Public Affairs
Affiliate Assistant Professor of Information Studies
School of Information Systems (ischool)
Syracuse University
215 Eggers Hall
Syracuse, NY 13244
(315) 443-5100

e-mail: iamergel@maxwell.syr.edu

blog: <http://inesmergel.wordpress.com>



Reports from **IBM Center for The Business of Government**

For a full listing of IBM Center publications, visit the Center's website at www.businessofgovernment.org.

Recent reports available on the website include:

Collaborating Across Boundaries

Environmental Collaboration: Lessons Learned About Cross-Boundary Collaborations by Kathryn Bryk Friedman and Kathryn A. Foster

Managing Innovation Prizes in Government by Luciano Kay

The Promise of Collaborative Voluntary Partnerships: Lessons from the Federal Aviation Administration by Russell W. Mills

Strategies for Supporting Frontline Collaboration: Lessons from Stewardship Contracting by Cassandra Moseley

Food Safety—Gaps and Emerging Public-Private Approaches: A Perspective for Local, State, and Federal Government Leaders by Noel P. Greis and Monica L. Nogueira

Conserving Energy and the Environment

A Guide for Local Government Executives on Energy Efficiency and Sustainability by Nathan Francis and Richard C. Feiock

Fostering Transparency and Democracy

Using Geographic Information Systems to Increase Citizen Engagement by Sukumar Ganapati

Improving Performance

Project Management in Government: An Introduction to Earned Value Management (EVM) by Young Hoon Kwak and Frank T. Anbari

Strategic Use of Analytics in Government by Thomas H. Davenport and Sirkka L. Jarvenpaa

Managing Finances

Strategies to Cut Costs and Improve Performance by Charles L. Prow, Debra Cammer Hines, and Daniel B. Prieto

Managing Risk in Government: An Introduction to Enterprise Risk Management (2nd Edition) by Karen Hardy

Strengthening Cybersecurity

A Best Practices Guide to Information Security by Clay Posey, Tom L. Roberts, and James F. Courtney

Cybersecurity Management in the States: The Emerging Role of Chief Information Security Officers by Marilu Goodyear, Holly T. Goerdel, Shannon Portillo, and Linda Williams

Transforming the Workforce

Engaging a Multi-Generational Workforce: Practical Advice for Government Managers by Susan Hannam and Bonni Yordi

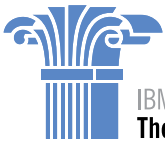
Implementing Telework: Lessons Learned from Four Federal Agencies by Scott P. Overmyer

Using Technology

Using Online Tools to Engage—and be Engaged by—The Public by Matt Leighninger

An Open Government Implementation Model: Moving to Increased Public Engagement by Gwanhoo Lee and Young Hoon Kwak

How Federal Agencies Can Effectively Manage Records Created Using New Social Media Tools by Patricia C. Franks



IBM Center for
The Business of Government

About the IBM Center for The Business of Government

Through research stipends and events, the IBM Center for The Business of Government stimulates research and facilitates discussion of new approaches to improving the effectiveness of government at the federal, state, local, and international levels.

About IBM Global Business Services

With consultants and professional staff in more than 160 countries globally, IBM Global Business Services is the world's largest consulting services organization. IBM Global Business Services provides clients with business process and industry expertise, a deep understanding of technology solutions that address specific industry issues, and the ability to design, build, and run those solutions in a way that delivers bottom-line value. To learn more visit: ibm.com

For more information:

Jonathan D. Breul

Executive Director

IBM Center for The Business of Government

600 14th Street NW

Second Floor

Washington, DC 20005

202-551-9342

website: www.businessofgovernment.org

e-mail: businessofgovernment@us.ibm.com

Stay connected with the
IBM Center on:



or, send us your name and
e-mail to receive our newsletters.