



In cooperation with the Performance Institute

# Becoming a Citizen-Centered Government Through Best Practices in Web Management

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## EXECUTIVE SUMMARY

*“The Web’s wild adolescence is over; it’s time it grew up.” – Oral communication, Julia Laws, former acting Web manager, Department of the Interior.*

*“...organizations are ‘moving work to the Web’ in order to improve performance and decrease operating costs.” – Internal FAA document, “Requirements and Architecture: A Strategy for Evolving the FAA’s Web Presence,” February 14, 2003.*

Web management is herein defined as the handling of everything involved in building and operating an organization’s Web presence. This includes managing content and applications, infrastructure, staff, design, compliance with laws and regulations, and the policies and procedures needed to maintain order and meet organizational goals.

### Background

Born in 1991 with the public launch of easy-to-use browser software, the World Wide Web has grown significantly in size, capability, utility, and stature. It has become a pervasive and essential information tool in both the public and private sector. The Web is a medium through which organizations now provide self-service access to essential services, information, and opportunities to millions of customers every day: wherever they are; whenever they need it. But a Web presence does not just happen. Content must be created, tested, approved, formatted, loaded onto servers, and managed for years throughout the life cycle of the information. Computer hardware and telecommunication networks are needed to provide access. Also, designers and programmers are needed to create and maintain interactive applications that provide online services. All of this takes dollars and people and policies and procedures, all of which are incorporated in the notion of Web management. Someone must coordinate all the various tasks, handle the daily surprises and dramas, oversee planning, budgeting, and reporting to senior executives. The larger the organization, the more geographically distributed, and the more internally diverse (in terms of mission), the more complex the challenge of managing Web activities becomes. Research has found that governance is critical in ensuring that IT-related decisions align with organizational objectives. “Companies with better than average IT governance earn at least 20 percent higher return on assets than organizations with weaker governance.” (Ross and Weill, 2004)

### Methodology

This study sought to learn from “Best-in-Web” organizations and to fulfill three objectives:

- Identify best practices in Web management,
- Learn how organizations became leaders in Web management, and
- Compile a guide to help other organizations achieve Web excellence.

Web managers at ten Federal Government organizations with some of the best Web sites were asked how they do their jobs. Nine large, distributed, and diverse Federal Government organizations were selected for their outstanding Web presences. The tenth was FirstGov, the award-winning cross-government portal who learned of this study and asked to participate. As it turned out, these participating organizations did not include as much diversity as was sought. EPA, NASA, and the Department of the Treasury were the most internally diverse organizations, so their answers should be of special interest to Web managers working in internally diverse organizations (such as the Department of the Interior).

All participating organizations completed a questionnaire with 29 questions (see Appendices) and answered additional questions via telephone interviews. Numeric data collected on the questionnaire was averaged, and compared, but because of the small and selected nature of the population, no statistical analysis was considered possible. The numeric values were used only to sort answers into general groupings. Answer scores represent the extent to which organizations use the practice in question. Scores for effectiveness (E), importance (I), and difficulty (D) were used to rank the practices in terms of these considerations. The E, I, and D information helped in identifying the “Most Effective,” “Most Important,” and “Least Difficult” practices. These are the areas that probably deserve the most attention from Web managers and executives.

In addition to the questionnaire and interview data, some participants offered to share internal documents and other information. The Best-in-Web recommendations presented here were derived from all these data sources.

The recommendations in this report are important strategies and effective practices to promote a healthy and successful Web presence, no matter how large or complex the organization.

### Centralization Models for Organizing Web Activities

Centralization of Web management emerges as a common theme from most of the recommendations in this report, but the larger, more distributed, and more internally diverse the organization, the bigger is the challenge of centralizing. For these reasons, organizations have developed various approaches to centralizing Web activities.

Three centralization models are apparent from this study. A unified model (see definitions below) seems to work well for internally homogeneous organizations. A federated model better addresses the needs of organizations that have distributed and diverse organizational units with related and /or coordinated aspects to their missions – a balance of interdependence and independence. A distributed model works well for organizations that have very strong and independent subunits that have little or no need for internal coordination. Some organizations are in transition between models, the result of a management decision to reorganize/restructure their Web activities.

Unified – complete centralization, in which all Web activities are accomplished by one Web Team at the top level of an organization. Examples of this model are HUD, SSA, and USPS.

Federated – a partial centralization at the higher level, in which subunits of an organization coordinate overall Web management, allowing independence or “flexibility” to subunits for some aspects, while centralizing other aspects at the top level. A good example of this model is NASA, which has 11 locations that do different work, but ultimately work together to accomplish goals. FirstGov may be a variant of this model.

Distributed – centralization at the subunit level, in which the top-level organization does not or can not standardize, coordinate, or control all Web management for all the subunits. An excellent example of this model is the Department of the Treasury, whose Web presence is an overview for and point of entry into its subunits. Treasury allows the subunits to retain separate designs for look and feel and to manage their Web activities independently, with little overall coordination.

### Best-in-Web Strategies

They operate with top-level executive support that –

- Views the Web as integral to organizational activities
- Funds Web activities adequately
- Aligns Web tasks with mission goals
- Involves all stakeholders in the organization around the Web as a key tool in accomplishing the goals
- Entrusts Web work to a full time “Web Team” under the leadership of a professional Web Manager
- Positions the Web manager and team in the Communications or Public Affairs Office, where contact with executives can be frequent and effective
- Employs the Web as the official voice of the organization to outside constituencies
- Involves Web managers in strategic planning and decision making

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They have one Web site for the organization in order to –

- Use consistent page design standards and/or templates for the entire Web site
- Bring all information and services together into one place where customers can easily find it and where maintenance of the content is most easily managed
- Present the organization's "brand" or corporate image to best advantage and assure authenticity and accountability for the content
- Coordinate all Web activities across the organization
- Employ an enterprise architecture designed around the major categories of their information and services
- Centralize their Web infrastructure
- Standardize on software and hardware for the Web

They are passionate about serving their customers by –

- Knowing their customers and what they want
- Seeking new customers
- Gathering customer feedback and turning it into improvements
- Continuously keeping content fresh, not just by adding new content, but by improving navigation and moving old content to an archive
- Making investments in outreach and marketing to help customers find and use their Web content and services

They measure their performance to drive improvement by –

- Using project management techniques to plan and monitor and report on Web work
- Gathering and using customer feedback and Web statistics
- Monitoring progress toward goals
- Using accomplishments, metrics, customer and senior executive satisfaction, external recognition, and anything else that demonstrates how the Web contributes to accomplishing mission goals

In addition to these Best-in-Web practices, the participating organizations have described the specific approaches they use for managing challenges in the areas of Web governance, content, infrastructure, staff, budgeting, and planning.

## **Best Practices for Managing Web Elements**

### Managing Content

Content is why customers come to an organization. Content includes text and images, as well as applications that provide interactive services over the Web. Different kinds of content need different kinds of management.

- Translate Web analytics and customer feedback into improvements to the Web site.
- Use content standards. Ensure that Web content standards are understood in the organization. Consistent page design is better for the customer and for site maintenance.

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- Ensure that new content meets prescribed standards. Review new content before it is approved for posting.
- Review posted content regularly. This housekeeping is even more important than initial content approval. (“Retired” content needs to be retained in an archive so it is not lost.)
- Find and fix underused content. Evaluate Web logs to find content that may be underused.
- Involve all stakeholders in the development of new Web functionality.
- Write for the Web. Be brief, use bullets, keep each page simple, and write for the 8<sup>th</sup> grade reading level.
- Minimize graphics. Be sensitive to users with older browsers and computer capabilities. Do not use animations or flashing text.
- Simplify the management of content you co-own with partners. Use a memorandum of understanding. Ensure that content meets the host organization’s content standards.

### Improving Navigation

Best-in-Web organizations continually review and tweak navigation, yet do not change familiar navigation tools and overall structure too often.

- Avoid major Web site redesign more often than once every 18 to 24 months.
- Fix broken links as content changes.
- Look for ways to improve the customer’s Web experience by reducing clicks.
- Learn from other Web sites. Copy good practices.
- Manage data so that Web content can be found by the major search engines.

### Identifying Customers, and Obtaining and Using Customer Input

Meeting the customer need is the central goal. Get to know customers and measure customer satisfaction using whatever means you can.

- Identify customers using customer surveys and feedback.
- Gather customer satisfaction data using customer surveys and emails sent to a “Contact us” address.
- Use focus groups, usability testing, and other in-person interactions.
- Use Nielsen//NetRatings, Web statistics, and other ways to get to know customers and what they want.
- Learn to think like customers; know what they want, and how they come looking for it.

### Managing the Infrastructure

Most Best-in-Web organizations centralize their Web infrastructure.

- Locate Web servers and data storage in very few locations, and have redundant systems for load balancing (to handle variations in traffic volume) and for offsite backups in case of an emergency.

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- Consider a hosted infrastructure (owned and operated by contractors). Be sure to retain ownership of data and software code; this enables the organization to change contractors more easily if and when it is needed in the future.

### Managing Staff

Web activities are performed by many kinds of employees.

- Ensure that management and leadership of Web activities are done by government staff.
- Place Web operations tasks (posting of text, reviewing links, correcting errors, handling customer feedback, etc.) in the hands of one content-oriented team of employees directed by the Web manager.
- Staff these activities with well-trained Web experts. Resist allowing other professionals to take on Web tasks when it takes away from their other duties.
- Consider performing many of the hands-on tasks of content posting, new coding, and IT operations and maintenance with contractors.
- Engage staff from the organization's programs to create new content and help review posted content.
- Consider outsourcing for IT operations and maintenance tasks.
- Recognize and celebrate Web accomplishments appropriately.
- Review titles, position descriptions, and grade levels for Web staff for consistency and level of responsibility.

### Budget Planning

Web activities hide in many parts of an organization's budget, because they are an inherent part of business processes that span many parts of the organization.

- Fund Web activities adequately.
- Budget for new Web developments (which may include content and IT tasks) as projects and include all the expected costs.
- Budget for Web operations as predictable operating costs.
- Expect to make IT procurements every year, but don't require specific details until the year of purchase. Consider these to be long-term investments and establish a general or working capital fund for these purchases.
- Budget for the task of reviewing Web content in every program that has content on the Web.

### Practices for Intranet and Extranet

Intranet and extranet work is generally handled very differently, although this may not be a best practice.

- Reconsider the idea that the Internet's public nature makes it more a priority than intranet. Reevaluate the potential of intranet and extranets as tools for accomplishing the mission.
- Review the role of the Public Affairs and Communications offices (with their focus on external communications), and decide if they should manage only the public side



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of the organization's Web presence, while IT and Operations staff manages the intranet or internal side.

No single participating organization uses all these Best-in-Web practices, although a few organizations use many. HUD is unique in that they have used most of these Web management practices since 1995. Most of the participating organizations have turned to using these practices in the past few years.

## **Eight Steps to Becoming a Best-in-Web Organization**

The Best-in-Web organizations in this study provided recommendations others can use to become a Best-in-Web organization. These recommendations vary, but this study has extracted the eight key steps to help organizations become stronger in preparation for implementing Best-in-Web practices.

1. Ensure high level support in the organization for the Web presence.
2. Establish governance of Web activities in a "Web Team" as close as possible to the organization's leadership and ensure decisions are made in the best interests of the organization and the Web site.
3. Define the purpose of the Web site based on customer needs and what the organization has to offer them.
4. Develop clear business rules for workflow and content approvals, and for maintaining the Web site. Keep content fresh.
5. Ensure that the whole organization focuses on the customers and understands their perspective (e.g. customers may not know how the government is organized).
6. Fully integrate the Web into day-to-day business processes of the organization. Use the intranet as the main resource for all employees.
7. Use performance measures and goals that align with accomplishing the organization's larger mission.
8. Promote your Web site by ensuring that customers and potential customers are aware of the Web address and the information and services they can find.

### Comparison with FirstGov

The FirstGov Web site demonstrates how a focus on customer needs (rather than organizational structures) can improve the presentation of Federal Government information to an eager and waiting customer. Further, FirstGov employs most of the Best-in-Web practices identified by this study. The relative newness of FirstGov to the Web landscape (built in response to the E-Government Act of 2002) means that it has a relatively new infrastructure and data architecture created with one specific purpose in mind. This stands in contrast to Web conditions at most Federal Government organizations, where over the past decade diverse programs have waxed and waned, providing content and infrastructure elements for multiple customer groups, in most cases with little or no central coordination.

- FirstGov is an architecture designed around the major categories of the information and services
- FirstGov is an infrastructure designed for easy access for high volumes of non-technical customers
- FirstGov provides high-visibility links to content from partner organizations rather than owning the content
- FirstGov is selective about the content it links to, rather than being a comprehensive collection of Federal Government information

### What Now?

While this study is a start, it leaves many Web management questions at the next level of detail unanswered. To understand how some organizations succeed where others stumble, further investigation is needed. A study of more complex and diverse organizations is needed. Questions yet to be probed, but important to good Web management include:

- What methods help Web team address issues across organizations or across stovepipes within organizations?
- What should be in a Web position description, statement of work, or performance standard?
- What is the best way to balance Internet and intranet tasks and needs?
- How should decisions be made about the adequate level of funding for Web operations and developments?
- How should Web activities be handled in the budget process?

This study has proven useful in that it provides recommendations that are important strategies and effective practices. Web management in Federal Government organizations can and must be improved if there is to be a successful return on the taxpayers' investment in Federal Web activities. (Outside the Federal Government, a push for improved Web management will be driven by cost and benefit considerations.) In addition, organizations must look forward in time and create an organization that will use the Web in many ways not yet envisioned. The practices recommended from this study can help an organization become one of today's Best-in-Web organizations -- but what is needed to be tomorrow's best? The information and services an

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organization provides are what give organizations their value. How an organization leverages the Web to create and deliver this value will to a great extent define the organization's future.

## ACKNOWLEDGEMENTS

This study was conducted as a 60-day assignment as part of the author's participation in the 2004 USDA Graduate School's Executive Leadership Program (ELP). The goal was to learn how large organizations organized and managed their Web presences. When few books or journal articles on the subject were found, it was decided to contact organizations directly and ask questions. The author engaged the Performance Institute (PI) as the host for this project. (The PI is a private think tank that serves as the Nation's leading authority and repository on performance-based management practices for government agencies. Its mission is to identify, study, and disseminate the management innovations pioneered by 'best-in-class' public-sector organizations.)

This study would not have been possible without the participation of many people. K. Lea Ginnodo and Hedy Rossmeissl of the U.S. Geological Survey (USGS) provided initial approvals and enthusiastic support, enabling this project to begin. Carl DeMaio, President of the Performance Institute, saw the potential benefit of this project and agreed to let PI serve as the host organization. Sergio Bonadona, Director of Research, and other staff at PI provided valuable guidance and assistance.

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areas of Web management and issues facing Web managers. Karen Eberhardt and Karen Fritts at the USGS Branch of Information reviewed the author's preliminary evaluation of the data gathered and discussed presentation options. Hedy Rossmeissl, Kevin Gallagher, and other USGS Geospatial Information Office leaders were instrumental in encouraging and supporting all of the author's ELP activities, and especially this research into Web management. Jeanelle Leyba, Kelli Haylett, and Patrick Donahoo in the USGS Branch of Information Services in Denver, CO, very adeptly handled most of the author's regular duties for several months, enabling him to work on this project. Finally, USGS reviewers Gail Wendt and Susan Fagan and USGS editors greatly improved the quality and readability of this report. Many have helped make this product what it is, but the author assumes responsibility for any and all errors that may yet appear in this report.

## **INTRODUCTION**

*“Running a Web site is much like running a newspaper, with the content manager as editor in chief. You have to control the focus, the writing, the layout, the design, the marketing, and the performance, and you have to make sure the product delivers something the customer wants and can use.” -- Candis Harrison, HUD Web Manager, Presentation for 2001 E-Gov Conference, 2001*

*“Fully 77 percent of Internet users – or 97 million Americans – have at some time gone online to search for information from Government agencies or to communicate with them.” -- John B. Horrigan, Pew Internet & American Life Project, 2004*

### **Objectives**

The purposes of this study were threefold:

- Identify best practices in Web management (Chapter 1)
- Learn how organizations became leaders in Web management (Chapter 3), and
- Compile a guide to help other organizations achieve Web excellence (Chapter 2).

### **Web Management Defined**

Web management is herein defined as the handling of everything involved in building and operating an organization’s Web presence. This includes managing content and applications, infrastructure, staff, design, compliance with laws and regulations, and the policies and procedures needed to maintain order and meet organizational goals. The basic elements of Web management include:

- Organizational leadership and management (also called “governance”) including: organizational structure and chain of command, mission activities, strategic plans, communication protocols, organizational culture, budgets, and program and project management;
- Content or knowledge management including: life-cycle information management, records management, database and archive management, and management of applications important to Web customers;

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- Hardware and software infrastructure operations and management including: IT operations and maintenance, change management, security management, outsourcing, hosting, etc.;
- Policy, guidelines, and standards related to Web activities;
- Human resources management including: staff development, recruitment, and the use of contracting; and
- Customer relationship management including: gathering and evaluating input from customers).

Web activities exist in many parts of an organization -- although they may not appear in the budget. Web activities can be difficult and sometimes impossible to separate from other mission activities. Basic mission tasks such as data collection and report preparation may be separate from Web activities, but these tasks may be done collaboratively or in real-time using the Web for communications, in which case the Web is helping accomplish the tasks. Using the Internet and/or intranet as a research tool is another example of the Web being used as part of daily activities. Data management, financial management, customer service, internal communications and communications with the news media and the Congress -- many tasks depend upon the Web.

Some might ask, “Why ‘Web management’ and why not ‘Web leadership’?” If management is about operations and coping with complexity and leadership is about looking ahead and handling change, then leadership is certainly needed for effective Web management. For example, people with vision are needed to challenge old ways and set a new direction. Sometimes personal courage and management conviction are needed to keep on task and see tasks through. These and other “leadership qualities” are important to the success of any endeavor. For this study, however, the phrase Web management is used to emphasize the importance of executive involvement and good management controls in making the Web as effective as it can be in accomplishing the organizational mission.

## The Importance of Web Management

*“Three out of four Americans have access to the Internet, according to Nielsen//NetRatings. Online population surges past 200 Million for the first time.” –Nielsen//NetRatings, March 18, 2004*

*“89 percent of government Web sites are not easily accessible to the citizenry because the sites read at higher than an eighth grade reading level.” – Brown University Center for Public Policy, 2003*

The Web has become an important vehicle through which Federal Government information and services are provided. Twice as many people access government Web sites as those who download music (Madden, 2003). The Web is also an important collaboration tool and information sharing venue inside an organization. The activities

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involved in creating and operating Web sites have become mainstream in most organizations and management of these activities is needed to ensure that a Web presence is a truly successful investment. But different Federal organizations face different challenges and, as a consequence, manage Web activities differently. As a result, some Federal Government Web sites are more effective than others at meeting customer needs.

Born in 1991 with the public launch of easy-to-use browser software, the World Wide Web has grown significantly in size, capability, utility, and stature. It has become a pervasive and essential information tool in both the public and private sector. The Web is a medium through which organizations now provide self-service access to essential services, information, and opportunities to millions of customers every day: wherever they are; whenever they need it. But a Web presence does not just happen. Content must be created, tested, approved, formatted, loaded onto servers, and managed for years throughout the life cycle of the information. Computer hardware and telecommunications networks are needed to provide access. Designers and programmers are needed to create and maintain interactive applications that provide online services. This all takes dollars and people and policies and procedures – all of which are incorporated in the notion of Web management. And someone must oversee that bundled effort called management. Someone must coordinate all the various tasks, handle the daily surprises and dramas, and oversee planning, budgeting, and reporting to senior executives. The larger the organization, the more geographically distributed, and the more internally diverse (in terms of mission), the more complex the challenge of managing Web activities becomes.

Leadership is comfortable with – and even expects to see -- Web activities in strategic plans and organizational budgets. With this visibility comes an expectation and an increased need for effective management. Executives are being urged to run their information technology (IT) activities like a business (Overby, 2004). The Web is now an essential corporate resource that enables employees to do their jobs. The Web serves so many customers (and so many kinds of customers) that organizations now see the Web to be not only beneficial, but essential in presenting their current and constantly evolving set of information and services to their customers. Thus, this resource needs to be effectively managed. Research has found that governance is critical in ensuring that IT-related decisions align with organizational objectives. “Companies with better than average IT governance earn at least 20 percent higher return on assets than organizations with weaker governance” (Ross and Weill, 2004).

Customer expectations, too, have expanded as more people use the Web as part of their daily business or personal activities. As customer expectations increase, managers are challenged to keep up and use the Web every way they can to serve these customers and thereby better accomplish their mission.

The Bush Administration has made Web management a priority for Federal agencies. Introduced in 2001, the President’s Management Agenda (PMA) has the ambitious objective to make government results-oriented, market-based, and citizen-centered (PMA, 2001). One of the five PMA initiatives, Expanded E-Government, seeks to improve government performance through “the use of the Internet to empower citizens” (PMA, p. 23). The belief behind this initiative is that Federal Government can secure



greater services at lower cost through E-Gov and can meet high public demand for E-Gov services. The idea is to make it simpler for citizens to receive high-quality services from the Federal Government, while reducing the cost of delivering those services. One report says the United States is behind Canada in E-Government maturity for the fourth year in a row (accenture, 2004; Frank, 2004). The Bush Administration has set a goal “to champion citizen-centered E-Gov that will result in a major improvement in the Federal Government’s value to the citizen” (PMA, p. 23). In addition to the E-Gov efforts that transcend organizational boundaries, the PMA calls for agencies to be equally “results-oriented, market-based, and citizen-centered” in accomplishing their individual missions. While the PMA presents a good approach, it’s less about a specific Administration’s priority, and more about good practices and good services to the taxpayer, the ultimate customer of the Federal Government. Web management that follows the recommendations in this study can be a major contributor toward these goals.

## Methodology

### Initial Research

This project began with library and online research, but little information on Web management was found. Content management, project management, and operations management have each received their share of attention as individual areas of study. Information management and government IT periodicals have provided news and information concerning Chief Information Officers in the Federal Government. Awards for Web sites have been reported online and in journals.

### Selection of organizations

No overall information was found to describe how organizations manage their Web activities. (It was not until late in the study that overall works like Brigman’s “Web site management excellence” and Siegel’s “Secrets of successful Web sites” were discovered.) To learn the most about Web management in the limited time available, it was decided to ask those who have been judged to be the best. The following four criteria were used to rank Federal organizations and identify the “Best-in-Web” organizations to be invited to participate in the study:

- Scores in the September 2003 Web study by Brown University Center for Public Policy (West, 2003).
  - Final score for an agency is the average score over all the Web sites tested for that agency. Scores for each Web site are on a 100 point scale, as follows:
  - 80 points possible for features (four points per feature): publications, databases, audio clips, video clips, foreign language access, not having ads, not having user fees, not having restricted areas, W3C disability access, having privacy policies, having security policies, allowing digital signatures on transactions, an option to pay via credit cards, email contact information, areas to post comments, option for email updates, allowing for personalization of the Web site, PDA (personal digital assistant) or handheld device accessibility, and readability level below grade 10.
  - 20 points possible for online services (1 point per service).

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- American Customer Satisfaction Index scores (<http://www.theacsi.org/overview.htm>, accessed August 19, 2004)
  - Scores are based on data compiled from online surveys completed by customers while they are using a Web site.
- Receipt of major Web awards since 2002.
- Our evaluation of Web content on government Web sites vis-à-vis the Web content standards recommended in June 2004 by the Interagency Committee on Government Information (“Recommended Policies and Guidelines for Federal Public Web sites,” 2004).
  - Recommended standards for content address:
    - Enabling citizens to identify Federal Government Web sites and trust that they provide current and accurate government information.
    - Writing and organizing content from the customer’s point of view.
    - Designing and writing to ensure Web sites are easy to access and use.
    - Unifying information across government organizations.
    - Observing priorities and a schedule for posting content.
    - Complying with existing federal laws, regulations, and policies.

Using these four criteria, organizations were ranked and those with the highest scores were deemed to be the “Best-in-Web”. From this ranking were selected those invited to participate. The selection process also sought organizations that were large, geographically distributed, and internally diverse. These aspects were felt to make Web management all the more challenging, and yet these organizations have succeeded better than many others in managing Web technology and presenting award-winning and effective Web presences. (Other highly ranked Web-award-winning organizations were considered, but not included in the study, including the Securities and Exchange Commission, the Patent and Trademark Office, the Department of Education, the Department of Energy, the Internal Revenue Service, the Department of State, the Department of the Navy, and the Food and Drug Administration.)

The invited Best-in-Web organizations who participated were:

- U.S. Department of Housing and Urban Development (HUD)
- U.S. Department of the Treasury (Treasury)
- Environmental Protection Agency (EPA)
- Federal Aviation Administration (FAA)
- General Services Administration (GSA)
- National Aeronautics and Space Administration (NASA)
- National Weather Service (NWS)
- Social Security Administration (SSA)
- U.S. Postal Service (USPS)

(The following organizations were also rated Best-in-Web and were invited, but were unable to participate in the study due to pressing Web projects: Department of Agriculture, Department of Health and Human Services, the National Science Foundation, and the Office of Personnel Management.)

As it turned out, these participating organizations did not include as much diversity as was sought. EPA, NASA, and the Department of the Treasury were the most internally diverse organizations, so their answers should be of special interest to Web managers working in internally diverse organizations (such as the Department of the Interior).

In addition to the Best-in-Web invitees, FirstGov requested to participate. Even though FirstGov is different in many ways from the target participants, in that it is a point of entry to government-wide information rather than an individual organization's Web site, its participation was welcomed as a point of comparison and further information, as discussed in Chapter 3.

### Information Gathering

At the core of the study was a two-part data-gathering process: a detailed, structured questionnaire and follow-up interviews for gathering information the questionnaire could not.

#### Part 1. The Questionnaire

A questionnaire was developed from questions originally posed and investigated through the literature search into Web management activities. In developing the questionnaire, specific areas of Web management were identified and the questions were initially organized into leadership, content, infrastructure, staffing, and customer feedback. For the final questionnaire, however, the segmentation by areas was eliminated, and the 29 questions were organized into what was considered to be a logical flow. The questionnaire was designed to take 30 minutes or less to complete, and it was tested to validate that assumption and was refined before it was sent out.

Questions were of four types. The first type asked "to what extent" respondents used specific practices and they selected answers from prescribed choices: "completely," "mostly," "somewhat," "little," or "not at all." A second type asked which approaches were used for accomplishing certain tasks; respondents could select as many choices as applied from a list that included "other," for which they provided a comment to explain what this was. A third type asked "how well" Web activities were funded and staffed; respondents selected from "very well," "adequately," "unevenly," or "poorly." The last type consisted of two open-ended text questions.

In addition to the four types of main questions about various practices, three columns on the right side of the page sought additional information about each practice. These columns were labeled Effectiveness, Importance, and Difficulty (E, I, and D, respectively). For each practice these columns represented the following three questions:

- How effective is this specific practice in your Web management?
- How important is this specific practice to the overall success of your Web management?
- How difficult has it been for you to implement this specific practice?

Answer choices were on a five-point scale where 5 = "completely," 4 = "very," 3 = "somewhat," 2 = "not very," and 1 = "not at all."

Questionnaires were personalized for each organization. Because names of ideal respondents were not known at the selected organizations, questionnaires were emailed to a few likely respondents in the offices of the Chief Information Officer (CIO) in each organization. Through follow-up phone calls, the best individual respondent in each organization was identified. Most respondents were in a Public Affairs or Communications Office, not in the Office of the CIO.

To encourage and reward participation, the Performance Institute offered a 25 percent discount for registration at a planned E-Gov Usability Summit, which was to be held a few months later. (However, this event was later cancelled because of inadequate registration.) It was gratifying that most organizations participated willingly and without expectation of reward, stating that they felt this to be a worthwhile study; many stated they felt honored to be asked to participate.

Eight organizations replied to the first sending of ten questionnaires. FirstGov also requested a questionnaire and provided their responses. To get more participants, three questionnaires were sent to additional organizations, and one response was received. This brought the number of participating organizations to ten. Respondents generally completed the entire questionnaire, although a few left one or two questions blank or even provided more than one answer. Although follow-up interviews were planned anyway, incomplete answers further justified the need for the interviews.

### Part 2. Follow-up Interviews

The first phase of the study brought in considerable information from organizations with important stories to tell. For example, informal phone conversations with HUD participants revealed that as early as the mid-1990's, HUD saw the Web as an integral part of everything they did as an organization; they managed their Web activities very effectively from the beginning. The questionnaire was unable to capture this potentially useful information, so the follow-up interview (originally designed to check and validate questionnaire data) was expanded to ask additional general questions.

Follow-up interviews were conducted with all ten participants. In addition to validating the E, I, and D data and checking selected answers in the questionnaires, the interviews enabled respondents to provide general overall information as well as examples and details on important points. The open-ended interview questions were about the same across all regular respondents, but different for FirstGov. The interview data is presented as succinctly as possible while still retaining the significant details concerning the issues they faced, the actions they took, and the outcomes they achieved. Some common themes can be noted, and the individual culture of each organization presents various issues, affecting how they see and manage their Web activities. The notes from the interviews were reviewed and approved by each interviewee for inclusion in this report.

### Analysis and Presentation

To analyze the responses, the data from all participants were compiled in a spreadsheet for easy viewing (see Appendix 6). No statistical analysis was considered possible due to

the small and selected population. Numeric scores were tabulated and averaged, but all responses were analyzed and evaluated as qualitatively as possible. Answer data was handled separate from E, I, and D data, and all FirstGov data was handled separate from the other respondents. The overall answer scores represent the extent to which these organizations employ the practices in question; the overall E, I, and D scores point to those practices considered to be the most (and least) effective, important, and difficult. The average score for each question was used as the line between “higher” and “lower” scores for that question. An overall average was also computed to identify answers that were higher or lower than average.

The answers to the four types of questions were evaluated in different ways. The first answers were easiest to evaluate. Responses for the first type of question (“to what extent...”) were given numerical values (completely = 5, mostly = 4, somewhat = 3, little = 2, and not at all = 1). High or low values were compared to the overall averages to formulate conclusions about each question. Patterns observed in the data were interpreted in light of other information about the individual participants, and hypotheses were suggested to explain these patterns.

Analyzing the data for the second type of question (“approaches used”) was more complicated. Because multiple answers were generally selected for each question, a tally was made across all respondents to provide a count for each answer choice, including “Other.” Because some respondents did not provide individual E, I, and D scores for each answer chosen, whatever value was provided was copied to all answers to that question, possibly masking individual variation between these answers. A weighted average was then calculated to reveal greater and lesser E, I, and D values. The number of organizations using each practice indicates how common the approaches are in this population.

The answers to the “how well” questions were translated into numeric values and averaged across all responses (except FirstGov). Because this four-point range (“very well” = 5, “adequately” = 3, “unevenly” = 2, and “poorly” = 1) differed from the five-point scoring of the other answers, these values were not totaled into the overall answer scores at the bottom of the spreadsheet. E, I, and D scores for the “how well” questions, on the other hand, were no different from other E, I, and D scores, so they were averaged across all responses and were totaled into the overall scores.

Lastly, open-ended answers were evaluated qualitatively and are presented in their original words. Common themes are evident in these answers, but the varying information also reveals different ways to understand and approach Web management tasks.

The analysis in this report used the overall average for answers and for the E, I, and D data. The charts in Appendix 4, which summarize each question, show the overall averages at the top of each column. Weighted averages were calculated for questions with multiple answers; these are shown at the bottom of the each column.

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The E, I, and D information helped in identifying the “Most Effective,” “Most Important,” and “Least Difficult” practices. These are the areas that probably deserve the most attention from Web managers and executives.

The notes for each follow-up interview were compiled into a master table for easier review and were reviewed and approved by each participant prior to publication. The answers to question #28 were compiled with interview notes other data collected to present an overall description and Web history of each participating organization (see Chapter 3).

To comply with participants’ requests that most of their individual information remain confidential, the identity of the respondents has been removed, and text answers have been edited to remove identification.

### How to Read the Data in the Appendixes

Scores for Answers are presented as numbers. “Completely” was valued as a 5; “Mostly” a 4; “Somewhat” a 3; “Little” a 2; and “Not at All” a 1. Answer scores are the average of the nine responses (excluding FirstGov). The numeric scores were used as a guide in a gross sense, that is to compare answers—to rank the highs, averages, and lows. Weighted averages were calculated separately for each answer choice in the multiple choice questions. Because the population is so small for this study, differences of a few tenths between scores are probably not significant.

Scores for effectiveness, importance, and difficulty are the averages of the nine responses (excluding FirstGov). A few respondents did not provide E, I, and D scores for some answers, in which case the average was over the smaller number of answers. As with the answer scores, these values were used to compare data within each column. Multiple-choice questions have a different overall average from the other questions for the several reasons described above in “analyzing the data.”

Data for FirstGov is presented by itself for comparison in Appendixes 5 and 6. It should be noted that the overall scores for FirstGov are higher in effectiveness and importance, and lower in difficulty than for the other respondents. A good description of FirstGov history and operations is included after the other descriptions in Chapter 3.

### Limitations of this Study

Interpretation of this data is limited by the design of this study. For example, since a larger, more random population was not included in the study, it cannot be assumed that other organizations do not use these practices or that they use them less effectively. Also, since the questionnaire and interview asked only about selected practices, these organizations may have other effective and important practices that did not come to light in this study. The findings of this study focus solely on the practices addressed in the questionnaire and follow-up interview, as supplemented by additional materials provided by the participants.

## CHAPTER 1: WEB MANAGEMENT BEST PRACTICES IN THE FEDERAL GOVERNMENT

Best-in-Web organizations come in all shapes and sizes. This study sought award-winning large, distributed, and diverse organizations. Their information provides the following recommendations on Web management best practices. For further detail, see Appendices 5 and 6.

### Centralization Models for Organizing Web Activities

How Web activities are managed touches the heart of an organization's culture. The organizing of Web activities emerges as a common theme from most of the recommendations in this report. Best-in-Web organizations have developed various approaches to organizing their Web activities, all of which involve some degree of centralization. (Centralization, as used in this discussion, refers to the bringing together of staff, infrastructure, responsibilities, or other selected Web-related elements into a very few places, organizational units, people, etc.) Elements such as infrastructure and staff for management of content and operations lend themselves better to centralization than content creation, as illustrated by the models below.

HOW to centralize, how MUCH to centralize, and WHAT to centralize varies across organizations. Centralization of selected elements appears to provide benefits such as cost savings or efficiencies in accomplishing goals; but balance is needed in some organizations to gain the benefits of distributed elements such as those involved in content creation. Best-in-Web organizations in this study typically centralize Web infrastructure; likewise, Web managers and production staff (graphic arts, editors, technical writers for derived products, marketers, etc.) are typically centrally organized, if not physically located all in one place.

Just as organizations centralize some elements and not others, centralization of elements for Internet activities does not necessarily mean an organization will also centralize intranet or extranet activities. Many factors affect how intranets and extranets are managed and by whom. In many cases, intranets and extranets are more recent activities under different (or even local) leadership. Also, tighter budgets and the increasing emphasis on customer service and partnering have drawn attention, resources, and priorities away from intranet needs. These conditions have led to development of multiple, independent, locally operated intranets in a single organization. Extranets may need to be like this because they serve specific partner arrangements, but it can be argued that intranets need to serve the entire organization equally, and should therefore be centralized.

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Some organizations manage Internet, intranet, and extranet activities more comparably and with greater overall coordination. Different issues may drive different tasks in each area, but Internet, intranet, and extranet activities are seen by these organizations as equally important – each for its own reasons. In these organizations, centralization includes all three areas of Web activities, thereby providing better coordination, efficiencies, reusability, and cost savings across more Web activities.

Three centralization models are apparent from this study. A unified model (see definitions below) seems to work well for internally homogeneous organizations. A federated model better addresses the needs of organizations that have distributed and diverse organizational units with related and /or coordinated aspects to their missions – a balance of interdependence and independence. A distributed model works well for organizations that have very strong and independent subunits that have little or no need for internal coordination. Some organizations are in transition between models, the result of a management decision to reorganize/restructure their Web activities.

Unified – complete centralization, in which all Web activities are accomplished by one Web Team at the top level of an organization; infrastructure is centralized in one location with appropriate redundancy for load balancing and contingencies. Examples of this model are HUD, SSA, and USPS, but each diverges from total unification in some respect. HUD has one Web team for content (Internet and intranet) across the organization; infrastructure, however, is managed by a separate team. SSA and USPS each centralize their Internet infrastructure and Web operations staff but manage intranet in a separate part of the organization.

Federated – a partial centralization at the higher level, in which subunits of an organization coordinate overall Web management, allowing independence or “flexibility” to subunits for some aspects (for example content creation), while centralizing other aspects at the top level. A good example of this model is NASA, which has 11 locations that do different work, but ultimately work together to accomplish goals. Like Treasury, NASA provides a top-level point of entry, and the subunits work together to organize and consolidate Web content at nasa.gov where it makes sense to do so, while leaving some content tasks and infrastructure at the subunit level where appropriate. NASA Web staff has developed a style guide and templates to present NASA content consistently (although look and feel varies considerably when navigating into specific areas); the style guide allows content owners in the subunits the flexibility they need to manage their content. FirstGov (and other E-Gov websites) may be examples of the Federated approach. FirstGov has a centralized Web team, Web hardware and software infrastructure, and Web policies and procedures for management of the site. However, all content on FirstGov is owned by partner organizations. FirstGov formally partners with many organizations to create the Web presence. FirstGov provides the point of entry that has links to content owners’ sites.

Distributed – centralization at the subunit level, in which the top-level organization does not or can not standardize, coordinate, or control all Web management for all the subunits. An excellent example of this model is the Department of the Treasury, whose Web presence is an overview for and point of entry into its subunits. Treasury allows the subunits to retain separate designs for look and feel and to manage their Web activities independently, with little overall coordination. The Internal Revenue Service (IRS) Web site, winner of many recent Web awards, is by far the largest component of the Treasury’s Web presence. Other subunits of Treasury such as the U.S. Mint, the Bureau of Engraving and Printing, the Financial Crimes Enforcement



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Network, and the Bureau of Public Debt (to name a few), have very different functions and most have long histories. They also have much smaller Web presences than IRS, which interacts with virtually every American adult. These are good reasons for Treasury to use a Distributed approach. Each Treasury subunit is a good point of centralization for their Web activities, enabling them to centralize as best suits their organizations.

Some organizations in this study might best be characterized as “in transition” from distributed to unified: EPA, FAA, and GSA. Each has internal diversity, but they have decided to work through the challenges of unification, and are in the process of standardizing Web policies, processes and procedures, content design, and navigation. They are reorganizing their Web sites, Web infrastructure, Web staff, etc., to provide their customers with more effective access to their resources over the Web.

They see unification as a better way to organize their Web infrastructure, staff, and content, and thereby better serve their customers.

## Overall Strategies

Best-in-Web organizations follow these overall strategies:

They operate with top-level executive support that –

- Views the Web as integral to organizational activities
- Funds Web activities adequately
- Aligns Web tasks with mission goals
- Involves all stakeholders in the organization around the Web as a key tool in accomplishing the goals
- Entrusts Web work to a full time “Web Team” under the leadership of a professional Web Manager
- Positions the Web manager and team in the Communications or Public Affairs Office, where contact with executives can be frequent and effective
- Employs the Web as the official voice of the organization to outside constituencies
- Involves Web managers in strategic planning and decision making

They have one Web site for the organization in order to –

- Use consistent page design standards and/or templates for the entire Web site
- Bring all information and services together into one place where customers can easily find it and where maintenance of the content is most easily managed
- Present the organization’s “brand” or corporate image to best advantage and assure authenticity and accountability for the content
- Coordinate all Web activities across the organization
- Employ an enterprise architecture designed around the major categories of their information and services
- Centralize their Web infrastructure
- Standardize on software and hardware for the Web

They are passionate about serving their customers by –

- Knowing their customers and what they want

## **Best Practices in Web Management**

- Seeking new customers
- Gathering customer feedback and turning it into improvements
- Continuously keeping content fresh, not just by adding new content, but by improving navigation and moving old content to an archive
- Making investments in outreach and marketing to help customers find and use their Web content and services

They measure their performance to drive improvement by –

- Using project management techniques to plan and monitor and report on Web work
- Gathering and using customer feedback and Web statistics
- Monitoring progress toward goals
- Using accomplishments, metrics, customer and senior executive satisfaction, and external recognition to demonstrate how the Web contributes to accomplishing mission goals

In short, Best-in-Web organizations take a top-leadership-led approach to accomplishing specific goals, organize their efforts to maximize their Web investment, seek to please their customers, and track their progress.

## **Web Management Best Practices in More Detail**

Looking into specific areas of Web management reveals more useful detail in these practices.

### Best Practices for Management of Content

The customer's need for content should drive an organization's Web activities. Content is why customers come to an organization. Content includes text and images, as well as applications that provide interactive services over the Web. Different kinds of content need different kinds of management, and all management of content needs to allow for differences in the life cycle of different kinds of information.

- Translate Web analytics and customer feedback into improvements to the Web site. This issue ties for the most important practice with funding Web activities adequately and having leadership that considers the Web to be integral to the organization's activities.
- Use content standards. Ensure that Web content standards are understood in the organization. Consistent page design is better for the customer and for site maintenance than pages with different navigation and layout elements and a different "look and feel." Templates are an easy and effective way to enable content providers to meet the standards without having to know the detailed and complex details. Templates and a common design approach enable an organization to reinforce its brand and image.
- Ensure that new content meets prescribed standards. Review new content before it is approved for posting. Approval may be by a supervisor, an executive, a Web Council, or a Public Affairs officer. It is important that there be a clearly articulated, broadly understood, and well enforced process of approval. Approval of text and images can be a separate process from approval for new Web applications that are developed.

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- Review posted content regularly. This housekeeping is even more important than initial content approval. Content owners and Web staff need to work together to remove old content annually or more often. This can be either by a manual process or one that is aided by content management software. (“Retired” content needs to be retained in an archive so it is not lost. National Archives and Records Administration is developing standards for Web records for use across the Federal Government.)
- Find and fix underused content. Evaluate Web logs to find content that may be underused. Make wording, format, and linking changes to try to improve access to underused information.
- Involve all stakeholders in the development of new Web functionality. The organization’s leaders, customers and partners, content owners, and the Web team need to work together to get results. Roles and responsibilities need to be clear, and the process needs to be well managed.
- Write for the Web. Be brief, use bullets, keep each page simple, and use terms customers understand. The accepted standard is to write for the 8<sup>th</sup> grade reading level.
- Minimize graphics. Use them only for content enrichment. Be sensitive to the limitations of users with older browsers and computer capabilities. Do not use animations or flashing text, because these involve considerable amounts of data that slow the loading of the page.
- Simplify the management of content you co-own with partners. Use a clear memorandum of understanding with well-specified exit strategies and statements regarding ownership. Ensure that content meets the host organization’s content standards, or make an appropriate disclaimer, or consider a different hosting arrangement. This is a very difficult area.

## Best Practices for Improving Navigation

Best-in-Web organizations continually review and tweak navigation, yet do not change familiar navigation tools and overall structure too often.

- Avoid major Web site redesign more often than once every 18 to 24 months (“How to Manage Your Web site”).
- Fix broken links as content changes. New tools make this an easy task. FirstGov does this daily.
- Look for ways to improve the customer’s Web experience by reducing clicks.
- Learn from other Web sites. Copy good practices.
- Manage data so that Web content can be found by the major search engines. Have a search strategy and enforce standards of titling and metatags.

## Best Practices for Identifying Customers and Obtaining and Using Customer Input

Meeting the customer need is the central goal, and Best-in-Web organizations work at this from many directions. They get to know their customers and they measure customer satisfaction using whatever means they can.

- Identify customers using customer surveys and feedback.
- Gather customer satisfaction data using customer surveys and emails sent to a “Contact us” address.

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- Use focus groups, usability testing, and other in-person interactions (Michael, 2003).
- Use Nielsen//NetRatings, Web statistics, and other ways to get to know customers and what they want.
- Learn to think like customers; know what they want, and how they come looking for it.

### Best Practices for Managing the Infrastructure

Most Best-in-Web organizations centralize their Web infrastructure.

- Locate Web servers and data storage in very few locations, and have redundant systems for load balancing (to handle variations in traffic volume) and for offsite backups in case of an emergency. IT responsibilities like these are typically in the domain of the CIO, providing this service to the Web manager's part of the organization.
- Consider a hosted infrastructure (owned and operated by contractors). This can be difficult to establish, but can provide good service and flexibility as needs change. Much depends on the details of the contract, especially the service level agreements. Be sure to retain ownership of data and software code; this enables the organization to change contractors more easily if and when it is needed in the future.

### Best Practices for Managing Staff

Web activities are performed by many kinds of employees.

- Ensure that management and leadership of Web activities are done by government staff.
- Place Web operations tasks (posting of text, reviewing links, correcting errors, handling customer feedback, etc.) in the hands of one content-oriented team of employees directed by the Web manager. This team needs to be very oriented to satisfying external customers.
- Staff these activities with well-trained Web experts. Resist allowing other professionals to take on Web tasks when it takes away from their other duties. Inadequate or uneven staffing of Web efforts is a problem even for some Best-in-Web organizations.
- Consider performing many of the hands-on tasks of content posting, new coding, and IT operations and maintenance with contractors.
- Engage staff from the organization's programs to create new content and help review posted content.
- Consider outsourcing for IT operations and maintenance tasks. This staff typically handles more IT tasks than just Web activities, so they are oriented to the needs of internal system users. If Web managers do not control these activities, senior executives need to ensure coordination of priorities and accomplishments between the Web and the IT groups.
- Recognize and celebrate Web accomplishments appropriately.
- Review titles, position descriptions, and grade levels for Web staff for consistency and level of responsibility. Today's deficiencies in this area apparently do not reduce the effectiveness of the work done, but this is nonetheless an area that needs work. The CIO Council established by the E-Government Act of 2002 that reports to the

## **Best Practices in Web Management**

Office of Management and Budget is addressing IT staffing issues across government; this may address some Web staff positions (CIO Council Strategic Plan, 2004).

### Practices for Budget Planning

Web activities hide in many parts of an organization's budget, because they are an inherent part of business processes that span many parts of the organization. IT procurements, contract costs for staff, government staff salaries, maintenance and license costs, training and travel, and content creation are often seen as different kinds of money and are handled in different parts of the budget.

- Fund Web activities adequately. Inadequate or uneven funding of Web efforts is a problem even for some Best-in-Web organizations. This issue ties for the most important practice with translating Web analytics and customer feedback into Web site improvements and having leadership that considers the Web to be integral to the organization's activities.
- Budget for new Web developments (which may include content and IT tasks) as projects and include all the expected costs.
- Budget for Web operations as predictable operating costs.
- Expect to make IT procurements every year, but don't require specific details until the year of purchase. Consider these to be long-term investments and establish a general or working capital fund for these purchases.
- Budget for the task of reviewing Web content in every program that has content on the Web.

### Practices for Intranet and Extranet

Intranet and extranet work is generally handled very differently, although this may not be a best practice.

- Reconsider the idea that the Internet's public nature makes it more a priority than intranet. Reevaluate the potential of intranet and extranets as tools for accomplishing the mission (Michael, 2003).
- Review the role of the Public Affairs and Communications offices (with their focus on external communications), and decide if they should manage only the Internet or public side of the organization's Web presence, while IT and Operations staff manages the intranet or internal side. Can one Web Team bridge these areas and handle it all, including extranets? Some Web managers already handle all Internet, intranet, and extranet activities. They present comparable content across these platforms, but the look differs from Internet to intranet. Coordination, economy of scale, reusability, lowest long-term cost of ownership, and other considerations may lead more organizations to consolidate these Web activities.

## **FirstGov Web Management Practices**

FirstGov Web site operations are directed by one Web manager. They also attribute their success to a high-performance Web team, which is well trained, flexible, and looks at things from the customer's perspective. They work with content managers across

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government to identify best practices and lessons learned, to share resources, and avoid duplication.

- FirstGov strives to continually improve by listening to their customers. They do market research to know who their customers are and what they need. They look at phone and email inquiries and Web traffic to determine most requested content and ensure that those topics are easily accessible. They listen to their customers in as many ways as possible -- including usability testing and an online customer satisfaction tool -- and then use that feedback to improve the site.
- They benchmark with other top sites to learn best practice or common practice or an innovative way to present content. They also look at what the government has to offer across all agencies; this is important since the public doesn't always know what the government provides or which governmental entity provides the information.

FirstGov employs the following general principles in determining FirstGov content and sources of information:

- Segment customers and determine what those customers want.
  - Sources of customer segmentation: Bureau of the Census, Small Business Administration, Office of Personnel Management, and other data sources; FirstGov.gov statistics; Internet statistics
  - Sources of what customers want:
    - Current FirstGov visitors—FirstGov site and search statistics, “contact us” e-mail, frequently asked questions (FAQs), suggest-a-link, customer satisfaction survey, Nielsen net ratings
    - Potential FirstGov visitors—call centers (FAQs); other government and partner Web managers; Internet and market research statistics (Hart-Teeter, Pew, usability, etc); usability testing, focus groups, benchmarking
- Determine what government has to offer.
  - Sources: E-Gov initiatives, government agencies and cross agency portals, partners, FirstGov search, benchmarking, FirstGov’s daily broken links report, in-depth research and analysis, review of hot news, new sites, and awards criteria
- Offer multiple paths to services information.
  - People look for services and information in different ways.
  - Develop content once. Repurpose it to serve different needs of different customers.

FirstGov posts an official linking policy on the Web site that outlines the criteria used to select links for the FirstGov Web site. The FirstGov staff evaluates all suggested links using the following criteria:

- Is the Web site:
  - An official government-owned or supported Web site?
  - Accessible and applicable to a wide variety of customers?
  - Accurate and current?
  - Consistent with the government's privacy and security policies regarding personal information?
  - "User-friendly?"

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- Does the Web site:
  - Provide official government information or services?
  - Complement existing information, products, and services on FirstGov.gov?
  - Provide relevant, useful, and authoritative content for citizens, businesses, and/or government officials?
  - Meet one or more of the following "highly desirable" criteria?
    - Cross agency or governmental boundaries (e.g., students.gov, fedforms.gov and nutrition.gov)?
    - Enable citizens, businesses, and/or government officials to conduct transactions online (e.g., buying stamps or coins, replacing Medicare cards, and filing taxes)?
    - Provide citizens, businesses, and/or government officials with the information they need to interact directly with government organizations (e.g., clearly available telephone numbers, street addresses, e-mail addresses, and instructions)?
    - Provide citizens with information about service performance (e.g., Nursing Home Compare, AirNow and Ontime Airline Statistics)?
    - Provide community-level information and services (e.g., MapStats, post office locators, Social Security Office locators, National Park Service Guides, and veterans' facilities)?

FirstGov employs the following Web content best practices:

- Define the purpose of the Web site.
- Define the customer(s) and continue to refine the definition.
- Focus on customer, not on organization or program names.
- Provide customer interaction and listen to the customer.
- Respond to customers.
- Define information architecture.
- Offer information/services in different ways/paths.
- Avoid duplication and confusion – develop once; use many times.
- Get forms and services online.
- 3-click rule for common services/information.
- Structure content to make it visually scan-able.
- Use table of contents (with anchors) for longer pages.
- Create consistent navigation.
- Create consistent look and feel.
- Partner with organizations, agencies, states, and localities to better serve customers.
- Write for the Web: Use plain language customers understand.
- Determine style guide and use consistent style.
- Keep content up-to-date.
- Check often for broken links.
- Create linking, security, and privacy policies and post them on the site.
- Make site accessible and usable for persons with disabilities.
- Test the site in browsers and levels of machines.
- Check back often with customers and use this input.

## **CHAPTER 2: HOW TO BECOME A BEST-IN WEB ORGANIZATION**

How does an organization become a “Best-in-Web” organization? Is this like the analogy of children learning to walk before they can run? Can an organization change gears and begin implementing Best-in-Web practices at whatever point they now operate, or must they first lay a foundation? Let us consider what this study’s participating Best-in-Web organizations recommend. Any organization, large or small, government or otherwise, can take these steps and then be ready to operate as a Best-in-Web organization.

While these steps may seem redundant to the Best-in-Web practices described in Chapter 1, the emphasis here is on the sequence of actions that need to be taken. These are a logical progression of steps that will strengthen an organization’s Web presence to be effective internally as a strategic tool and effective externally as a source of information and services to customers. A strong Web organization will be able to implement the Best-in-Web practices described above.

### **The Eight Steps to Becoming a Best-in-Web Organization**

1. Ensure high level support in the organization for the Web presence. Help leadership see the Web as a fundamental tool for accomplishing the overall mission, a tool that requires long-term funding so that it will evolve with the changing needs and expectations of the organization and its customers. This includes Internet, intranet, and extranet(s).
2. Establish governance of Web activities in a “Web Team” as close as possible to the organization’s leadership and ensure decisions are made in the best interests of the organization and the Web site.
3. Define the purpose of the Web site based on customer needs and what the organization has to offer them.
4. Develop clear business rules for workflow and content approvals, and for maintaining the Web site. Keep content fresh and clean – daily on the top level pages; review all content at least every year, archive old content, and improve navigation.
5. Ensure that the whole organization focuses on the customers and understands their perspective (e.g. customers may not know how the government is organized). Enlist and involve content providers from the programs and challenge each other to find new and better ways to satisfy customers.



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6. Fully integrate the Web into day-to-day business processes of the organization. Use the intranet as the main resource for all employees.
7. Use performance measures and goals that align with accomplishing the organization's larger mission:
  - Customer satisfaction
  - Usability
  - Accessibility
  - Site performance
  - Quality, accuracy, and currency of content
  - Compliance with legislation, policies, and agency priorities
  - Marketing and outreach
  - External validation -- benchmarking, press, awards, etc.
8. Promote your Web site by ensuring that customers and potential customers are aware of the Web address and the information and services they can find.

## **Regulations Pertaining to Federal Government Web Sites**

In addition to following these steps, to be able to follow Best-in-Web practices Web teams must understand and follow the considerable amount of general management guidance and regulations that pertain to Web management.

- The Freedom of Information Act of 1966, which grants anyone the right to request access to federal agency records or information.
- The Federal Information Security Management Act of 2002, which provides the framework for securing the Federal Government's information technology systems.
- The Government Performance and Results Act of 1993, which strategic plans every three years and annual performance plans and reports.
- The Paperwork Reduction Act of 1995, which sought to minimize paperwork burdens and maximize public utility of information collected. Requires OMB approval before collecting information from the public.
- The Information Technology Management and Reform Act of 1996 (Clinger-Cohen Act), which give OMB authority to manage Executive Branch IT resources.
- OMB Circular A-130, Management of Federal Information Resources, which details the IT Capital planning process (with Exhibit 300), Security Plan, Risk Management Plan, Privacy Plan, and the Enterprise Architecture framework, and calls for post-implementation reviews.
- Federal Order 13011, Federal Information Technology, signed 1996, establishing the CIO Council.
- The Government Paperwork Elimination Act of 1988, which requires Federal agencies to offer electronic maintenance, submission, or disclosure of information, when practicable as a substitute for paper, and to accept electronic signatures when practicable.

## Best Practices in Web Management

- The Children’s Online Privacy Protection Act of 1998, which regulates unfair and deceptive practices in connection with the collection and use of personal information from and about children on the Internet.
- 1998 Amendments to the Rehabilitation Act of 1973, strengthening provisions addressing access to government information for people with disabilities (Section 508).
- The President’s Management Agenda, of 2001, which requires federal agencies to be more citizen-centered and results-oriented, and provide more electronic services to customers
- The Treasury and General Government Appropriations Act for Fiscal Year 2001, which mandates maximizing the quality, objectivity, utility, and integrity of information disseminated.
- The E-Government Act of 2002, which designates FirstGov as the official Web portal of the U.S. government. It also requires agencies to set up a process to determine what information will be accessible online and by other means, and to develop schedules for making that information available, and report on this progress regularly.
- The Notification and Federal Employee Anti-Discrimination and Retaliation Act of 2002, which increases Federal agency accountability for acts of discrimination or reprisal against employees. This act requires the posting of EEO complaint data on the agency’s Internet site. Each Federal agency must post on its public web site certain summary statistical data relating to equal opportunity complaints filed against the agency.

## Selected Guidelines and Other Resources

Many organizations have published (or are creating) guidelines that specify detailed standards for the design and management of their Web pages. These help Web teams operate effectively and ensure they meet the legal requirements for Federal Government Web sites. The following examples illustrate various approaches to organizational guidelines. The Department of Energy example is particularly good for its organization, clarity, and Web presentation (accessibility).

- Department of Defense Web Policies and Guidelines ([www.defenselink.mil/webmasters/](http://www.defenselink.mil/webmasters/)).
- Department of Energy, Energy Efficiency and Renewable Energy Communications Standards and Guidelines ([www.eere.energy.gov/communicationstandards/](http://www.eere.energy.gov/communicationstandards/)).
- Department of Housing and Urban Development Web Policies and Web Management Structure ([www.ezrc.hud.gov/library/bookshelf15/policies/wwwpol.cfm](http://www.ezrc.hud.gov/library/bookshelf15/policies/wwwpol.cfm)).
- GSA Office of Governmentwide Policy report, “Performance-Based Management: Eight Steps to Develop and Use Information Technology Performance Measures Effectively” (Plunkett, no date).
- NASA Worldwide Web Best Practices, Draft 2.0, NASA Best Practices Team Report, August 29, 2000, 75 p. ([nasa-wbp.larc.nasa.gov/](http://nasa-wbp.larc.nasa.gov/)).
- NIST publication 800-37, “Guide for Security Certification and Accreditation of Federal Information Systems.”

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- Interagency Committee on Government Information, “Recommended Policies and Guidelines for Federal Public Web Sites,” (<http://www.cio.gov/documents/ICGI/ICGI-June9report.pdf>).

Web customer feedback programs like the American Customer Satisfaction Index are available for government participation (for a fee) (American Customer Satisfaction Index, <http://www.theacsi.org/overview.htm>). Customer feedback from these programs can be used to improve the Web site. Outside organizations evaluate Web sites, recognizing excellence with awards. Web managers can use the criteria for these awards to improve Web site design and the management of Web content and applications. Academia, professional organizations, niche media companies, training organizations, and other organizations study management, IT, and other business and government activities, and they generate considerable information (for example, Kellett, 2004).

## CHAPTER 3: A CLOSER LOOK AT “BEST-IN-WEB” ORGANIZATIONS

Each participating organization provided a summary of its Web history and challenges, which, together with some general information, better explains their Web strategies and accomplishments.

This chapter presents a snapshot of each participating organization. Included are the name, homepage address (URL), the “About Us” URL, the organization’s mission statement, number of locations, number of employees, number of web pages, the annual budget (for the organization), the steps they took in developing their Web presence, and notes from the follow-up interview, which describe their Web approaches in more detail. This summary shows that there can be many strategies used in Best-in-Web organizations. These organizations illustrate the three models of centralization: unified, federated, and distributed.



### Department of Housing and Urban Development

Homepage URL	<a href="http://www.hud.gov">www.hud.gov</a>
"About Us" URL	<a href="http://www.hud.gov/about/index.cfm">www.hud.gov/about/index.cfm</a>
Mission(s)	To increase homeownership, support community development and increase access to affordable housing free from discrimination.
# of locations	81
# of employees	9,100
# of Web pages	110,000
Annual budget	\$30.5B
Steps in	From the very beginning - in 1995 – HUD Web managers focused on

## Best Practices in Web Management

developing their Web site	citizens as the primary customer. HUD writes and organizes information from the customer's point of view; and HUD reaches out to customers to get their views of the Web site, so it can be made better. Some very smart executives at HUD - both political and career - made some very good guesses in the mid-90s. The HUD Web team has always been part of the Secretary and Deputy Secretary's office, tying it to the management of HUD as a whole. See the explanation entitled "Why It Works" at <a href="http://www.hud.gov/library/bookshelf15/Webwhy.cfm">www.hud.gov/library/bookshelf15/Webwhy.cfm</a>
Criteria for selection to this study	Brown University, Center for Public Policy 2003 Web evaluation score: 62 ACIS score, first quarter 2004: [none] Recent Web awards: [none]

### HUD Follow-up Interview –

To balance centralized authority (for Web management) with distributed activities HUD uses a “centrally decentralized” approach. Strict central policies are enforced across a distributed organization. To provide overall consistency and effectiveness in serving all Web customers, HUD content developers work within general parameters and the content goes into HUD's single design. HUD does a quarterly sign-off on the content of the Web (in HQ by the Assistant Secretary, in field by Regional Directors); the first time the Assistant Secretary for Housing was required to certify, he had his deputies print and sign off each page before certification. In this first round, this part of HUD alone reduced the number of their pages by 1200.

HUD Deputy Secretary (in effect, the “Chief Management Officer”) has overall responsibility for content and the Chief Information Officer has control of IT infrastructure operations and maintenance. HUD has two Departmental Web managers who work for the Deputy Secretary: one who coordinates the HQ office Web managers and one who coordinates the regional Web managers. Together, the Departmental Web managers manage the Departmental Web Team and propose policies, develop procedures, and provide leadership for HUD's entire Web management organization. Each HQ Office has a Headquarters Web manager. In the field, each of HUD's ten regions has a Regional Web manager. All HQ and Field Web managers are trained, directed, and coordinated by the Departmental Web managers. Web content is the driver, and IT is seen as a support function for HUD overall.

The Departmental Web Team and Regional Web managers use a single technical support contractor to operate and maintain the Web infrastructure. HQ Web managers use contractors and government employees to do this work. Oversight is by HUD government staff, and most Technical support staff is contractors.

The Departmental Web Team and Regional Web managers are GS343/45 Management Analyst positions with basically the same position descriptions. HQ Web managers use a variety of titles, PD's, and grades for these positions. These are high-grade government positions with major responsibilities. HTML coders and other Web support staff are mostly contractors, although government staff does some coding in HUD HQ.

HUD's Web Team does strategic planning year-round, but the annual goals are articulated in the HUD Management Plan every October. The Web Team creates a "State of the Web" report every spring, laying out accomplishments, and explaining goals for the future; this supports the Investment Board's review of budget proposals. A HUD scoring process occurs in the summer, and Exhibit 300's for OMB are done in the fall. Funding for Web infrastructure at one time was considered overhead, but now is from project funds, forcing Web activities to compete with projects for funding.

Even before PMA came along HUD has been doing PMA-type tasks (strategic planning, aligning and measuring for effective outcomes, serving citizens, and managing effectively). HUD is involved in E-Gov initiatives. They are a major participant in the homes.gov project, which lists all properties being sold by Federal agencies, and they participate in grants.gov. Considering E-Gov in the broad sense, HUD excels. HUD is a leader in providing access to information of many agencies through their Web-based Kiosk program and HUD's "public computers." HUD also partners with hundreds of local organizations to provide Web access to housing information.

### HUD, the Model of Unified Web Management

HUD's current approach to Web management in many ways is the model for a less internally diverse organization to follow. Enabled by the support of senior HUD leadership, a "centrally decentralized" team manages all content on the HUD Web site. Regional and Headquarters Web managers work together as a team. These are professionals who have the title of Web Manager; they devote their time and expertise to Web tasks and are evaluated on appropriate criteria. The purpose of the HUD Web site is to give citizens and partners information and services about homes and communities so they can solve their problems and meet their local objectives (cite Statement of purpose). The HUD Web site, therefore, includes links to non-HUD sources of information and services. Every HUD office contributes to the Web site.

The Web site has a uniform overall design with minimal graphics but with many cross-links on a page for ease of navigation. HUD seeks to present what the customers want and in terms they can easily understand. New content is written "for the Web," it is tested and approved before being posted, and it conforms to the official template. Content is validated quarterly and out-of-date material is archived.

HUD gathers feedback from their customers and partners in many ways, and they monitor their Web statistics, and use the data to improve the Web site. They also market their Web site in many easy and low-cost ways, for example by handing out bookmarks with the Web address at a table at community events where they can also ask people for their feedback about specific pages. Web managers also reach out to HUD partners, providing Web Clinics at which they teach how to set up and operate a Web presence to lay people in small organizations. They even developed the HUD Web Clinic Wizard, free software they give away that helps build Web sites. They also have a special Web site for "alumni" of these clinics where they can download copies of the clinic materials, the latest version of the Wizard software, a discussion room where they can post questions and offer lessons learned, and links to their own Web sites. This all leverages

## Best Practices in Web Management

HUD expertise and builds a wider network of information sources that can help people with their housing needs.

Infrastructure that supports the Web is managed under HUD's Office of Administration, which includes the Chief Information Officer and an Executive Services Arm. The CIO manages the hardware and software, and tech support is under contract with Executive Services. This approach splits the management of Web tasks into content and infrastructure, an approach other organizations use.

The HUD Web site is one element in a larger approach to serve citizens, an approach that includes more than 100 kiosks in public places around the country and Public Computers in HUD's 81 offices that provide free Web access to anyone. HUD Web Clinics also extend this service.

Note also that HUD Web Managers are leaders in the Interagency Committee on Government Information, which is developing the new Web content standards for Federal Government use ("Recommended Policies and Guidelines for Federal Public Web sites," 2004 <http://www.cio.gov/documents/ICGI/ICGI-June9report.pdf>).

### Notable Aspects of the HUD Web Site

- Its name: Homes and Communities
- Feature buttons
  - Local Information
  - En Espanol (link to Spanish version of virtually every page; a parallel Web site with headers, footers, and sidebars all in Spanish and full navigation)
  - Print version
  - Email this to a friend
- Text only mode
- Let's Talk (interactive online communication with a HUD representative)
- Resources (a library of reference documents filed by subject, including Web Management and Good Stories)
- Pages dated
- Channels for kids, students, teachers, and media
- Resources for "Alumni" of HUD Web Clinics



## Department of the Treasury

Homepage URL	<a href="http://www.treas.gov">www.treas.gov</a>
"About Us" URL	<a href="http://www.treas.gov/education/duties/index.html">www.treas.gov/education/duties/index.html</a>
Mission(s)	To promote the conditions for prosperity and stability in the United States and encourage prosperity and stability in the rest of the world.
# of locations	
# of employees	116,000
# of web pages	28,500
Annual budget	\$11.2B
Steps in developing their Web site	<ol style="list-style-type: none"> <li>1. Involved upper management in major web activities.</li> <li>2. Kept management aware of problems and successes.</li> <li>3. Encouraged a sense of ownership of the agency Web site by content providers and web staff.</li> <li>4. Involved stakeholders in redesign activities.</li> <li>5. Developed and enforced web content standards.</li> <li>6. Measured customer satisfaction and adjusted to changing customer needs.</li> </ol>
Criteria for selection to this study	Brown University, Center for Public Policy 2003 Web evaluation score: 64 ACIS score, first quarter 2004: 64 Recent Web awards: E-Gov 2003

### Treasury Follow-up Interview

Web management at the Department of the Treasury occurs at 2 major levels, at the Bureaus and at the Department. Treasury's eleven Bureaus are diverse organizations that manage their own Web sites. (IRS stands out as an award-winning Web organization that got very high scores from ACIS and the Brown University study.) While Treasury Bureaus have authority over their own Internet activities, they are required to have a link to [www.treas.gov](http://www.treas.gov) on their home pages and observe other Treasury or OMB regulations.)

The Web Manager oversees a Department-level Internet activity that showcases Departmental offices and creates a Department "Web front door" to the Treasury



## **Best Practices in Web Management**

Bureaus. He manages a contract staff of 5 who handle daily content updates, new site creation, special projects and other web activities. The management of the physical infrastructure for [www.treas.gov](http://www.treas.gov) is outsourced and centralized. Treasury also hosts activities for some Bureaus who have left the department for Homeland Security. This model handles current Web activities. Treasury has a Web Working Group comprising members from across all its bureaus.

Management of intranet and extranets is different from management of their Internet activities. The Treasury Intranet site is managed by another person.

Strategic planning begins with ideas. Throughout the year Treasury receives requests for new services on [www.treas.gov](http://www.treas.gov) and implements as many as time and resources allow.

The Presidents Management Agenda and the E-Government Act of 2002 have influenced Treasury, and will do more in the coming months. Treasury staff has been involved in the Interagency Committee on Government Information, which drafted the new proposed Web standards, which OMB is expected to adopt by year's end. The Treasury Department's Web site already complies with these proposed standards for the most part, but the new standards will change some things on their Web presence.

### Notable Aspects of the Department of the Treasury Web Site

- Links for buyers and collections, including seized property auctions
- Links to major IRS web service sites
- Webcasts (new or previous events back to September 2002)
- Pages for researchers, students, and teachers
- Links to buying Savings Bonds and other Treasury securities online 24 X 7
- Email subscription services for 20 kinds of information
- History of the Treasury
- Spanish pages for selected content



## Environmental Protection Agency

Homepage URL	<a href="http://www.epa.gov">www.epa.gov</a>
"About Us" URL	<a href="http://www.epa.gov/epahome/aboutepa.htm">www.epa.gov/epahome/aboutepa.htm</a>
Mission(s)	The mission of the Environmental Protection Agency is to protect human health and the environment. Since 1970, EPA has been working for a cleaner, healthier environment for the American people. View the Agency's complete <a href="#">strategic plan</a> , <a href="#">annual report</a> , and <a href="#">policy resources</a> .
# of locations	>45
# of employees	18,000
# of web pages	539,000
Annual budget	\$7.6B
Steps in developing their Web site	EPA coordinated a Web workgroup to network practitioners with one another. A "Web guide" was developed to inform practitioners of best practices, policies, and procedures. Early on, in the mid-1990's EPA realized the need to establish a management structure to support the Web. Senior leadership took a direct interest in the Web as "the face of the Agency" and provided input and direction in how it should evolve. EPA sought the advice and support of experts in the field (e.g. Jakob Neilson, Gerry McGovern, Lisa Welchman, and Eric Schaeffer). EPA uses librarians to organize the Web content and to assess the effectiveness of that structure over time.
Criteria for selection to this study	Brown University, Center for Public Policy 2003 Web evaluation score: 50 ACIS score, first quarter 2004: [none] Recent Web awards: Leadership in E-Gov Transformation 2003

### EPA Follow-up Interview

EPA is currently figuring out the best way to balance centralized Web authority with the distributed activities of the organization. EPA used to "let a million flowers grow." This has changed, and now responsibility and authority is being shared between Office of Environmental Information (OEI) (under the CIO) and Office of Public Affairs (OPA) (under the Administrator). An MOU exists between OEI and OPA for Web activities. OEI does the technical work, and OPA controls the content. EPA now has specific design

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specs and policies, as well as procedures to better manage their Web. An EPA Web Governance Task Force recently drafted Web Governance Principles in which decentralization issues are discussed; following the OEI/OPA sharing model, each program and region will have one person on each side of the organization to manage their Web activities. EPA appears to be starting a new approach, where previously informal responsibilities are being formally delegated to these specific people.

EPA has a Web-savvy Administrator and CIO who understand the value and importance of the Web. The organizational structure seems to work well (OEI & OPA); it is supplemented by a distributed network of about 400 people who participate in the EPA Web Workgroup, which meets twice each year and provides advice through a Steering Committee. This workgroup generated a paper "How to improve the EPA Web site," which recommended instituting a template. This was a very well received, helpful suggestion. EPA also has a "WebOwner" listserv that is used for exchange of info and ideas inside the organization. OPA also has a network of communications employees, and they, too, participate in Web-related activities.

EPA has a very centralized Web infrastructure; their National Computing Center is in Research Triangle Park, NC, and they have offsite backup hardware in a different location. EPA policy is that all content needs to be on EPA servers unless a waiver is approved. Infrastructure is operated and maintained by contract staff.

Staff varies across the agency. Some programs have government staff doing Web tasks, but many IT functions are successfully handled by contractors. The high level government staff still can change production Web pages in case of emergency. OEI and OPA government staff are high-level managers. EPA programs allow interested and able government staff to participate in Web activities. No formal career ladders exist for Web positions, but the EPA Web Work Group has raised this issue. They say Web activities need better visibility for recognition, too.

Intranet work is not as centralized as Internet activities. The EPA central intranet (EPA@Work, run by OEI) is relatively recent, and is not accessed as much in some regions because each region has their own intranet site. EPA is working to make the official intranet better and universally accepted. Internet is a higher profile Web activity, and is therefore managed more formally. Extranets are typically set up with program partners and managed by the individual programs. Because there is an increased interest in portal technology, the agency is creating a portal infrastructure to address a possible proliferation of portals.

Internet activities are included in many parts of the annual budget and plan. Much Web-content-related activity is in the programs, and is not easily split from other program work. OEI may be the clearest part of EPA's Web budget picture. The Web is incorporated into Enterprise Architecture and the Capital Planning Investment Process (part of the Exhibit 300 process).

EPA experienced little or no change as a result of the PMA and E-Gov. EPA already was citizen-centered and results-oriented. It is possible that more high-level executives are

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now interested in EPA's Web activities because of EPA's involvement in E-Gov initiatives. CIO staff tracks EPA's participation in E-Gov activities.

### Notable Aspects of the EPA Web Site

- Help Us Improve (a button to gather feedback)
- Feature buttons
  - o Where You Live (info by place name or zip code)
  - o Recursos en español
  - o Print Version
  - o Recent Additions
- Navigation path shown near top of every page
- Pages dated at the bottom
- Pages for kids, students, teachers
- Newsroom for the media
- Subscribe to EPA news updates
- Test Your Enviro-Q (a quiz on environmental facts)
- Link to Best Workplace for Commuters (resources to encourage carpooling and public transportation, in cooperation with Department of Transportation)



### Federal Aviation Administration

Homepage URL	<a href="http://www.faa.gov">www.faa.gov</a>
"About Us" URL	<a href="http://www.faa.gov/aboutfaa/index.cfm">www.faa.gov/aboutfaa/index.cfm</a>
Mission(s)	To provide a safe, secure, and efficient global aerospace system that contributes to national security and the promotion of US aerospace safety. As the leading authority in the international aerospace community, FAA is responsive to the dynamic nature of customer needs, economic conditions, and environmental concerns.
# of locations	FAA has about 600 facilities
# of employees	48,600
# of Web pages	Estimated FAA has over 1 million Web pages
Annual budget	\$13.8B
Steps in	Executive management support. Establishment of a centralized Web

## Best Practices in Web Management

developing their Web site	management office and Web Manager. Active Web Council representing FAA organizations advise Web manager and help implement Web policies and standards.
Criteria for selection to this study	Brown University, Center for Public Policy 2003 Web evaluation score: [none] ACIS score, first quarter 2004: 67 Recent Web awards: E-Gov 2003

### FAA Follow-up Interview

FAA is moving away from a Web approach that allows much creativity and flexibility toward strict standards for content, page design, and navigation. Because they are not starting this policy on a brand new Web site, they still have many styles and formats in their content, and the relatively new Web manager is prioritizing the tasks. For example, improvements to Internet content are the top priority; improvements to intranet content will follow. The Web manager is hoping that recognition of the improvements on the public Web site will influence Web staff to make similar progress on FAA's intranet. The Web Council, who previously managed Web tasks and issues, recommended FAA hire a full-time Web manager, which FAA did in mid-2003. This group comprises representatives from two staff offices and five lines of business, and is chaired by the Web manager; it will be expanded to represent every FAA Office and will be governed by a Steering Committee. Reps must be government staff, not contractors.

The FAA Web Management function is organizationally part of the Office of Public Affairs. The Web manager has access to top management. The Web manager believes the organizational placement of the Web management function is a key factors in its effectiveness - - it needs to be high enough in an organization to influence top management to consider it an important function and an agency priority. The Web management structure needs to be integrated into the Agency organizational so Web decisions are supported and can be implemented. In the past, informal channels were used to extend and support the Web manager's influence. Part of the difficulty is that FAA Web activities currently are decentralized; the Web manager, who still is relatively new to this job, is establishing a more centralized governance structure for web management that will establish responsibility and accountability for Agency Web activities.

FAA is working to centralize their Web infrastructure in two or three hosting facilities. FAA has several data centers. The CIO and Web manager are leading an Agency initiative to optimize and consolidate internal data centers. Senior Web and IT managers are FAA staff, and designers and server operators are contractors. Content creators are FAA staff.

As part of the efforts to consolidate Web hosting, FAA is moving toward reducing the number of people involved in the technical aspects of Web development and making sure that individuals performing that work have the required skills. Currently, some Web development functions are done by staff who are not Web development professionals. Often they perform this work as part of their other direct mission related duties.

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To maintain easy navigation as the Web site evolves, FAA limits the number of links on each page. Using feedback from customers, they organize all their content around the 20 topics customers want most. Customer analysis identified the need for a specific section for pilots, the top visitor group to the FAA web.

FAA's Web manager oversees Internet and intranet. Priority has generally been to address Internet needs first, but intranet needs now are probably more important. (Limited staff prevents all tasks from being addressed.)

Strategic Web planning is accomplished as part of FAA's annual budget process. Web activities are in the programs, not as separate activities with their own budget.

FAA benefits from its participation in the American Customer Satisfaction Index program. Before the recent launch of Web site improvements, FAA received their first ACIS scores – one of the lowest scores among federal agencies. The most recent ACIS scores earned FAA the distinction as the most improved Web site over the past nine months.

### Notable Aspects of the FAA Web Site

- Automated (quick and good!) responses to common questions
- Subscription for airport status info to be sent to your phone, cell phone, pager, email, PDA, or wireless device
- Link to near-real-time airport status info
- Airline in-time performance and causes of delays
- National Wildlife Strike database
- Lots of information for passengers
- Most improved, June 2004, according to American Customer Satisfaction Index
- Link to NOAA weather information



### General Services Administration

Homepage URL	<a href="http://www.gsa.gov">www.gsa.gov</a>
"About Us" URL	<a href="http://www.gsa.gov/Portal/gsa/ep/home.do?tabId=6">www.gsa.gov/Portal/gsa/ep/home.do?tabId=6</a>
Mission(s)	To secure the buildings, products, services, technology, and other workplace essentials federal agencies need by offering, at best value, superior workplaces, expert solutions, acquisition services and management policies.

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# of locations	11
# of employees	12,700
# of web pages	94,200
Annual budget	\$500M
Steps in developing their Web site	<p>Began by contracting with a superb Web design consultant who remediated and then rebuilt the entire GSA Web site; is providing significant ongoing refinements and enhancements to the site; is working with GSA to consolidate all relevant material on the portal. Web management at GSA supports all the best practices discussed in this questionnaire, but Web managers are midway through the process of getting agency-wide buy-in, hence there may be some disparities in these answers. GSA has had excellent support in some areas, and less in others, particularly in regional offices.</p> <p>GSA is about mid-way through the process to revamp the Web presence. This task began with the portal and that work is ongoing. GSA has taken on the larger task of GSA's total web presence and is bringing as much content onto the portal as is feasible.</p>
Criteria for selection to this study	<p>Brown University, Center for Public Policy 2003 Web evaluation score: 56</p> <p>ACIS score, first quarter 2004: 67</p> <p>Recent Web awards: E-Gov 2003</p>

### GSA Follow-up Interview

Web management at GSA is currently in the middle of a redesign of the GSA Web site. Initial launch of this design was late 2003, and it featured services and staff offices. Additional content from regional offices is in process.

This GSA Web site design project follows some that have been less successful. GSA found that when the Web site didn't work well, Web tasks went underground, and the situation soon became chaotic. This has led GSA to create a very centralized management structure to handle Web activities. This is a challenge now as the centralized Web manager works with regional GSA staff to set up a structure that meets the needs of the regions. Three regions have prototyped modifications to the GSA template, which will be reviewed by the Web Council, who will decide which one will be adopted for the regional content. Some Offices in GSA are more decentralized than others, and pulling them together around a uniform Web presence is difficult and takes time and diplomacy. Regional and other decentralized staff needs to be involved in making the change to be able to take some ownership. Previous experience has demonstrated that a dictatorial approach to Web management does not work, and neither does managing the Web site by committee, where there is no clear leadership or authority.

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GSA's Administrator makes the Web a priority, but not to the point of intervening to resolve issues. (That is the Web manager's job.) With full support from the Administrator, the Web manager has three main groups working for her: Headquarters government staff, contractors, and the Web Council, which is distributed across several locations. The Web manager exerts central control, but works as collaboratively as possible to gather input for all decisions. Flexibility is also important as decisions play out so as to avoid or minimize negative consequences. GSA's Web manager works in the Office of Citizen Services and Communications, which also oversees FirstGov and USA Services, which provides Federal agencies the tools to more easily respond to citizen requests for services and information. Broader participation in Web activities across the regions is being accomplished with the help of a Web Council made up of representatives of each region. In addition, a small group of "Executive Editors" manage the content from their offices and regions; these are the few who are authorized to post new content. Authority for final approval of new content rests with the Web manager.

Infrastructure and Web operations are managed by the Office of the Chief Information Officer (OCIO), working in concert with the Web manager. In the OCIO, government staff manages in-house contract staff, while also doing some hands-on work. The infrastructure is centralized at two sites in D.C., which are redundant systems for load-balancing. GSA also has an off-site hot backup system that is planned to become a third redundant load-balancing system.

GSA has recently created a "roles and responsibilities" document to help their senior managers better understand the level of work involved in Web tasks. While not trying to supplant position descriptions, this has helped managers better understand staffing needs. Another recent development in this area is a recommendation from the Inspector General that GSA create a Web presence policy, which would include information on editorial requirements.

Intranet has been handled very differently from Internet. The intranet was initially created in house by one person, and it has not been maintained very well over the years. It was within the Office of Communications, as were Internet tasks, but was not as high a priority as Internet. This is now changing, and the designer of GSA's Internet will also work on intranet design, and the Web manager will have more responsibility for intranet. Extranet sites, on the other hand, are not part of her responsibility.

Strategic planning has been informal in this area in recent years. OCIO handles the Exhibit 300, as the editorial tasks for Web content management are seen as tiny compared to the other operational tasks handled in OCIO. With "so much to be done," the Web manager is always doing strategic planning. "Web management is never done; what is created needs to be operated, maintained, and eventually upgraded." GSA executives understand the ongoing commitment (and multi-year budgets) needed for their organization's Web site.

Web management at GSA has not been influenced much by the President's Management Agenda; they already were customer-centered and results-oriented. GSA participates in the quarterly performance reviews for the PMA scorecard. E-Gov may perhaps be a bigger influence, as GSA has leading roles in a few E-Gov initiatives, as well as

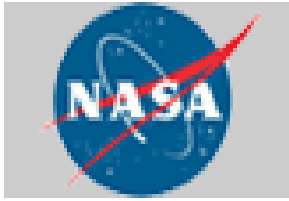


## **Best Practices in Web Management**

FirstGov, but these activities do not affect the GSA Web site and its management directly.

### Notable Aspects of the GSA Web Site

- Navigation note on each page
- Skip Navigation function
- Pages dated at the bottom
- Customize Your Visit and MyGSA
- Find a GSA organization or region
- Site Map grouped into categories
- Channels for Government, Business, and Citizen
- Historic Federal Buildings database



## National Aeronautics and Space Administration

Homepage URL	<a href="http://www.nasa.gov/home/index.html">www.nasa.gov/home/index.html</a>
"About Us" URL	<a href="http://www.nasa.gov/about/highlights/index.html">www.nasa.gov/about/highlights/index.html</a>
Mission(s)	To understand and protect our home planet; to explore the universe and search for life; to inspire the next generation of explorers.
# of locations	11
# of employees	18,900
# of web pages	1,500,000
Annual budget	\$15.4B
Steps in developing their Web site	The NASA Portal evolved from the old NASA Home Page, which was run by the Office of Public Affairs from 1994-2003. The old page was not keeping up with the development of the Internet and growing public expectations. The Portal has a substantially larger budget and staff, and is run as a partnership by the offices of Public Affairs, Education, and the Chief Information Officer. NASA has applied a decade's worth of lessons learned across NASA to the development and ongoing production of the portal, recognizing that no single person or organization has a monopoly on knowledge. NASA has also incorporated a decade's worth of customer feedback into the portal's design and architecture.
Criteria for selection to this study	Brown University, Center for Public Policy 2003 Web evaluation score: 44 ACIS score, first quarter 2004: 78 Recent Web awards: Webby 2003, Webby 2002

### NASA Follow-up Interview

NASA is developing a "federated" Web infrastructure, consolidating Web content and resources where it makes sense to do so, but leaving distributed content and resources intact where appropriate. Some flexibility is expected there, based on the needs of any particular site's customer(s), and details are not yet defined. Most public Web servers will be off NASA networks in a hosted environment. This will simplify security issues, help monitor compliance to Federal requirements, provide more flexibility to respond to demand, and provide for growth. NASA is moving toward a similar federated publishing process for managing content intended for public customers, where content owners are

## **Best Practices in Web Management**

responsible for the quality of their content, and public is directed toward [www.nasa.gov](http://www.nasa.gov) as the main entry into NASA's web resources. The portal team has developed a style guide and templates to present content consistently, allowing flexibility when the needs of a particular customer (for example, teachers or grant-seekers) justify it.

NASA has a split between the management of content and infrastructure. Content is managed by the Media Services Division in the Office of Public Affairs. Infrastructure is managed under the Associate Chief Technology Officer in the NASA CIO Office. Ad hoc web managers are a grassroots group in NASA who discuss and work on Web activities and provide recommendations informally to NASA's managers.

NASA operates in 10 field centers and a few other sites. The IT infrastructure is distributed across these sites, and the new portal is hosted by a commercial Web hosting company.

NASA's portal staff is a hybrid of education and science outreach experts, public affairs personnel and technical staff. A few of the people are full-time on the portal, but many have other duties. The portal's Editorial Board edits new Web content and develops standards for content and operations. An ad hoc group of Web managers has helped the agency meet various federal requirements including Section 508 tasks; this group may be formalized in the future.

The portal's technical staff consists mostly of vendors. The integrator and prime contractor is NASA's Jet Propulsion Laboratory, with eTouch Systems of California as the prime subcontractor, which also developed the content management system. ETouch shares with JPL overall responsibility for the entire project, including the CMS, search, design and support for the editorial board. Hosting has been subcontracted to Sprint and caching services to Speedera networks (Hardy, 2003).

NASA is in the process of developing an intranet, which will be managed by the Chief Information Officer, with content provided from a variety of sources using a web services model. This intranet portal will host links to content and tools needed by NASA employees and contractors. A few small extranets, managed at the local level, also fall under the CIO.

Strategic planning is accomplished in the Exhibit 300 process, but Web activities appear only as part of other projects. Before 2003 the Web budget was funded at a low level, but new management brought new ideas, a new strategic planning approach, linking to enterprise architecture and strategic communication, which has attracted more funding for Web activities.

### Notable Aspects of the NASA Web Site

- Ability to handle VERY high traffic volume
- Low bandwidth option (for users on modems)
- MyNASA
- Very new content to keep up with new data received and important news events

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- Very current NASA organization chart
- Visiting NASA (directions and other info)
- Dazzling imagery and good explanations (perhaps to excess)
- Channels for kids, students, teachers, and media
- En espanol



### National Weather Service

Homepage URL	<a href="http://www.nws.gov">www.nws.gov</a>
"About Us" URL	<a href="http://www.nws.noaa.gov/pa/aboutnws.html">www.nws.noaa.gov/pa/aboutnws.html</a>
Mission(s)	To provide weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.
# of locations	170
# of employees	4,900
# of web pages	91,700
Annual budget	\$825M
Steps in developing their Web site	NWS took a big step when Executive management forced a redesign to a standard look and feel three years ago. NWS employees are very dedicated to the mission of saving life and property. This leads to a level of effort at the grassroots level to provide the best information possible on NWS Web sites for use by the local customer.
Criteria for selection to this study	Brown University, Center for Public Policy 2003 Web evaluation score: [none] ACIS score, first quarter 2004: [none] Recent Web awards: Webby 2003, Webby 2002

### NWS Follow-up Interview

The Web presence is a very sensitive issue at the NWS. Powerful Public sector businesses are averse to any high profile Web presence, so NWS seeks to serve the public

## Best Practices in Web Management

on the Web but keep a low profile and avoid conflict. Few strict Web policies exist in NWS, so they use those of their parent organizations, the National Oceanic and Atmospheric Administration (NOAA) and the Department of Commerce. NWS had a Web guidelines document, but it became outdated faster than they could keep it up. One NWS strength is the template for new Web pages that is well-accepted by content providers. Using the template, content providers can comply with all guidelines and standards without needing to know them.

The NWS Web Manager is in the Office of the CIO. NWS has a matrix type of organization, where people report up in a chain of command, but may work for others on projects totally outside their chain of command. The NWS Web manager has limited authority, but has influence, and can work with supervisors across the agency to “try” to enforce and control; informal communication across the agency helps this. Integrated working teams cross the stovepipes to coordinate and accomplish tasks.

NWS has a widely distributed Web infrastructure, and the Web manager believes it would be easier to manage if it were more centralized. NWS does no outsourcing. Many NWS scientists have good Web skills and enjoy participating in Web activities, thereby accomplishing Web tasks and enabling NWS to minimize full-time Web staff.

NWS has a very small Web staff (less than ten) mostly at headquarters level. About 70 or 80 other people are heavily involved in daily IT management, which includes Web operations. The approximately 300 or 400 content providers do mostly scientific work, but use a small percentage of their time to contribute Web content. A large number of NWS field people are involved in Web work and NWS experiences a 15 to 20 percent turnover in this staff every year. This creates a challenge in maintaining their Web content.

Intranet operations are very different. NWS has no complete intranet for all of NWS, although some offices and regions have their own. NWS has no centralized IT or HR operations. The Web Manager oversees only Internet work.

Because Web activities are handled informally in NWS, there is little mention of Web activities in the agency’s annual planning process.

PMA and E-Gov have not affected NWS very much. They push their info out via the Web site; very little data comes back in. No data is received about individuals, so they have no Privacy Act concerns. The former CIO had started them working on customer relationship management(CRM), but the new CIO has not addressed this yet. NWS is experimenting with this technology, but is unsure if this will continue to be a priority. E-Gov has brought involvement in the Disaster Management program, which is affecting how NWS disseminates their information.

### Notable Aspects of the NWS Web Site

- Maps of current weather watches, warnings, statements, and advisories
- Headline Archive
- NWS Weather Education

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- Navigation note on each page
- Pages dated at the bottom
- NWS local weather forecasts (by city or zip code)
- Past weather events
- Glossary



### Social Security Administration

Homepage URL	<a href="http://www.ssa.gov">www.ssa.gov</a>
"About Us" URL	<a href="http://www.ssa.gov/agency-info.htm">www.ssa.gov/agency-info.htm</a>
Mission(s)	To advance the economic security of the nation's people through compassionate and vigilant leadership in shaping and managing America's Social Security programs.
# of locations	1270
# of employees	65,300
# of web pages	62,400
Annual budget	\$7.2B
Steps in developing their Web site	[Information was provided for this study but not for publication]
Criteria for selection to this study	Brown University, Center for Public Policy 2003 Web evaluation score: 69 ACIS score, first quarter 2004: 76 Recent Web awards:

### SSA Follow-up Interview

[Information was provided for this study but not for publication]

### Notable Aspects of the SSA Web Site

- Feature buttons, including
  - Big Text
  - Spanish

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- Translator to convert any page into 15 languages
  - Add this page to your favorites
  - Email this page to a friend
- ENews, electronic newsletter available via free subscription
- Most popular baby names for every year
- Compliments/Suggestions/Complaints
- Congressional testimony by SSA officials
- Glossary of SSA terms
- History of SSA
- Kid's Pages
- SSA Office Locator (by zip code)
- Password Services
- Press Releases
- SSA Organizational Descriptions



### United States Postal Service

Homepage URL	<a href="http://www.usps.com">www.usps.com</a>
"About Us" URL	<a href="http://www.usps.com/about/">www.usps.com/about/</a>
Mission(s)	Universal access, universal service: [to provide] the same high level of service for every American regardless of geographic location. The Postal Service delivers everywhere, every day to everyone
# of locations	Approximately 37,000
# of employees	Approximately 780,300
# of web pages	Approximately 250,000
Annual budget	\$65B
Steps in developing their Web site	Developed a process around evolution of site design: 1. Developed effective measurement practices and methodologies. 2. Obtained backing and support from senior VP/CMO of the Marketing organization. 3. Managed content effectively. 4. Made small changes over time and measured their success.
Criteria for selection to	Brown University, Center for Public Policy 2003 Web evaluation score: 68

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this study	ACIS score, first quarter 2004: [none] Recent Web awards: E-Gov 2003
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### USPS Follow-up Interview

The U.S. Postal Service operates as part government and part business. Web operations follow this model: the government provides the senior management and contractors comprise the workforce. USPS has moved toward strict standards for look and navigation. The Web site is operated by in-house content managers.

USPS Web infrastructure is centralized and hosted in Eagan, MN; a backup site exists in a different location. Outsourcing for staff is seen as an effective way to manage the infrastructure, but the hardware belongs to the Postal Service.

Management of intranet and extranet activities differ from USPS management of their Internet Web site. The intranet and extranets are managed by the IT organization, whereas the Internet is managed by the Marketing organization. The IT organization has a different methodology, direction, and process for managing the intranet and extranets.

USPS Web managers have trouble with their approach to the budget process. Web activities are not their own line items, but are part of every program's budget. This creates difficulties in planning and operating, since funding is uncertain.

PMA and E-Gov have not yet had much effect on USPS Web activities. USPS sticks to its core activity: delivering the mail. They had already begun Web-enabling postal functions based on the benefit to customers, which responds to goals of the PMA. USPS is very results oriented, with an internal performance measurement process very important and unique to them. USPS also participates in the reviews for the PMA scorecard.

### Notable Aspects of the USPS Web Site

- Quick links for online services:
  - Find a zip code
  - Locate a post office
  - Track and confirm
  - Calculate postage
  - Change address
  - Find a form
  - Print a Shipping Label
  - Buy stamps
  - Purchase insurance
  - Request carrier pickup
  - Hold your mail while on vacation
- Lance Armstrong link to support a cure for cancer





Homepage URL	<a href="http://www.firstgov.gov">www.firstgov.gov</a>
"About Us" URL	firstgov.gov/About.shtml
Mission(s)	The primary mission of FirstGov is to serve the public and help them find the government information and services they need. FirstGov.gov is the official Web portal to all U.S. government on the Internet. It provides easy, secure access to millions of pages of reliable government information and services never before available from a single location.
# of locations	1
# of employees	FirstGov operates with a core staff of 15, including a Director of operations, Content Managers and IT Specialists. FirstGov receives additional support from the Federal Citizen Information Center, the Office of E-Gov solutions, and through a Web hosting contract with AT&T.
# of Web pages	477
Annual budget	\$9M (includes infrastructure and day-to-day operations)
Steps in developing their Web site	The FirstGov initiative was developed in several distinct stages. The earliest stage, sponsored by a White House Working Group during 1997 and 1998, was the creation of the U.S. NonProfit Gateway, a Web site that linked nonprofit organizations to resources throughout the Federal Government. To respond to demand for cross-agency Web services, the General Services Administration (GSA) agreed to develop and test a prototype system, with the working name WebGov, and to explore how to sustain the services. In the Spring of 2000, entrepreneur Eric Brewer offered to donate a powerful search engine to search all government sites. The President accepted the gift and announced FirstGov would be developed and launched in 90 days. GSA subsequently recruited the President's Management Council and the CIO Council to sponsor the initiative financially and to provide members to an interagency FirstGov Board. A small interagency team of U.S. government officials led by GSA was assembled to launch and implement FirstGov. FirstGov.gov was launched in September of 2000, 90 days after the President's announcement.
Criteria for selection to this study	Brown University, Center for Public Policy 2003 Web evaluation score: 84 ACSI score, first quarter 2004: 72 Recent Web awards: <ul style="list-style-type: none"> <li>○ Innovations in American Government Award, 2003;</li> </ul>

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	Ranked #1 in Web-Quality & E-Government Readiness - United Nations "World Public Sector Report 2003 - E-Government at the Crossroads"; Cited as "Model of Collaboration" by Center for Technology in Government at University at Albany, SUNY, 2004; PC Magazine's Top 100 Sites, 2004; See other awards: <a href="http://www.firstgov.gov/About/Awards.shtml">http://www.firstgov.gov/About/Awards.shtml</a>
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### FirstGov Follow-up Interview

[NOTE: Because FirstGov is different from the other organizations in the study, the interview questions were different from those to the other respondents.]

FirstGov uses many approaches to partnering in its Web activities:

1. FirstGov has a network of content managers across government who help ensure their links are relevant and up-to-date. FirstGov performs a daily link check and address any problems discovered.
2. FirstGov has worked with experts to develop and implement a good information architecture and taxonomy.
3. FirstGov actively seeks feedback from many sources and uses it for Benchmarking and to improve the site: ACSI, usability studies, Federal Content Managers meetings and listserv, and other sources. To better meet customer information needs, they work closely with other "channels" within the Federal Citizen Information Center – phone, email, and publications – to stay informed about what citizens need across government.
4. FirstGov works with other GSA staff in the Office of Intergovernmental Solutions to collaborate with state and local governments. This helps ensure that FirstGov meets their needs for government information and that the public has easy access to state and local government information and services on FirstGov.
5. FirstGov also communicates with government staff in other countries, to more effectively benchmark FirstGov with international Web sites, such as government Web portals for Canada, Australia, and the UK.

FirstGov has a centralized content review staff located at GSA; there is no field staff. Technical staff is literally down the hall, but "connected" (GSA's Office of E-Gov Solutions). FirstGov has a centralized infrastructure, with contingency sites in other locations (hosted by ATT). FirstGov uses a commercial Portal software package, and they have recently implemented automated content management software.

To maintain easy navigation as the Web site evolves, FirstGov keeps the "big buckets" in mind: Subject/Topic, Audience Channels, Location (one that they are looking to expand), and Organization (a government directory). The topics change based on customer feedback. FirstGov has won media attention for their Web design (including Frank, 2003).

There is no overall Federal intranet, but FirstGov does have a Federal Government user channel. FirstGov is an exclusively Internet operation.

## **Best Practices in Web Management**

Strategic planning revolves around the budget cycle. They conduct quarterly reviews of strategic plans, goals, and measures. Web activities appear in several parts of the budget, including Federal Citizen Services and as part of overhead (like phones). FirstGov also has an internal improvement process that brings ideas and planning together. Networking with Canada and other countries and reviewing best practices also adds to the strategic planning process.

Performance measures are used to evaluate the success of this program. Positive media recognition, of course, and high-profile awards are an important measure of this high visibility program. The most important performance measures include:

- Marketing effectiveness (measured through the number of site visitors)
- Content based on customers' needs
- Citizen's ability to quickly locate information and services (measured through usability testing and customer feedback)
- Ability to successfully search (measured through Weblog analysis, customer surveys, feedback, etc.)
- Comprehensive, accurate, official, and timely information
- Responsiveness to customers' needs (respond to emails within 2 business days)
- Site availability and performance 24 X 7
- Customer satisfaction (measured through ACSI online survey)
- Reputation and third party validation
- Accessible to a diverse range of customers
- Compliant with Federal Web standards and policies

GSA, the host organization for FirstGov, has an internal annual performance review process.

### Notable Aspects of the FirstGov Web Site

- Breadth of content -- easy access, one-stop shop for hundreds of official, authoritative government services and information sources
- Searches large selection of U.S. government information
- Channels for Citizens, Business and Nonprofits, Federal Employees, and Government-to-Government
- Links "Especially for Specific Audiences"
- Espanol and other languages
- Contact your government by email, phone, and in person
- Suggest a Link
- Locate In-Person Services Near You
- FirstGov Customer Satisfaction Survey
- Consumer Help
- Citizen Top Requests and Frequently Asked Questions
- Intergovernmental Collaboration

### History of FirstGov

## Best Practices in Web Management

The FirstGov initiative was developed in several distinct stages, each of which responded to an increasingly more ambitious set of user requirements. The earliest stage, sponsored by a White House Working Group during 1997-98, was the creation of the U.S. NonProfit Gateway, a Web site that linked nonprofit organizations to resources throughout the Federal Government, particularly information about grants. Once the site was launched and running, individual clusters within the larger nonprofit community quickly began requesting sub-gateways of their own – and in some cases separate, full-scale gateways (such as for environment, health, seniors, or communities). The organizers were faced with demand for at least a few hundred separate cross-agency Web services.

In order to respond, they needed to re-conceptualize and to develop a comprehensive government-wide strategy for gauging public demand, identifying appropriate Federal resources, and tailoring new Federal Web sites to match the unique needs of specific user groups and even individual citizens. In 1998, the General Services Administration (GSA) agreed to develop and test a prototype system, with the working name WebGov, and to explore how to sustain the services. In the spring of 2000, entrepreneur Eric Brewer offered to donate a powerful search engine to search all government sites. The President accepted the gift and announced FirstGov would be developed and launched in 90 days. GSA subsequently recruited the President's Management Council and the CIO Council to sponsor the initiative financially and to provide members to an interagency FirstGov Board. A small interagency team of U.S. Government officials led by GSA was assembled to launch and implement FirstGov. FirstGov.gov was launched in September of 2000, 90 days after the President's announcement.

In July 2002, GSA created the Office of Citizen Services and Communications to bring together the various channels that serve the public – Web site, telephone, publications and traditional media. FirstGov became part of the Federal Citizen Information Center, which also manages the National Contact Center (1-800-FED-INFO) and the consumer publication center in Pueblo, Colorado (<http://www.pueblo.gsa.gov>). FirstGov Web site operations are directed by Beverly Godwin.

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## **APPENDIX 1. DEFINITIONS**

Applications – (see Web applications)

Approaches – Herein defined as specific methods used in accomplishing tasks; how tasks are performed. For example, measuring customer satisfaction is a “practice,” and “approaches” to accomplishing this practice include using customer feedback from “Contact Us” pages, gathering information using Web-base pop-up surveys, convening customer focus groups, and talking with individual customers face-to-face.

Best-in-Web – Herein used to refer to fully and effectively using the Web in accomplishing the mission, e.g. meeting (and exceeding) customer needs.

Content – (see Web content)

Distributed (centralization model) – centralization at the subunit level, in which the top-level organization does not or can not standardize, coordinate, or control all Web management for all the subunits.

Extranet – An intranet that is partially accessible to authorized outsiders. The Extranet can be accessed only with a valid username and password, and your identity determines which parts of the extranet you can view. ([www.rustybrick.com/definitions.php](http://www.rustybrick.com/definitions.php))

Federated (centralization model) – a partial centralization at the higher level, in which subunits of an organization coordinate overall Web management, allowing independence or “flexibility” to subunits for some aspects, while centralizing other aspects at the top level.

Infrastructure – Computer hardware and software, in this case, in support of Web operations; hardware includes servers, data storage, network components (routers, hubs, etc.); software includes operating systems, network software, Web applications, database systems, security systems, and software for programming and maintaining Web sites.

Internet – A global network connecting millions of computers. More than 100 countries are linked into exchanges of data, news, and opinions. The Internet is decentralized by design. Each Internet computer, called a host, is independent. Its operators can choose which Internet services to use and which local services to make available to the global Internet community. ([www.rustybrick.com/definitions.php](http://www.rustybrick.com/definitions.php)) An international network of networked computers that evolved from Arpanet (Advanced Research Projects Agency Network), the predecessor of the Internet. (<http://bton.com/tb17/bebdefs.html>)

Intranet – A restricted-access network between computers within an organization; many communication protocols are used, including http and ftp; access from unauthorized users is prevented by firewalls, passwords, user ID’s, and other methods.

Navigation – The act of moving from one Web page to another by clicking on hypertext links.



## Best Practices in Web Management

Portal – Usually used as a marketing term to describe a web site that is or is intended to be the first place people see when using the web. Typically, a portal site has a catalog of web sites, a search engine, or both. A portal site also may offer e-mail and other service to entice people to use that site as their main "point of entry" (hence "portal" to the web). ([www.ianr.unl.edu/pubs/consumered/nf459.htm](http://www.ianr.unl.edu/pubs/consumered/nf459.htm))

Practices – Herein defined as tasks that Web managers and Web teams do; what tasks are performed. For example, measuring customer satisfaction is a "practice," and "approaches" to accomplishing this practice include using customer feedback from "Contact Us" pages, gathering information using Web-based pop-up surveys, convening customer focus groups, and talking with individual customers face-to-face.

Strategies – Herein defined as overall plans and courses of action, which are accomplished through practices and approaches. "Strategies" include aligning Web tasks with mission goals; "practices" that would support this strategy would include approving new content and reviewing existing content; "approaches" for approving new content would include having well understood and enforced standards and policies for content and requiring formal approval of new pages before they are posted.

Unified (centralization model) – complete centralization, in which all Web activities are accomplished by one Web Team at the top level of an organization; infrastructure is centralized in one location with appropriate redundancy for load balancing and contingencies.

Web applications – Interactive services and/or information provided to customers over the Web.

Web content – All the information viewed on the Web; includes static content (text and images in html code), dynamic content (information that is created on the fly as a user navigates through Web pages, and Web applications).

Web management – The handling of everything involved in building and operating an organization's Web presence.

Web page – An HTML-scripted file which may contain text, images, a colored and/or patterned background, and even embedded video and sound files. (<http://bton.com/tb17/bebdefs.html>)

Web presence – The totality of an organization's Web presentation to the customer; the complete suite of Web sites owned and operated by an organization. This can also refer to the sum total of every piece of an organization's Web-related hardware, software, and data.

Web site – A site (location) on the World Wide Web. Each Web site contains a home page, which is the first document users see when they enter the site. The site might also contain additional documents and files. Each site is owned and managed by an individual, company, or organization. ([www.rustybrick.com/definitions.php](http://www.rustybrick.com/definitions.php))

## Best Practices in Web Management

World Wide Web – A system of Internet servers that support specially formatted documents. The documents are formatted in a script called HTML (Hyper Text Markup Language) that supports links to other documents, as well as graphics, audio, and video files. Not all Internet servers are part of the World Wide Web.

([www.rustybrick.com/definitions.php](http://www.rustybrick.com/definitions.php)) A subset of the Internet that enables hypertext navigation and multimedia presentation globally. (<http://bton.com/tb17/bebdefs.html>)

## APPENDIX 2. THE QUESTIONNAIRE

# Web Management in the Federal Government

### *In Search of Best Practices*



The Performance Institute

#### Instructions:

Please select with a "X" all the answers that apply to each question.  
Using a 5-point scale, please use the right columns to evaluate the effectiveness, importance, and difficulty of each Web practice.

5=Completely; 4=Very; 3=Somewhat; 2=Not very; 1=Not at all

**1. To what extent does your organizational leadership consider the Web to be integral to your organizational activities?**

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

Effectiveness (E)	Importance (I)	Difficulty (D)
_____	_____	_____

**2. To what extent do employees at all levels of your organization consider the Web to be integral to organizational activities?**

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

_____	_____	_____
-------	-------	-------

**3. To what extent does your organization coordinate Web infrastructure, content, and other Web activities?**

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

_____	_____	_____
-------	-------	-------

**4. To what extent is your organization's Web strategy aligned with the organizational mission?**

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

_____	_____	_____
-------	-------	-------

	E	I	D
<b>5. To what extent do you involve all stakeholders (executives, IT developers, content providers, customers) in the development of new Web functionality?</b>			
___ Completely			
___ Mostly			
___ Somewhat			
___ Little			
___ Not at all			
<b>6. To what extent does your organization ensure that Web activities fit within the IT Enterprise Architecture?</b>			
___ Completely			
___ Mostly			
___ Somewhat			
___ Little			
___ Not at all			
<b>7. To what extent does your organization control new Web development?</b>			
___ Completely			
___ Mostly			
___ Somewhat			
___ Little			
___ Not at all			
<b>8. To what extent does your organization's Web presence use a consistent page design?</b>			
___ Completely			
___ Mostly			
___ Somewhat			
___ Little			
___ Not at all			
<b>9. What processes does your organization use to approve new Web content?</b>			
<u>Text and images:</u>			
___ Peer review			
___ Supervisory review and approval			
___ Executive management approval			
___ Other _____			
<u>Applications:</u>			
___ Supervisory review and approval			
___ Business planning and project planning			
___ Executive management approval			
___ Usability testing			
___ Other _____			

	E	I	D
<b>10. What processes does your organization use to verify the integrity and validity of content over time?</b>	_____	_____	_____
___ Ad-hoc content review by individual content owners			
___ Review by individual content owners based on content type (for example, news more often than science)			
___ Periodic review by central manager based on content type (for example, news more often than science)			
___ Automated review using content management software rules and tools			
___ Other _____			
<b>11. How does your organization decide when to archive out-of-date content?</b>	_____	_____	_____
___ Ad hoc manual review and approval			
___ Periodic manual review and approval			
___ Scheduled automated process			
___ Other _____			
<b>12. How does your organization manage content that you co-own with partners?</b>	_____	_____	_____
___ You manage at your site			
___ Partner manages at partner site			
___ Third party manages at third-party site			
___ Shared management			
___ Other _____			
<b>13. How does your organization ensure easy Web navigation as the Website changes?</b>	_____	_____	_____
___ Ad hoc process			
___ Ongoing evaluation as content evolves			
___ Periodic redesign of navigation as content evolves			
___ Enterprise information architecture allows new content without complicating navigation			
___ Other _____			
<b>14. How does your organization optimize the effectiveness of your search tool?</b>			
___ Keywords from standardized taxonomy	_____	_____	_____
___ Careful data management for information records	_____	_____	_____
___ Careful use of metatags	_____	_____	_____
___ Development of an in-house search tool	_____	_____	_____
___ Contract for commercial search engine	_____	_____	_____
___ Other _____	_____	_____	_____
<b>15. To what extent does your organization lean toward a geographically centralized Web infrastructure?</b>	_____	_____	_____
___ Completely			
___ Mostly			
___ Somewhat			
___ Little			
___ Not at all			

	E	I	D
<b>16. To what extent does your organization standardize on one Web hardware and software platform?</b>			
<u>Hardware:</u>			
___ Completely			
___ Mostly			
___ Somewhat			
___ Little			
___ Not at all			
<u>Software:</u>			
___ Completely			
___ Mostly			
___ Somewhat			
___ Little			
___ Not at all			
<b>17. How well staffed are your Web activities?</b>			
___ Very well staffed			
___ Adequately staffed			
___ Unevenly staffed			
___ Poorly staffed			
<b>18. To what extent is your organization's Web staff adequately trained?</b>			
___ Completely			
___ Mostly			
___ Somewhat			
___ Little			
___ Not at all			
<b>19. To what extent are your Web staff positions appropriately classified and at the appropriate grade for the work they do?</b>			
___ Completely			
___ Mostly			
___ Somewhat			
___ Little			
___ Not at all			
<b>20. To what extent does your organization adequately reward Web staff for good performance?</b>			
___ Completely			
___ Mostly			
___ Somewhat			
___ Little			
___ Not at all			

	E	I	D
<b>21. What Web activities does your organization outsource?</b>			
Human resources:			
___ None	_____	_____	_____
___ Content design and development	_____	_____	_____
___ Content management	_____	_____	_____
___ Data and information management	_____	_____	_____
___ IT operations and maintenance	_____	_____	_____
___ Customer service	_____	_____	_____
___ Help desk	_____	_____	_____
___ Project management	_____	_____	_____
___ All	_____	_____	_____
___ Other _____	_____	_____	_____
IT resources:			
___ None	_____	_____	_____
___ Networks	_____	_____	_____
___ Servers	_____	_____	_____
___ Databases	_____	_____	_____
___ Telephony	_____	_____	_____
___ Other _____	_____	_____	_____
<b>22. How well funded are your Web activities?</b>	_____	_____	_____
___ Very well funded			
___ Adequately funded			
___ Unevenly funded			
___ Poorly funded			
___ Other _____			
<b>23. How are Web activities accounted for in your organization's budget?</b>	_____	_____	_____
___ Overhead			
___ Web activities line item			
___ Cost-recovery			
___ Part of core mission activities			
___ Contract cost			
___ Combination of the above			
___ Other _____			
<b>24. How does your organization identify the kinds of customers you serve on the Web?</b>			
___ Cookies	_____	_____	_____
___ Customer registries	_____	_____	_____
___ Customer feedback	_____	_____	_____
___ Customer surveys	_____	_____	_____
___ Other _____	_____	_____	_____

	E	I	D
<b>25. To what extent does your organization translate Web analytics or customer feedback into improvements to your Websites?</b>			
___ Completely	_____	_____	_____
___ Mostly			
___ Somewhat			
___ Little			
___ Not at all			

<b>26. How does your organization measure Web customer satisfaction?</b>			
___ Web-based pop-up surveys	_____	_____	_____
___ Written or email customer surveys	_____	_____	_____
___ Customer focus groups	_____	_____	_____
___ Customer feedback from “contact us” on Websites	_____	_____	_____
___ Customer mail	_____	_____	_____
___ Face-to-face contact with customers at special events	_____	_____	_____
___ Other _____	_____	_____	_____

<b>27. What performance measures does your organization use to evaluate Web management?</b>			
___ Web-customer satisfaction	_____	_____	_____
___ Absence of customer complaints	_____	_____	_____
___ Accomplishment of Web goals	_____	_____	_____
___ Accomplishment of program mission	_____	_____	_____
___ Staying on budget for Web projects	_____	_____	_____
___ Executive and management satisfaction with Web presence	_____	_____	_____
___ Other _____	_____	_____	_____

**28. How did your organization evolve into a best practices Web organization?**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



29. What are the key steps organizations need to take to reach your level of maturity in Web management?

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***THANK YOU FOR COMPLETING THIS QUESTIONNAIRE***

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**Organization:** Department of Housing and Urban Development

**Name:** \_\_\_\_\_

**Job Title:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

Please email your response to: [fuller@performanceweb.org](mailto:fuller@performanceweb.org)  
Otherwise, you can fax your response to 703-894-0482

If you have questions, please page Kit Fuller at 303-851-1119, enter your phone number.  
You may also call the Performance Institute, 703-894-0481, X230.

### **APPENDIX 3. INTERVIEW QUESTIONS TO MOST PARTICIPANTS**

Questions to validate questionnaire responses –

- Did you use the EID columns consistently and as intended?
- Explain the highest and lowest values in your answers.
- Explain any apparent inconsistencies or incomplete answers.

Overall questions –

How to balance centralized authority (for Web management) with distributed activities for providing and maintaining content. Are strictly enforced policies, procedures, templates, and standards important in best practices, or are flexibility and individual creativity more effective? (If strict policies are seen as most effective, do you have strict policies in place?)

Where (and in what position) to have the ultimate responsibility for Web management. What authority does the Web manager have and to whom do they report? What organizational structures are most effective in Web management?

How to manage a broadly distributed Web infrastructure. How much redundancy, centralization, etc.? Is outsourcing an effective way to manage a Web infrastructure? What functions (if any) are best accomplished by contractors?

How to organize and manage Web-related staff to ensure the best outcomes for the organization, as well as professional and career development for staff.

How does management of intranet and extranet activities differ from management of Internet activities?

Describe your strategic planning process for web activities. How often does this happen?

Have the PMA and E-Gov initiatives influenced your web management practices? To what extent?

## **APPENDIX 4. INTERVIEW QUESTIONS TO FIRSTGOV**

Questions to validate questionnaire responses –

- Did you use the EID columns consistently and as intended?
- Explain the highest and lowest values in your answers.
- Explain any apparent inconsistencies or incomplete answers.

Overall questions –

How do you partner with other organizations (content providers and application managers) in a portal environment? How do you share web management responsibilities with the large organizations you partner with?

How do you manage the Web infrastructure in a portal environment? How much redundancy, centralization, etc.?

How do you maintain easy Web navigation (to simplify access for Web visitors) as the Web site grows and becomes more complex and diverse?

How does your management of intranet and/or extranet activities differ from management of your Internet activities?

Describe your regular strategic planning process for web activities. How often does this happen?

Looking at the performance measures you selected, are there others? How do you use these performance measures in managing your web activities?

## APPENDIX 5. DETAILED FINDINGS FROM THE QUESTIONNAIRE

**1 and 2. Organizational leadership sees the Web as integral to organization activities: the most important and most common practice.**

Best-in-Web respondents					FirstGov			
Answer	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7		Answer	Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
<b>1. To what extent does your organizational leadership consider the Web to be integral to your organizational activities?</b>								
<b>4.4</b>	4.0	4.9	3.9		<b>5</b>	5	5	2
<b>2. To what extent do employees at all levels of your organization consider the Web to be integral to organizational activities?</b>								
<b>3.8</b>	3.6	4.7	4.0		<b>5</b>	4	5	3

The answer to Question 1 is the highest answer score on the questionnaire. The organizational leadership of Best-in-Web organizations considers the Web to be integral to organizational activities to a very great extent. In other words, most executives in these organizations see the Web as an integral part of the organization's normal scope of business, an integral part of the organization's toolset in accomplishing mission goals.

Question 1 ties for highest in importance on the questionnaire and is one of the highest in effectiveness. This practice is slightly more effective and more important among leadership than among employees (see Question 2, above), and slightly less difficult. Getting organizational leadership to see the Web as integral to organizational activities is considered to be among the more difficult practices, and it is more difficult to get employees to this mindset. Best-in-Web organizations have employees with this mindset, but to a lesser extent than leadership with this mindset.

FirstGov sees this practice as the highest importance for both leaders and employees in the organization. FirstGov sees this as more effective and less difficult for leadership than for employees across the organization.

**3. Coordination of Web activities is very effective and very important, but difficult.**

Best-in-Web respondents				FirstGov			
Answer	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
<b>3. To what extent does your organization coordinate Web infrastructure, content, and other Web activities?</b>							
<b>3.9</b>	4.1	4.7	3.9	<b>4</b>	4	5	3

Best-in-Web organizations coordinate their infrastructure, content, and other Web activities to a great extent. This practice is seen as very effective, and very important, and among the more difficult. This coordination may be part of a suite of overall practices that characterize Best-in-Web organizations, including gaining senior executive support and aligning Web activities to the organization's mission. The larger and more diverse the organization, the more difficult this becomes. The largest government departments may have so much established internal diversity that coordination of Web activities may be most effective at the bureau level rather than at the department level. In this case, department Web activities typically focus on providing access to the bureaus and presenting a non-bureaucratic point of entry to the services available.

FirstGov sees this practice much the same way. They coordinate most infrastructure, content and other Web activities. FirstGov sees this as very effective, completely important, and somewhat difficult.

**4. Alignment of Web with mission is the most effective practice.**

Best-in-Web respondents				FirstGov			
Answer	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
<b>4. To what extent is your organization's Web strategy aligned with the organizational mission?</b>							
<b>4.2</b>	4.3	4.8	3.3	<b>4</b>	4	5	3

Best-in-Web organizations align their Web strategies with organizational mission to a very great extent. This practice is seen as the most effective, very important, and among the least difficult. This coordination may be part of a suite of overall practices that characterize Best-in-Web organizations, including gaining senior executive support and coordinating all Web activities.

## Best Practices in Web Management

FirstGov sees this practice much the same way. Their Web activities are mostly aligned with their mission. FirstGov sees this as very effective, completely important, and somewhat difficult.

### 5. Involving stakeholders in new developments is very important and very effective, but very difficult.

Best-in-Web respondents				FirstGov			
Answer	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
<b>5. To what extent do you involve all stakeholders (executives, IT developers, content providers, customers) in the development of new Web functionality?</b>							
<b>3.9</b>	<b>4.1</b>	<b>4.6</b>	<b>4.1</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>2</b>

Best-in-Web organizations involve stakeholders in new developments to a great extent. This practice ranks among the most effective, most important, and among the most difficult. One common approach to this is through a Web working group or council comprising representatives across the organization. Some include program staff in this group; others keep this within the Web content managers.

FirstGov sees this practice somewhat differently. They always involve stakeholders in new developments, not surprising considering they manage a portal, the content for which is always owned by others. FirstGov sees this as completely effective, completely important, and not very difficult.

**6. Keeping Web activities within the Enterprise Architecture is common practice.**

Best-in-Web respondents				FirstGov			
Answer	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
<b>6. To what extent does your organization ensure that Web activities fit within the IT Enterprise Architecture?</b>							
<b>4.0</b>	3.7	4.1	3.2	<b>4</b>	4	5	3

Best-in-Web organizations ensure that Web activities fit within the Enterprise Architecture to a great extent. This practice ranks among the most widely practiced, but has lower than average effectiveness, importance, and difficulty.

FirstGov ensures that Web activities fit within the Enterprise Architecture to a great extent. They see this practice much like Best-in-Web organizations do, except FirstGov sees it as completely important. FirstGov sees this as very effective and somewhat difficult.

**7. Control of new Web development, a very difficult practice.**

Best-in-Web respondents				FirstGov			
Answer	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
<b>7. To what extent does your organization control new Web development?</b>							
<b>3.7</b>	3.7	4.2	4.0	<b>4</b>	4	5	4

Best-in-Web organizations control new Web development to some extent. This practice ranks among the most difficult, and has lower than average effectiveness and importance. Approvals are needed in all Best-in-Web organizations to post new content. Some require use of a template for formatting the information. Some limit the number of people authorized to post new content.

FirstGov controls new development to a great extent. FirstGov sees this practice much like Best-in-Web organizations do, except FirstGov sees it as completely important. FirstGov sees this as very effective and very difficult.

**8. Consistent page design is a very effective and important common practice.**

Best-in-Web respondents				FirstGov			
Answer	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
<b>8. To what extent does your organization's Web presence use a consistent page design?</b>							
<b>4.1</b>	4.1	4.7	3.4	<b>5</b>	5	4	3

Best-in-Web organizations use a consistent Web page design to a very great extent. This practice ranks among the most effective and important, and lower than average in difficulty. Using a template makes this easier, but gaining acceptance for a template among the rank and file generating content can be difficult, even though it makes it much easier to comply with the many format requirements.

FirstGov pages are completely consistent. FirstGov sees this practice somewhat differently from Best-in-Web organizations. FirstGov sees it as more effective and less important.

The high scores for importance and effectiveness are understandable, since consistent page design helps everyone involved, from executives concerned with corporate identity and brand management, to Web managers concerned with ease of maintenance, to visitors concerned with consistency and ease of navigation.



**9A. Formal approval of text and images is easier and more effective than approval of new Web applications.**

	Best-in-Web respondents				FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>9. What processes does your organization use to approve new Web text and images?</b>								
Supervisory review and approval	<b>8</b>	4.1	4.4	3.3	<b>X</b>	5	5	2
Executive management approval	<b>6</b>	4.2	4.3	3.3				
Peer review	<b>5</b>	4.2	4.2	3.4	<b>X</b>	5	5	2
Other	<b>4</b>	4.3	4.0	2.8				
<b>Weighted Average</b>		<b>4.2</b>	<b>4.3</b>	<b>3.2</b>		<b>5</b>	<b>5</b>	<b>2</b>

Best-in-Web organizations use several processes to approve new Web text and image content. Almost all use supervisory approval, and more than half of the respondents also use peer review and/or executive management approval. “Other” practices for approval include compliance with written standards, review by the Office of Public Affairs, Web Council approval, and a formal editorial review. These practices score above average in effectiveness and below average in difficulty, but are average or below average in importance.

FirstGov uses peer review and supervisory approval for approving new Web text and image content. FirstGov sees these practices as completely effective and completely important, and less difficult than the other respondents.

Approval of new Web text and image content is as effective and less difficult than approval of new Web applications, which is rated more important. (See below.)

**9B. Many approaches are effective for the important practice of approving new Web applications.**

	Best-in-Web respondents					FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4		Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>9. What processes does your organization use to approve new Web applications?</b>									
Supervisory review and approval	<b>9</b>	3.9	4.4	3.6		<b>X</b>	4	5	4
Business planning and project planning	<b>7</b>	4.1	4.6	3.4		<b>X</b>	4	5	4
Usability testing	<b>6</b>	4.2	4.5	3.3		<b>X</b>	4	5	4
Executive management approval	<b>5</b>	4.2	4.4	3.4		<b>X</b>	4	5	4
Other	<b>3</b>	3.7	4.0	3.7					
<b>Weighted Average</b>		<b>4.2</b>	<b>4.6</b>	<b>3.6</b>			<b>4</b>	<b>5</b>	<b>4</b>

Best-in-Web organizations use several processes to approve new Web applications. Supervisory review is the most common approval mechanism for new Web applications, and most respondents also cite business planning and project planning as an approval process. Usability testing and executive management approval are involved in approval of new Web applications at more than half the respondents. “Other” practices for approval include an IT deployment review and an editorial process. Overall, these practices score above average in effectiveness, importance, and difficulty.

FirstGov uses these same practices, and rates effectiveness, importance, and difficulty about the same as the other respondents.

**10. A combination of approaches effectively addresses content integrity and validity.**

	Best-in-Web respondents					FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4		Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>10. What processes does your organization use to verify the integrity and validity of content over time?</b>									
Ad-hoc content review by individual content owners	<b>8</b>	4.3	4.9	3.6		<b>X</b>	5	5	3
Review by individual content owners based on content type (for example, news more often than science)	<b>4</b>	4.0	4.8	3.8		<b>X</b>	5	5	3
Periodic review by central manager based on content type (for example, news more often than science)	<b>3</b>	4.3	5.0	3.7		<b>X</b>	5	5	3
Automated review using content management software rules and tools	<b>2</b>	4.0	5.0	2.5					
Other	<b>2</b>	4.0	4.5	4.0		<b>X</b>	5	5	3
<b>Weighted Average</b>		<b>4.2</b>	<b>4.8</b>	<b>3.6</b>			<b>5</b>	<b>5</b>	<b>3</b>

Best-in-Web organizations use several processes to ensure that Web content is accurate and retains its integrity. Almost all have the content owners regularly review their content, and some respondents also use additional reviews. Very few have automated software to handle this process. Other practices for checking content include quarterly certifications by senior managers, semi-annual quality control audits, and annual content audits. Overall, the weighted average of these scores is above the overall average in importance, slightly above average in effectiveness, and above average in difficulty.

FirstGov uses the three most commonly used practices for reviewing Web content, and they are implementing an automated content management system. FirstGov sees these practices as completely effective and completely important, and somewhat difficult.

# 11. Ad hoc or periodic manual reviews are most common approaches for deciding when to archive out-of-date content.

	Best-in-Web respondents					FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4		Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>11. How does your organization decide when to archive out-of-date content?</b>									
Ad hoc manual review and approval	<b>5</b>	3.4	4.2	3.8		<b>X</b>	4	5	3
Periodic manual review and approval	<b>5</b>	3.8	4.0	3.6		<b>X</b>	4	5	3
Scheduled automated process	<b>2</b>	4.0	3.5	2.5					
Other	<b>1</b>	5.0	5.0	4.0		<b>X</b>	4	5	3
<b>Weighted Average</b>		<b>3.8</b>	<b>4.1</b>	<b>3.5</b>			<b>4</b>	<b>5</b>	<b>3</b>

Archiving overall appears to have below-average importance and effectiveness scores. Most respondents use either ad hoc or periodic manual processes to review and archive out-of-date Web content. “Other” practices for deciding when to archive include quarterly reviews and quality control certifications. The few using automated processes report slightly higher effectiveness, and much lower difficulty. It is possible that archiving has been overlooked as Web managers have dealt with other issues. Loss of Web content over time will continue to be a problem for librarians, researchers, and archivists until archiving is addressed adequately by Web managers.

FirstGov uses ad hoc and periodic manual processes for reviewing Web content for archiving, and they are implementing an automated content management system. FirstGov sees their practices as very effective and completely important, and somewhat difficult.

**12. Management of content co-owned with partners is not very effective.**

	Best-in-Web respondents					FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4		Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
12. How does your organization manage content that you co-own with partners?									
Shared management	4	3.3	3.3	2.8					
You manage at your site	2	3.5	4.0	3.5		X	4	4	3
Partner manages at partner site	2	3.5	3.5	3.5					
Third party manages at third-party site	2	3.0	3.5	3.5					
Other	1	3.0	5.0	5.0					
Weighted Average		3.3	3.6	3.4			4	4	3

Two organizations do not co-own data with partners. Of the other organizations that do, more than half share the management with their partner(s), and they rated this as very low difficulty. Other practices for handling shared data were seen as more difficult than average. These responses included some of the lowest effectiveness scores and below average importance scores. Some respondents emphasized that shared data must meet their Web standards to be allowed on their Web site. One overall consideration is to have content creators responsible for their content, and have Web staff responsible for the presentation on the Web. Where this crosses organizational boundaries, it is advisable to use a memorandum of understanding (MOU) to specify and clarify how this will be handled.

FirstGov shares data with partners. FirstGov scored managing the data at their site lower in effectiveness and importance and lower in difficulty than their average scores; this could be the direct result of FirstGov's function as a portal to content owned by others and the formal approaches (MOU's, etc.) they use to define and control the shared management tasks.

### 13. Easy Web navigation is maintained through periodic redesign and ongoing evaluation.

	Best-in-Web respondents					FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4		Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
13. How does your organization ensure easy Web navigation as the Web site changes?									
Periodic redesign of navigation as content evolves	8	4.4	4.8	3.6		X	4	5	4
Ongoing evaluation as content evolves	6	4.2	4.7	3.5		X	4	5	4
Ad hoc process	1	3.0	4.0	5.0		X	4	5	4
Enterprise information architecture allows new content without complicating navigation	1	4.0	5.0	2.0		X	4	5	4
Other	1	5.0	5.0	4.0					
Weighted Average		4.2	4.7	3.6			4	4	3

Periodic redesign is the most widely practiced approach for keeping navigation easy for Web users, and it boasts very high effectiveness and importance scores, but also higher than average difficulty. Maintaining an ongoing evaluation of navigation as the Web site evolves is practiced by two-thirds of respondents and has E, I, and D scores that are slightly higher than average. Ad hoc processes are by far the most difficult and least effective ways of keeping navigation easy for users, according to the one respondent who uses this practice. One “other” practice for maintaining easy Web navigation is to control posting rights, thereby preventing posting of new materials in new or inappropriate places.

FirstGov uses all the common practices. The effectiveness score is lower than the FirstGov average; importance is the highest possible, and difficulty is higher than average.

**14. Search capability is very important, but efforts to optimize Search fall short.**

	Best-in-Web respondents					FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4		Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>14. How does your organization optimize the effectiveness of your search tool?</b>									
Keywords from standardized taxonomy	<b>5</b>	4.0	5.0	3.2					
Other	<b>5</b>	3.5	4.0	4.5		<b>X</b>	5	5	5
Careful use of metatags	<b>3</b>	4.0	5.0	3.3		<b>X</b>	4	5	3
Contract for commercial search engine	<b>3</b>	3.0	4.0	3.3		<b>X</b>	5	5	5
Careful data management for information records	<b>2</b>	4.5	5.0	2.5		<b>X</b>	4	5	5
Development of an in- house search tool	<b>2</b>	4.0	4.5	2.5					
<b>Weighted Average</b>		<b>3.7</b>	<b>4.6</b>	<b>3.4</b>			<b>4.5</b>	<b>5</b>	<b>4.5</b>

Using keywords from a standard taxonomy is the most used practice for optimizing Search effectiveness, scoring the highest in importance. The same number of respondents use miscellaneous “other” approaches, which rank as very difficult; these include using the FirstGov search tool, using a metadata catalog, and using metrics. Scores indicate general agreement that most of these practices are of the highest importance, but effectiveness and difficulty scores for these practices range from 2 to 5, suggesting that some organizations have been more successful than others with these practices. Further investigation may be able to find why some Search optimization efforts succeed better than others.

FirstGov, whose Search tool is used by some of the respondents’ organizations, agrees that this is of the highest importance, but also is extremely difficult. They believe that contracting for a commercial search utility and using it government-wide are slightly more effective than the other practices.

On the other hand, one might ask if the need for an organizational search engine is being overtaken by development of excellent overall search tools. Some respondents feel this way, and explained that this was why they rated the search tool itself less important than the handling of the data.

### 15. Geographic centralization improves Web management, but some organizations remain very distributed.

Best-in-Web respondents				FirstGov			
Answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>15. To what extent does your organization lean toward a geographically centralized Web infrastructure?</b>							
<b>3.7</b>	3.8	4.1	3.8	<b>5</b>	5	5	3

Most respondents report having centralized their Web hardware and software infrastructures, but a few participating organizations have very distributed Web infrastructures. Because of a few very low scores, geographic centralization ranked in the less-than-average group for effectiveness and importance, and difficulty was higher than average. Those who have centralized see higher than average effectiveness.

FirstGov infrastructure (and staffing) is completely centralized (in the General Services Administration in Washington, D.C.). They see centralization to be of the highest importance and effectiveness, but about average in difficulty.

### 16. Standardizing on hardware and software may be more effective and more important than you may think.

	Best-in-Web respondents				FirstGov			
QUESTION	Answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>16. To what extent does your organization standardize on one Web hardware and software platform?</b>								
<b>Hardware --</b>	<b>3.8</b>	3.7	4.0	3.4	<b>5</b>	5	5	3
<b>Software --</b>	<b>4.0</b>	3.8	4.2	3.6	<b>4</b>	4	5	3

The three that have “completely” standardized either Web hardware or software report very high importance and effectiveness, and lower than average difficulty. Others claiming to be “mostly” or “somewhat” standardized have widely varying answers and average E, I, and D scores. Respondents appear to have standardized more on software than hardware; this may be slightly more difficult but slightly more important and more effective than standardizing on hardware. Overall, this practice rates lower than average



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scores for effectiveness and importance. This may be due to lower scores from respondents who have not completed this process.

FirstGov, on the other hand, is more standardized on hardware than software, and they see more effectiveness with more standardization. Standardization of hardware and software are scored by FirstGov at the highest levels in importance and about average in difficulty.

### 17. Staffing levels overall are less than adequate, although this is seen as very important.

Best-in-Web respondents				FirstGov			
Answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>17. How well staffed are your Web activities?</b>							
<b>2.8</b>	3.8	4.7	4.2	<b>3</b>	4	5	3

One organization reports staffing to be “very good.” The rest of the respondents report either “uneven” or “adequate,” averaging on the lower side of adequate. Overall importance of staffing for Web activities is very high, but effectiveness of current staffing levels is average, probably a correlation with the very high difficulty score.

FirstGov reports adequate staffing and they consider this to be of the highest importance. FirstGov considers their Web staffing level to be very effective, and dealing with this issue only somewhat difficult.

Note that this answer score is on a different numeric scale from most other answers, but the E, I, and D scores are comparable to all the others.

**18. Most consider Web staff to be adequately trained.**

Best-in-Web respondents				FirstGov			
	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7		Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
Answer				Answer			
<b>18. To what extent is your organization's Web staff adequately trained?</b>							
<b>3.8</b>	3.9	4.4	3.3	<b>5</b>	5	5	3

Five of nine respondents reported their staff to be completely or mostly adequately trained. One answer score of “2” pulled the answer average down, but the corresponding E, I, and D scores were higher than average. Respondents scored training as average in importance and effectiveness, and lower than average in difficulty. The three reporting Web staff to be “completely adequately” trained give effectiveness and importance the highest possible scores, and difficulty lower than average scores. This would indicate that these larger and more distributed organizations found this and other staffing issues more difficult than did the smaller organizations.

FirstGov, a comparatively small Web management organization, considers their Web staff to be completely adequately trained, and their E, I, and D scores match exactly the scores of the others who are completely adequately trained.

**19. Web staff works effectively even though some are not classified and paid appropriately.**

Best-in-Web respondents				FirstGov			
	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7		Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
Answer				Answer			
<b>19. To what extent are your Web staff positions appropriately classified and at the appropriate grade for the work they do?</b>							
<b>3.4</b>	3.8	3.8	3.4	<b>5</b>	4	5	2

Apparently, even Best-in-Web organizations see appropriate classification and grade level of Web staff as a less important issue than other Web management issues. Answers include all but the lowest possible score, and cluster in the middle. The best E, I, and D scores were from five Best-in-Web organizations who reported that their Web staff is mostly classified and graded appropriately. Overall, effectiveness scores are about average, whereas the score for importance is the lowest on the questionnaire. Difficulty

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scores are lower than average. Perhaps on this question the issue for some is money, not difficulty; since this ranks lower in importance than many other considerations, it may remain an issue for those doing Web tasks and not being compensated appropriately.

FirstGov reports that they are completely classified appropriately, and they rate this as completely important, very effective, and not very difficult.

FirstGov and the other very small staffs reported this to be not very difficult, whereas larger and more distributed organizations found this and other staffing issues more difficult.

### 20. Rewards to Web staff are somewhat adequate; this is the least Effective of the practices on the questionnaire.

Best-in-Web respondents				FirstGov			
Answer	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
<b>20. To what extent does your organization adequately reward Web staff for good performance?</b>							
<b>3.6</b>	3.6	4.2	3.8	<b>5</b>	5	5	2

The answer score is the next-to-lowest answer score on the questionnaire, and the least effective. This means that rewarding staff for good performance is practiced less than all except appropriate classification and grading of staff positions. Seen as more important than classification and grade, it is more difficult and less effective. Is it less effective because it is not practiced more, or is rewarding Web staff seen as just not as effective as other practices in Web management?

FirstGov scores differ markedly. Again, perhaps because it is a small organization and a relatively young one, FirstGov rewards Web staff “completely,” and sees this as completely important and effective practice, which is not very difficult.

## 21. Outsourcing is easy and effective for staff for some tasks, but more difficult for hardware.

	Best-in-Web respondents				FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>21. What Web activities does your organization outsource?</b>								
<b>--Human Resources</b>								
None	<b>1</b>							
Content design and development	<b>7</b>	4.3	3.8	2.7				
IT operations and maintenance	<b>6</b>	4.5	4.3	3.0	<b>X</b>			
Data and information management	<b>4</b>	4.0	4.3	2.3				
Help desk	<b>4</b>	3.7	4.0	3.3	<b>X</b>			
Customer service	<b>2</b>	4.0	4.0	2.0	<b>X</b>			
Content management	<b>2</b>	3.5	4.0	3.0				
Project management	<b>2</b>	4.0	4.5	3.5				
Other	<b>2</b>							
All	<b>1</b>							
<b>Weighted Average</b>		<b>4.1</b>	<b>4.1</b>	<b>2.8</b>				
<b>-- IT resources</b>								
None	<b>3</b>	3.5	3.0	3.0				
Networks	<b>3</b>	4.3	4.0	3.7				
Servers	<b>2</b>	4.5	4.0	4.0	<b>X</b>			
Databases	<b>2</b>	4.5	4.0	4.0	<b>X</b>			
Other	<b>2</b>	4.5	4.0	3.5				
Telephony	<b>1</b>	4.0	4.0	2.0	<b>X</b>			
<b>Weighted Average</b>		<b>4.2</b>	<b>3.8</b>	<b>3.5</b>				

Respondents who outsource for people for “content design and development” and “IT operations and maintenance” report higher effectiveness. Outsourcing the management of content is not practiced by most Best-in-Web organizations, since this would take the content farther out of the hands of the content owner. One respondent did not provide E, I, D scores so as to avoid possible issues with evaluation of contract performance. Outsourcing for IT hardware is less commonplace and perhaps less important.

FirstGov uses contract staff for many of the most common tasks and they outsource the core of the Web infrastructure. No E, I, and D scores were given so as to avoid possible issues with evaluation of contract performance.

**22. Adequate funding ties for most important.**

Best-in-Web respondents				FirstGov			
Answer	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
<b>22. How well funded are your Web activities?</b>							
<b>2.8</b>	3.8	4.9	4.0	<b>3</b>	5	5	3

One organization reports funding to be “very good.” The rest of the respondents are evenly split between “uneven” or “adequate.” The average is on the lower side of adequate. Importance of funding for Web activities is tied for the highest score, but effectiveness of current funding levels is higher than average, which is surprising considering the higher than average difficulty score.

FirstGov reports adequate funding, and they consider this to be of the highest importance and to be completely effective. Funding is seen as only somewhat difficult.

Note that this answer score is on a different numeric scale from most other answers, but the E, I, and D scores are comparable to all the others.

**23. Web tasks appear (or hide?) in many parts of the budget.**

	Best-in-Web respondents				FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>23. How are Web activities accounted for in your organization's budget?</b>								
Combination of these approaches	<b>6</b>	3.8	4.3	3.8				
Overhead	<b>2</b>	3.5	4.0	4.0	<b>X</b>	4	4	3
Web activities line item	<b>2</b>	4.0	4.0	4.0	<b>X</b>	4	4	3
Contract cost	<b>1</b>	4.0	3.0	3.0	<b>X</b>	4	4	3
Other	<b>1</b>	2.0	5.0	4.0				
Part of core mission activities	<b>0</b>				<b>X</b>	4	4	3
Cost-recovery	<b>0</b>							
<b>Weighted Average</b>		<b>3.7</b>	<b>4.2</b>	<b>3.8</b>		4	4	3

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Budgeting for Web work is a challenge for Web managers. Most respondents say budget dollars for Web activities are in many parts of the budget, including capital planning, contracting, overhead, specific project line items, but no one mentioned a cost-recovery area for these costs. Web managers see this as a challenge (high difficulty scores), and a practice where they are not as effective. But they are not sure to what extent this can be simplified, since Web activities span such a broad range of tasks. Content, for example, needs to be created by program offices, and to some extent they need to manage the data from these programs, so costs for these activities should be in the program budgets. Also, IT costs for networks, annual IT maintenance, and hardware and software upgrades that support Web traffic should probably be in an IT or overhead budget.

FirstGov uses several areas in the budget. The overall E, I, and D scores track the scores of the other respondents.

Where the dollars appear in the budget is probably less important, as long as funding is there to support the Web activities. (Note that funding ranks as one of the most important practices. See question 22.)

### 24. There are many effective approaches to identifying the kinds of Web customers you serve.

	Best-in-Web respondents					FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4		Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>24. How does your organization identify the kinds of customers you serve on the Web?</b>									
Customer surveys	9	4.3	4.6	2.9		X	5	5	2
Customer feedback	7	4.3	4.9	3.0		X	5	5	2
Customer registries	4	3.5	3.5	3.0		X	5	5	2
Other	3	4.3	5.0	3.3					
Cookies	0								
<b>Weighted Average</b>		<b>4.2</b>	<b>4.5</b>	<b>3.0</b>			5	5	2

All respondents use customer surveys and they find these very effective. This kind of feedback from Web customers is seen as very important and less difficult than other Web management practices. Some respondents use the American Customer Satisfaction Index, a program that collects customer feedback through pop-up surveys when a visitor spends a predetermined amount of time on a Web site or visits a predetermined number of pages. Other organizations conduct their own surveys, but ACSI provides an independent and standardized service across government and commercial organizations (for a fee). Other approaches to gathering feedback from customers are also important

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and effective, and not too difficult, for example, Web statistics, focus groups, and Neilson Net Ratings.

FirstGov uses the most widely used customer-feedback approaches, and ranks the importance and effectiveness with top scores. Difficulty is much less than average.

### 25. Turning feedback into improvements ties for most important and most effective practice.

Best-in-Web respondents				FirstGov			
Answer	Effectiveness Avg = 3.9	Importance Avg = 4.5	Difficulty Avg = 3.7	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.9	Difficulty Avg = 2.9
<b>25. To what extent does your organization translate Web analytics or customer feedback into improvements to your Web sites?</b>							
<b>4.0</b>	4.3	4.9	3.4	<b>4</b>	5	5	4

Although more difficult than merely identifying customers, most Best-in-Web organizations use this information to improve their Web sites. This is a top-rated practice in importance and effectiveness, and it addresses the PMA objective of making government Web sites more customer-centered. Customer input helps Web managers tweak their Web sites to more effectively meet customer needs.

FirstGov scores essentially parallel the answers of the other respondents.

In addition to responding to this kind of information, Web managers (and the top executives they report to) almost certainly respond to awards and reviews (such as the Brown University Center for Public Policy annual Web site review). These evaluations provide valuable insights and information that can help Web managers improve the effectiveness of their Web sites.

**26. The most common approaches for gauging customer satisfaction may not be the most effective.**

QUESTION	Best-in-Web respondents				FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>26. How does your organization measure Web customer satisfaction?</b>								
Customer feedback from “contact us” on Web sites	<b>9</b>	4.1	4.2	3.1	<b>X</b>	5	5	4
Web-based pop-up surveys	<b>8</b>	4.1	4.5	3.1	<b>X</b>	5	5	2
Customer focus groups	<b>6</b>	4.3	4.5	3.5	<b>X</b>	4	4	3
Face-to-face contact with customers at special events	<b>5</b>	4.4	4.6	3.2	<b>X</b>	5	4	4
Written or email customer surveys	<b>4</b>	4.0	4.5	3.3				
Customer mail	<b>3</b>	4.0	3.7	3.3	<b>X</b>	5	5	2
Other	<b>1</b>	4.0	3.0	3.0	<b>X</b>	5	5	3
<b>Weighted Average</b>		<b>4.2</b>	<b>4.3</b>	<b>3.2</b>		4.8	4.6	2.6

All respondents use feedback from Web visitors who write to the address on the “Contact Us” pages and all respondents use Web-based surveys (all but one are pop-up surveys). These specific approaches are seen as average in effectiveness. The somewhat less practiced customer focus groups and face-to-face contact with customers may be more effective. The “other” practices mentioned are Web surveys that do not pop-up, but are available should customers want to fill one out. Overall, measuring customer satisfaction is considered average in importance and perhaps a little more effective and less difficult than average.

FirstGov uses all the practices except written or email customer surveys, and the also use usability testing and Web traffic logs to measure customer satisfaction. Like the other respondents, FirstGov sees measuring Web customer satisfaction to be average in importance and perhaps a little more effective and considerably less difficult than average.



**27. Accomplishing program mission, staying on budget, and meeting Web goals are more important performance measures than Web customer satisfaction.**

QUESTION	Best-in-Web respondents				FirstGov			
	Number who chose this answer	Effectiveness Avg = 4.0	Importance Avg = 4.4	Difficulty Avg = 3.4	Answer	Effectiveness Avg = 4.5	Importance Avg = 4.8	Difficulty Avg = 3.3
<b>27. What performance measures does your organization use to evaluate Web management?</b>								
Web-customer satisfaction	<b>8</b>	4.1	4.5	3.4	<b>X</b>	5	5	4
Executive and management satisfaction with Web presence	<b>8</b>	3.9	4.5	3.5	<b>X</b>	5	5	2
Accomplishment of Web goals	<b>8</b>	4.3	4.6	3.5	<b>X</b>	5	5	4
Staying on budget for Web projects	<b>5</b>	4.2	4.8	3.4	<b>X</b>	4	5	5
Accomplishment of program mission	<b>3</b>	3.7	5.0	4.0	<b>X</b>	5	5	4
Absence of customer complaints	<b>2</b>	2.5	3.5	2.0	<b>X</b>	5	5	3
Other	<b>1</b>	4.0	5.0	5.0	<b>X</b>	5	5	3
<b>Weighted Average</b>		<b>4.0</b>	<b>4.6</b>	<b>3.5</b>		4.9	5	3.6

Perhaps surprising is the fact that Web customer satisfaction is not the most important measure. Accomplishment of program mission (for the overall organization) appears to be the most important but most difficult measure of success, and few use this approach. More respondents use several of these performance measures to evaluate Web management, including the practices seen as the most effective. “Other” approaches to measuring Web management are anecdotes and anything else that links the Web to some aspect of overall success of the organization. The importance of measuring Web management appears to be higher than average, with only one low-scoring specific approach – absence of customer complaints.

FirstGov uses all approaches and considers this to be of the utmost importance and effectiveness, and higher than average in difficulty. FirstGov also considers Web traffic, awards, and press coverage as indicators of the success of their Web activities.

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APPENDIX 6. COMPILATION OF RESPONSES TO THE QUESTIONNAIRE

Web Management in the Federal Government

In Search of Best Practices

Instructions:

Please select with a "X" all the answers that apply to each question.  
Using a 5-point scale, please use the right columns to evaluate the effectiveness, importance, and difficulty of each Web practice.

5=Completely; 4=Very; 3=Somewhat; 2=Not very; 1=Not at all

1. To what extent does your organizational leadership consider the Web to be integral to your organizational activities?

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

2. To what extent do employees at all levels of your organization consider the Web to be integral to organizational activities?

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

3. To what extent does your organization coordinate Web infrastructure, content, and other Web activities?

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

4. To what extent is your organization's Web strategy aligned with the organizational mission?

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

5. To what extent do you involve all stakeholders (executives, IT developers, content providers, customers) in the development of new Web functionality?

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

6. To what extent does your organization ensure that Web activities fit within the IT Enterprise Architecture?

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

										AVERAGES				FIRSTGOV									
										Answer	E	I	D										
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1. To what extent does your organizational leadership consider the Web to be integral to your organizational activities?	C	5			5			3			4.4	4.0	4.9	3.9	C	5							
2. To what extent do employees at all levels of your organization consider the Web to be integral to organizational activities?	M	4			5			4			3.8	3.6	4.7	4.0	C	5							
3. To what extent does your organization coordinate Web infrastructure, content, and other Web activities?	M	4			5			2			3.9	4.1	4.7	3.9	M	4							
4. To what extent is your organization's Web strategy aligned with the organizational mission?	C	5			5			3			4.2	4.3	4.8	3.3	M	4							
5. To what extent do you involve all stakeholders (executives, IT developers, content providers, customers) in the development of new Web functionality?	C	5			5			4			3.9	4.1	4.6	4.1	C	5							
6. To what extent does your organization ensure that Web activities fit within the IT Enterprise Architecture?	M	4			3			3			4.0	3.7	4.1	3.2	M	4							

7. To what extent does your organization control new Web development?

\_\_\_ Completely

\_\_\_ Mostly

\_\_\_ Somewhat

\_\_\_ Little

\_\_\_ Not at all

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8. To what extent does your organization's Web presence use a consistent page design?

\_\_\_ Completely

\_\_\_ Mostly

\_\_\_ Somewhat

\_\_\_ Little

\_\_\_ Not at all

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9. What processes does your organization use to approve new Web content?

Text and images:

\_\_\_ Peer review

\_\_\_ Supervisory review and approval

\_\_\_ Executive management approval

\_\_\_ Other

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10. What processes does your organization use to verify the integrity and validity of content over time?

\_\_\_ Ad-hoc content review by individual content owners

Review by individual content owners based on content type (for example, news more often than science)

Periodic review by central manager based on content type (for example, news more often than science)

Automated review using content management software rules and tools

\_\_\_ Other

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Quarterly certifications required; semi-annual QC peer reviews

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Annual audit with management accountability for content

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11. How does your organization decide when to archive out-of-date content?

\_\_\_ Ad hoc manual review and approval

Periodic manual review and approval

Scheduled automated process

\_\_\_ Other

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Quarterly certifications and QC reviews catch most out-of-date content

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12. How does your organization manage content that you co-own with partners?

\_\_\_ You manage at your site

\_\_\_ Partner manages at partner site

\_\_\_ Third party manages at third-party site

\_\_\_ Shared management

\_\_\_ Other

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Not many examples of this, but if we have any ownership, then it must meet our standards

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13. How does your organization ensure easy Web navigation as the Website changes?

- ☐ Ad hoc process
- ☐ Ongoing evaluation as content evolves
- ☐ Periodic redesign of navigation as content evolves
- ☐ Enterprise information architecture allows new content without complicating navigation

☐ Other \_\_\_\_\_

14. How does your organization optimize the effectiveness of your search tool?

- ☐ Keywords from standardized taxonomy
- ☐ Careful data management for information records
- ☐ Careful use of metatags
- ☐ Development of an in-house search tool
- ☐ Contract for commercial search engine
- ☐ Other \_\_\_\_\_

15. To what extent does your organization lean toward a geographically centralized Web infrastructure?

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

16. To what extent does your organization standardize on one Web hardware and software platform?

Hardware:

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

Software:

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

17. How well staffed are your Web activities?

- ☐ Very well staffed
- ☐ Adequately staffed
- ☐ Unevenly staffed
- ☐ Poorly staffed

18. To what extent is your organization's Web staff adequately trained?

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

19. To what extent are your Web staff positions appropriately classified and at the appropriate grade for the work they do?

- ☐ Completely
- ☐ Mostly
- ☐ Somewhat
- ☐ Little
- ☐ Not at all

<div>OE553</div> <div>P553</div>		<div>OE452</div> <div>E452</div>	<div>OE553</div> <div>P553</div>	<div>A345</div> <div>OE345</div> <div>P345</div>	<div></div> <div>P554</div> <div>O554</div> <div>We have a standard template that is mandated; web team controls posting rights</div>	<div></div> <div>P453</div>	<div>OE454</div> <div>P454</div>	<div>OE444</div> <div>P444</div>	<div>A=13.04.05.0</div> <div>OE=64.24.73.5</div> <div>P=84.44.83.6</div> <div>E=14.05.02.0</div> <div>O=15.05.04.0</div>	<div>A454</div> <div>OE454</div> <div>P454</div> <div>E454</div> <div></div>
<div>K553</div> <div>CD553</div> <div>CU553</div>		<div>K454</div> <div>CU355</div> <div>CO344</div>	<div>K353</div> <div></div> <div>CO353</div>	<div></div> <div></div> <div>CO333</div> <div>O444</div> <div>Metrics</div>	<div></div> <div></div> <div></div> <div>Our search engine is managed by our CIO, with web team input</div>	<div>K454</div> <div></div> <div>D443</div> <div>O454</div> <div>Metadata catalog used to enhance search</div>	<div>K452</div> <div>CD452</div> <div>CU452</div> <div>D452</div> <div></div>	<div></div> <div>O335</div> <div>We don't</div>	<div>K=54.05.03.2</div> <div>CD=24.55.02.5</div> <div>CU=34.05.03.3</div> <div>D=24.04.52.5</div> <div>CO=33.04.03.3</div> <div>O=53.24.24.2</div>	<div></div> <div>CD455</div> <div>CU453</div> <div></div> <div>CO555</div> <div>O555</div> <div>we employ a government-wide search tool</div>
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<div>A554</div> <div>3</div>	<div>U454</div> <div>2</div>	<div>U345</div> <div>2</div>	<div>A344</div> <div>3</div>	<div>A355</div> <div>3</div>	<div>A555</div> <div>3</div>	<div>U344</div> <div>2</div>	<div>V552</div> <div>5</div>	<div>U355</div> <div>2</div>	<div></div> <div>2.83.84.74.2</div>	<div>A453</div> <div>3</div>
									<div>Different scale; excluded from column totals below</div>	
<div>C552</div> <div>5</div>	<div>L444</div> <div>2</div>	<div>S354</div> <div>3</div>	<div>M344</div> <div>4</div>	<div>M454</div> <div>4</div>	<div>C554</div> <div>5</div>	<div>S344</div> <div>3</div>	<div>C551</div> <div>5</div>	<div>S333</div> <div>3</div>	<div></div> <div>3.83.94.43.3</div>	<div>C553</div> <div>5</div>
<div>M552</div> <div>4</div>	<div>M444</div> <div>4</div>	<div>L335</div> <div>2</div>	<div>S344</div> <div>3</div>	<div>M543</div> <div>4</div>	<div>M455</div> <div>4</div>	<div>S333</div> <div>3</div>	<div>M432</div> <div>4</div>	<div>S333</div> <div>3</div>	<div></div> <div>3.43.83.83.4</div>	<div>C452</div> <div>5</div>

72.080.061.0

4.24.73.6 Weighted

4.14.73.6 unweighted

74.092.067.0

3.74.63.4 Weighted

3.84.63.2 unweighted

**20. To what extent does your organization adequately reward Web staff for good performance?**

☐ Completely  
☐ Mostly  
☐ Somewhat  
☐ Little  
☐ Not at all

**21. What Web activities does your organization outsource?**

Human resources:

- ☐ None
- ☐ Content design and development
- ☐ Content management
- ☐ Data and information management
- ☐ IT operations and maintenance
- ☐ Customer service
- ☐ Help desk
- ☐ Project management

\_\_\_ All \_\_\_\_\_

\_\_\_ Other \_\_\_\_\_

IT resources:

- ☐ None
- ☐ Networks
- ☐ Servers
- ☐ Databases
- ☐ Telephony
- ☐ Other \_\_\_\_\_

**22. How well funded are your Web activities?**

☐ Very well funded  
☐ Adequately funded  
☐ Unevenly funded  
☐ Poorly funded  
☐ Other \_\_\_\_\_

**23. How are Web activities accounted for in your organization's budget?**

- \_\_\_ Overhead
- \_\_\_ Web activities line item
- \_\_\_ Cost-recovery
- \_\_\_ Part of core mission activities
- \_\_\_ Contract cost
- \_\_\_ Combination of the above
- \_\_\_ Other \_\_\_\_\_

**24. How does your organization identify the kinds of customers you serve on the Web?**

- ☐ Cookies
- ☐ Customer registries
- ☐ Customer feedback
- ☐ Customer surveys
- ☐ Other

[illegible]

111	111.17	76.333
<b>4.1</b>	<b>4.1</b>	<b>2.8 Weighted</b>

4.0	4.1	2.8 unweighted
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54.5	49	45
<b>4.2</b>	<b>3.8</b>	<b>3.5 Weighted</b>

4.2	3.8	3.4 unweighted
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44	50	46
<b>3.7</b>	<b>4.2</b>	<b>3.8 Weighted</b>

3.5	4.1	3.8 unweighted
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96	104	69
<b>4.2</b>	<b>4.5</b>	<b>3.0 Weighted</b>

4.1 4.5 3.1 unweighted

25. To what extent does your organization translate Web analytics or customer feedback into improvements to your Websites?

\_\_\_ Completely

\_\_\_ Mostly

\_\_\_ Somewhat

\_\_\_ Little

\_\_\_ Not at all

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26. How does your organization measure Web customer satisfaction?

\_\_\_ Web-based pop-up surveys

\_\_\_ Written or email customer surveys

\_\_\_ Customer focus groups

\_\_\_ Customer feedback from "contact us" on Websites

\_\_\_ Customer mail

\_\_\_ Face-to-face contact with customers at special events

\_\_\_ Other

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web surveys, but not pop up

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Anecdotes and - whenever possible - data that tie accomplishment of our mission to the websites

27. What performance measures does your organization use to evaluate Web management?

\_\_\_ Web-customer satisfaction

\_\_\_ Absence of customer complaints

\_\_\_ Accomplishment of Web goals

\_\_\_ Accomplishment of program mission

\_\_\_ Staying on budget for Web projects

\_\_\_ Executive and management satisfaction with Web presence

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web traffic, awards, press coverage

28. How did your organization evolve into a best practices Web organization?

See Chapter 3, "Steps in developing their Website," for each organization's answer

28. How did your organization evolve into a best practices Web organization?

See Chapter 3, "Steps in developing their Website," for each organization's answer

65.9

75.8

62.9

3.9

4.5

3.7

Type 1&3, Respondents

51.8

56.2

44.0

4.0

4.3

3.4

Type Two, Respondents

77

84

49

4.5

4.9

2.9

Type 1&3, 1stGov

185

198

135

4.5

4.8

3.3

Type Two, 1stGov

29. What are the key steps organizations need to take to reach your level of maturity in Web management?

Commitment from the top. Resources. The right people in the right jobs. Passion to serve citizens via the web. Bosses who let web managers do their jobs.	1. Develop web content and web design standards. 2. Involve content providers and upper management in standards development. 3. Enforce those standards. 4. Follow industry best practices for Web design and usability. 5. Involve content providers in the web design process. 6. Be customer centric.	Engage your senior leadership in how the Web works for that Agency. Involve the staff in shaping how the work is done. E.g. how to implement the vision. Engage external users to define how they want to interact with the Agency via the Web. Continually use feedback to improve the Web site. Continue to educate yourself on the state of the Web and best practices in the field.	Top management support. Web Management Team with strong web skills and track record of success in managing websites. Provide adequate funding. Audience. Know who visits the website, find out what they're looking for & give it to them.	We probably haven't reached maturity, but we're in grad school! Get senior management's commitment to improve the site and support for centralized management of the site; hire the best web design expert you can afford to provide the foundation and the details; give programs the responsibility for their content, but give one office overall oversight and ultimate control; have a minimum number of program "editors" from whom you will accept content; be collaborative in developing all aspects of the site, but make decisions that are in the best interests of the site; devote adequate agency resources (people as well as money); recognize that creating AND maintaining a quality website requires ongoing work from a lot of people and is a multi-year process. GSA is about mid-way in the process to revamp the agency's web presence. We began with the portal and that work is ongoing. We have taken on the larger task of GSA's total web presence and are working to bring as much content onto the portal as is feasible.	Predictable funding; continued executive leadership and recognition of the portal as a priority; strategic planning of the web presence, buy-in from major content stakeholders, broadened training; incorporation of new technologies and always producing new content.	Management and employee understanding of how the web/Internet can serve the mission the agency. Management understanding of how IT resources are best managed is also a key step.	Building executive support is the most crucial element. After that, you must ensure adequate resources, including a full-time staff. Involving stakeholders is essential, and agencies should strive to keep up with advancing technology. Finally, frequent communication with, and feedback from citizens is essential.	1. Understand the importance of the Internet. 2. Develop a vision that aligns with organizational objectives. 3. Hire the right people and manage them effectively.	1) Achieve high level support in your organization for your web presence. 2) Define the purpose of the website, know your customers and their information needs, and know what you have to offer them. 3) Ensure that the website is fully integrated into day-to-day business processes of the organization and reflects the organization's corporate identity. Educate staff that the web is a primary tool to achieve the agency's mission. 4) Develop performance measures and goals: a) customer satisfaction, b) usability, c) accessibility, d) site performance, e) quality, accuracy, and currency of content, f) compliance with legislation, policies, and agency priorities, g) marketing and reach, h) external validation -- benchmarking, press, awards, etc. 5) Review customer and web analytics to measure how well you're meeting your performance goals and improve the site accordingly. 6) Maintain a web team that focuses on the customers and understands the public's perspective (e.g. customers may not know how the government is organized). Keep your team motivated by tying the 7) Develop clear business rules, workflow and content 8) Partner with other agencies to share knowledge and
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