

# Information policy-based indicators to assess US federal websites: methods and issues

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Assessment of government websites in terms of their compliance with information policies can be accomplished via a number of techniques and approaches. By and large, however, little such assessment is done and government agencies often have little knowledge of the information policies that may affect the operation of their website or the techniques to conduct such an assessment (McClure, Sprehe, and Eschenfelder, 2000). This situation exists for a number of reasons and because of a number of issues.

The purpose of this paper is to describe key issues related to government website assessment in terms of information policy compliance and extend the previous work by the author to propose possible solutions for dealing with these issues. This paper extends work that was completed on a study funded by three U.S. Federal agencies to develop performance measures and statistics to assess U.S. government websites (McClure, Sprehe, and Eschenfelder, 2000). That effort produced preliminary performance measures for Federal websites as well as an inventory of U.S. information policies that affect website development. Specific objectives of the study included:

- Describe the current best practices of selected Federal agencies' techniques to assess their websites;
- Identify the range of Federal information policy (laws, regulations, guidelines) that affects agencies' development and management of Federal websites; and
- Propose measures and indicators that can assess the degree to which Federal websites comply with existing Federal information policy.

Ultimately, the purpose of the study was to improve the overall quality and impact of Federal websites, develop practical evaluation techniques to conduct such assessments, and assist users' access to and use of those Federal websites. The paper offers background information on key terms, discusses possible approaches for assessing websites in terms of information policy compliance, identifies selected issues that require attention in this assessment process, and concludes with a number of recommendations for how best to conduct policy-based assessments.

## Background

This section of the paper offers brief background information regarding the significant growth in the number and scope of Federal websites and offers a discussion of key terms such as information policy, information policy instruments, and policy analysis. The paper does not provide a literature review of these or other topics related to Federal website assessment. A number of recent publications by the author on this general topic are available on his website at: <http://slis-two.lis.fsu.edu/~cmclure/>.

The growth of government agency websites in the United States is significant. The actual number of websites is not known. A recent directory of U.S. government websites identifies 4,500 unique agency websites (Notess, 2000). Slabodkin states there are over 3,000 websites in the U.S. Department of Defense alone. Browsing the various directories (Notess, 2000; Androit, 2000; Maxymuk, 2001; and Herson, Shuler, and Dugan, 1999) presents users with a staggering wealth of information on virtually every topic known to mankind. Web-based directories such as the Federal Web Locator <http://www.infoctr.edu/fwl/> can overwhelm the user with the scope, extent, quantity, and quality of information available from the U.S. Federal government.

As agencies have moved to take advantage of the web environment for public access to government information and the provision of a range of interactive services, so too has the information policy environment that affects these websites grown. Information policy is a term used to describe a set of interrelated principles, laws, guidelines, rules and regulations, directives, procedures, judgments, interpretations, and practices that guide the creation, management, access, and use of information. Information policy can be set at a national level, e.g., by the U.S. Federal government; by state and local governments, and by other agencies and institutions, e.g., private companies or agencies within governmental units. No single authority or corpus of statutory or administrative law describes and coordinates information policy in the United States or in other countries (McClure, 1999).

An information policy instrument is a written law, guideline, regulation, or other official statement that describes how information will be collected, managed, protected, accessed, disseminated, and used. In the

United States, Federal information policies are shaped by a number of key policy instruments, including:

- The Freedom of Information Act (5 USC 552), which outlines procedures by which individuals can request government information;
- The Privacy Act (5 USC 552a), which protects individuals from unwarranted government use of personal information and outlines procedures by which individuals can obtain information that the government may maintain about them;
- The U.S. Government Printing Office's Depository Library Program (44 USC 19) and Federal printing laws (44 USC 17), which insure that a basic collection of government information is made available to the public through selected libraries;
- The Copyright Act (17 USC 101), which provides certain protections for authors of literary and other types of work and sets the stage for determining intellectual property rights.

Many other information policy instruments exist; these are offered as illustrative of a broad set of instruments that affect information management in general and website development and operations in particular.

One of the most significant policy instruments related to assessing Federal websites is the *Government Performance Results Act (GPRA) of 1993* (P.L. 103-62) and follow-on laws and regulations. GPRA mandates the adoption of a strategic and annual planning process, which is tied to budget and authorization cycles and will be based on established and measurable performance indicators for every program. Although this act was made law prior to the expansion and wide public use of the Internet, particularly the Web, the mandate for the development of performance indicators tied to annual budgeting and strategic planning applies to services offered in an electronic environment.

Performance indicators for Federal websites consist of measures that permit an agency to demonstrate whether its websites are or are not meeting the performance goals set forth for the sites. The GPRA is a cornerstone for Federal program assessment and was referenced in the Bush Administration's budget proposal for 2002-2003 as a basis for funding various programs including E-commerce and E-government. Compliance with GPRA by agencies is uneven at best; compliance with GPRA regarding agency websites is more limited.

Assessment of information policies and information policy instruments typically involves the use of various policy analysis techniques. What policy analysis is and the techniques by which it can (or should) be applied is quite contentious and beyond the scope of this paper (see Doty, 2001). Since policy analysis is often prescriptive - offering specific recommendations to deal with issues - its application in assessing U.S. websites offers a

number of challenges. An overview of some of these techniques and how they can be applied to information policy analysis can be found in McClure, Bertot, and Moen (1999) and Majchrzak (1984).

### Policy Instruments Affecting U.S. Websites

A first step in conducting an assessment of Federal websites in terms of their compliance with government information policy requires an identification of the information policy instruments that may affect the development and management of those websites.

Techniques to accomplish this task include:

- Online searching of appropriate databases;
- Traditional searching of print based resources including Federal laws, policies, and court decisions; and
- Interviews and focus groups with government and non-government information policy experts.

Once a candidate list of possible policy instruments is developed, detailed analysis of those instruments regarding the degree to which they may affect websites can be done.

There are two types of policy instruments that may affect the development and management of Federal websites. The first type of policy instruments are general in nature, and although they may not mention networked resources and services or websites directly, the instrument has impacts and implications for website management. Examples of these include privacy and security policies. A second type of policy instrument is specific to networked and web-based services. Examples of these include the *Government Paperwork Elimination Act* (P.L. 105-277) that prescribes how digital signatures will be implemented in electronic services delivery.

The McClure, Sprehe, and Eschenfelder study (2000) identified a broad range of Federal information policy instruments that direct agencies in designing, developing, and managing their websites in terms of: privacy, security, access by the handicapped, records management, intellectual property rights and copyright, public access, ongoing assessment programs, digital signatures, and more.

Figure 1 is an overview and summary of *selected* policy instruments that affect web development and management. Indeed, the extent to which Federal information policy affects the development, management, and evaluation of agency websites is significant. A detailed listing and discussion of these policy instruments is in Chapter 2 of the McClure, Sprehe, and Eschenfelder study and will not be repeated here.

### Assessing Policy Instruments

A next basic step once a list of policy instruments has been identified that may affect web development and

management is to assess those instruments. This assessment can be based on a number of criteria. Figure 2 offers a preliminary set of criteria that can be used to compare and contrast these policy instruments.

Such an analysis can be done by assessing each policy instrument as it relates to website development and management - or completing the far right column on Figure 1. Typically this analysis requires a careful reading of the policy instrument and a determination of both direct and indirect applications of the policy to website development and management. In addition, the analysis can also be done in terms of:

- Comparison of government-wide policies against other government-wide policies;
- Comparison of agency-based policies against other policies within that agency;
- Comparison of agency-based policies against other agency policies; and
- Comparison of government-wide policies against other agency policies.

An example of such an analysis can be found in an assessment of the U.S. Department of Education websites (Hert, Eschenfelder, and McClure, 2000).

Figure 1. Summary of Selected Federal Policies Pertaining to Agency Websites

<b>Statute, Presidential</b>					
	<b>Topic</b>	<b>Directive, or Other Document</b>	<b>Implementing Guidance</b>	<b>Website Implications</b>	
<b>I. General Government Policy</b>	A. Performance	Government and Results and Results Act	OMB Circular A-11, Performance	Performance plans, Part II goals, and measures for agency programs	
	B. Customer Service	E.O. 12862, Setting Customer Service Standards	-	Identify customers, their needs, and set standards and benchmarks	
	C. Accessible Information Technology	Rehabilitation Act, - section 508	Information technology	accessible to persons with disabilities	
	D. Electronic Government	Pres. Memo on - Electronic Government		Standardized access to and ease of finding government information, plus privacy and security	
<b>II. Federal Information Policy</b>	A. National Information Infrastructure	NII Agenda for Action	-	Make govt. information more easily and equitably accessible	
	B. Privacy and the NII	Principles for Providing and Using Personal Information	-	Guidelines to personal information users and providers	
	C. Copyright	Digital Millennium Copyright Act	-	Protecting copyright in electronic media	
	D. Rights of Access to Information		Freedom of Information Act	-	State FOIA procedures on websites
			Electronic Freedom of Information Act	-	Establish electronic reading room on websites
			Privacy Act	OMB Circular A-130, Appendix I	Handling of personal information
				Pres. Memo on Privacy and Personal Information in Federal Records	Review privacy policies and practices; update notices of systems of records
				M-99-18 on Privacy Policies on Federal Websites	Display privacy policies on websites
			M-00-13 on Privacy Policies and Data Collection on Federal Websites	Discouragement of and restrictions on use of "cookies" on websites; comply with COPPA	
	E. Paperwork Reduction Act	Paperwork Reduction Act	OMB Circular A-130	Framework for agency information management plan, including information dissemination	
F. Clinger-Cohen Act	Information Technology Management Reform Act		E.O. 13011, Federal Information Technology	Websites to be interoperable and standardized across government	
			Proposed Revision of OMB Circular A-130, April 13, 2000	Mission based performance measures for information systems	

Figure 1. Summary of Selected Federal Policies Pertaining to Agency Websites continued

Topic	Statute, Presidential Directive, or Other Document	Implementing Guidance	Website Implications
G. Security	Computer Security Act	OMB Circular A-130 Appendix III PDD 63, Protecting America's Critical Infrastructures	Security controls for federal information systems Performance measures for website security
H. Electronic Collection and Digital Signatures	Government Paperwork Elimination Act	OMB Notice: Implementation of the Government Paperwork Elimination Act	Increase and encourage electronic data collection and implement digital signatures
I. Federal Records	Federal Records Act	General Records Schedule 20, Electronic Records, and various NARA Bulletins	Provide for management of records created on websites

At issue here is developing a coherent understanding of what the policy instruments require, how they are to be implemented, how they relate to website development and management, and what constitutes compliance. In fact, the U.S. policy instruments related to the development and management of web sites are complex and agency interpretation of what is, or is not, required regarding their website can have a number of interpretations.

Figure 2. Criteria for Assessing Information Policy Instruments

- Ambiguity
  - Can a reasonable outsider infer what the policy is (briefly summarize the policy)?
  - Can the policy be interpreted in multiple ways, and if so, how?
  - What is the extent or length of the policy?
  - Are key terms carefully defined?
  - Does the policy contain examples or application to minimize confusion?
  - Does the policy cover one topic or multiple topics and are there clear links between the various topics?
- Contradictions
  - Do policies appear in the same document, which contradict this particular policy?
  - Do policies appear in other government-wide documents, which contradict this particular policy?
  - Do policies appear in (internal) agency documents, which contradict this particular policy?
  - Are there judicial decisions that contradict this particular policy?
- Duplication
  - Does the same policy or wording appear more than once within the same document?
  - Does the same policy or wording appear in other government-wide or agency documents?
- Gaps
  - Are there areas where additional guidance in how to interpret or implement the policy is needed?
  - Should more detail or explanation or justification be provided in the policy?
  - Would specific examples clarify how to implement the policy?
- Inconsistencies (gray areas that are not necessarily contradictions)
  - Are different directions for implementation of policies provided within a given document?
  - Are different directions for implementation of policies provided across similar policy instruments?
  - Are responsibilities and roles of policymakers the same for similar policies across different policy instruments?
- Enforcement
  - Are there explicit statements as to how the policy will be enforced?
  - Are there explicit statements as to who, or which agency, will have oversight for agency compliance?
  - Are penalties and consequences for non-compliance made explicit?



- Modifications and Updates
  - Is there an explicit process for collecting user feedback (users both within and outside the agency)?
  - Are details provided on the process by which the policy can be modified, updated, rescinded, etc.?
  - Is there a process that insures regular and ongoing review of the policies given the passage of time and the likelihood that other similar policies have been passed or approved?

These criteria offer a beginning sense of the types of questions to ask and the analysis criteria that can be employed in assessing the various policy instruments as they relate to websites.

### Determining Compliance

Next, the policy analyst determines the degree to which the agency has or has not complied with the policy instruments. A number of techniques can be employed to make such a determination:

- **Analysis of Website.** In this approach, the policy analysis determines the degree to which the website itself is in compliance with policy instruments. For example, is there a privacy statement (as required by law) on the homepage? Does the website use cookies? Depending on the nature of the assessment a list of criteria or factors can be developed and the policy analyst can look for physical evidence on the website to indicate that these criteria are being met.
- **Analysis of Agency Guidelines and Policies.** This approach requires the policy analyst to do a “Side By Side” analysis of agency guidelines and policy related to their website against the government-wide policy instruments (side by side analysis techniques discussed in McClure, Bertot, and Moen, 1999). For example, are there internal documents at the agency that describe how the website is evaluated and the performance measures in use for the website as per requirements of GPRA?
- **Interviews and Focus Groups.** Especially useful are conducting a number of interviews, focus groups, and/or discussion sessions with key informants in the agency. Discussion questions can probe the degree to which they are knowledgeable about various policy instruments that affect their website; how they have implemented those policies; and the degree they think the agency is in compliance with the government-wide policy instruments.
- **Analysis of Management Structure.** To what degree does the agency have an organizational and management structure that plans and evaluates the website (in general) and considers compliance with existing Federal policies? Such a structure is essential to coordinate such assessments and to insure that there is assigned responsibility to determine the degree of compliance.
- **External Expert.** Another approach to employ is to have an external expert (i.e., someone from a policy-making unit of Congress or a policy-enforcing unit from the Executive branch review the website and/or interview key informants at the agency). Oftentimes, the people who wrote the policies or who have to enforce the policies are best qualified to assess the degree to which the agency is in compliance with the policy instruments.

These techniques are not intended to be a comprehensive listing of possible approaches for assessing the degree to which an agency is compliance with particular information policy instruments. Other traditional evaluation approaches, e.g., surveys can also be used (Rossi, Freeman, and Lipsey, 1999).

Basically, however, the policy analyst asks, “To what degree is the agency in compliance with specific aspects of appropriate information policy instruments?” Given the expanse of policy instruments that can be considered, usually a checklist that is most appropriate for a particular agency can be employed. Figure 3 is an example of such a checklist.

Figure 3. Checklist of Policy Conditions To Assess Federal Agency Websites

<b>Statute/Policy</b>	<b>Checklist Question</b>
1. Privacy	A. Does the website contain a privacy notice that complies with the OMB guidance and model language for federal websites? B. Does the website avoid the use of “cookies” or observe OMB-stipulated restrictions? C. Does the website comply with the Children’s Online Privacy Protection Act, particularly with regard to collecting personal information from children? (Same as 9-B below)
2. Freedom of	A. Conventional FOIA: Does the website contain clear procedures Information Act for requesting agency records under FOIA? B. Electronic FOIA: Does the website contain an Electronic FOIA Reading Room?
3. Copyright	A. Does the website management include provisions to ensure that copyrighted materials are not posted without permission from copyright holders? B. Reuse Restrictions: Can the site content be freely reused without restriction?
4. Accessibility	Does the website make provision for accessibility for persons with disabilities?
5. Security	Does the website management include adequate provisions for protecting the security of agency information systems?
6. Paperwork Reduction Act	Do information collections undertaken via the website have appropriate OMB clearances? Does the website comply with provisions for the Government Information Locator Service?
7. Government Paperwork Elimination Act	A. Does the website permit and encourage electronic information collection? B. Does the website permit use of digital signatures?
8. Federal Records Act	Does the website management include adequate provision for identifying website records and transferring records to agency record keeping systems?
9. Access for Children	A. Does the website comply with the President’s April 1997 guidance on expanding Internet access for children, parents, and teachers? B. Does the website comply with the Children’s Online Privacy Protection Act, particularly with regard to collecting personal information from children? (Same as 1-C above)

## Selected Issues

The above discussion of conducting an assessment of the degree to which government websites are in compliance with information policies is, at best, only a summary. Detailed descriptions of methods, techniques, data collection instruments, etc. can be found in Hert, Eischenfelder, and McClure (2000) and in McClure, Sprehe, and Eschenfelder (2000). Given the approach outlined above, this section describes a number of issues yet to be resolved in conducting this type of assessment.

### DETERMINING SPECIFIC LEGISLATIVE OR EXECUTIVE INTENT

The original legislative or executive intent of a particular policy instrument may be problematic to determine. Oftentimes, the intent of the Congress versus that of the Administration may be different or even at odds. Determination of original intent may require the review of Congressional committee reports and hearings or position papers and other documents from the Administration that were used to shape the policy instrument. Discussion with Congressional staff who had responsibility for the development of the legislation can also be useful.

### INTERPRETATION OF POLICY INSTRUMENTS

Related to determining Congressional or Administrative intent is the difficulty of interpreting what, exactly, the law means in terms of application. For example, reasonable people can disagree on the extent and level of evaluation and performance assessment required under GPRA. How an agency interprets the mandate to have performance measures for its website versus how a Congressional oversight committee interprets "performance measures" may be quite different. In some cases, for example the Freedom of Information Act, final interpretation and how a law is to be applied results only after a decision from the courts.

### DEGREE TO WHICH AN AGENCY IS IN COMPLIANCE WITH A POLICY INSTRUMENT

While the checklist suggested in Figure 3 is a useful beginning point to determine compliance, it is only that – a beginning point. In fact, these questions cannot usually be answered by "yes" or "no" as the figure suggests. The typical answer is that the website has some level or *degree* of compliance with a particular policy. For example, the website may have a privacy statement on the homepage but it only partially meets the guidelines from the Office of Management and Budget. Thus, determining the degree to which a website meets policies can be problematic. It can be especially problematic when different people within the same agency have different views on the degree to which that policy is, in fact, being met.

## AGENCY RESOURCES TO IMPLEMENT POLICY INSTRUMENTS

The degree to which agencies have the resources, staff, technical support, and time to implement the policies that affect website development and management is also a key issue. In previous studies conducted, web managers knew they were not in compliance with a particular policy but had no resources to implement the policy. Agency managers often refer to such policies as "unfunded mandates" as they were told to manage their websites a certain way but were not given additional resources to do so.

A recent example of this issue is implementing provisions of the Rehabilitation Act as amended in 1998 (P.L. 105-220 Section 508). This law requires that Federal agencies' electronic and information technology be accessible to people with disabilities, including employees and members of the public. After numerous delays in implementing the policy due to significant costs, the law is to be in effect as of June 2001. No additional resources were budgeted to agencies to comply with the law and there are still numerous problems for agencies to be in compliance with the law (Matthews, 2001).

### MULTIPLE WEB SITES WITHIN THE SAME AGENCY

The U.S. Department of Education, similar to numerous other Departments, has literally hundreds of websites throughout various agencies and offices in the Department. The extent to which one website is in compliance with Federal policy can vary significantly from another website within the same department. Oftentimes, there is limited coordination and contradictory management of the websites within a department or agency. Thus, compliance by a particular website within a department of a particular policy instrument does not insure that other units of the department also are in compliance.

### IMPORTANCE OF ASSESSMENT PROCESS

Developing and implementing the *process* for policy assessment and compliance (including agreement on which indicators or criteria to use) may be more important than the actual results of the assessment. Lakos (1999) notes the importance of a "culture of evaluation" that needs to be established in an organization prior to successful and ongoing assessment. Developing a process for assessing compliance with information policy related to websites and obtaining a buy-in from staff to participate in that process is a critical success factor for such assessment as outlined in this paper.

### FLEXIBILITY AND IMPORTANCE OF MULTI-METHOD APPROACHES

The methods and data collection techniques outlined in this paper suggest the importance of multi-method



strategies. The experience of this investigator is that some methods work best in some governmental organizational settings and others do not. On one hand the policy analyst needs to employ an “If...Then...” approach for method and data collection. If the agency has minimal knowledge of information policies affecting websites, then the analyst may need to first inform and educate the agency staff about the policies and why they are important.

Further, the policy analyst needs to be “fleet-footed” in the selection and use of specific methods and data collection. If one approach (e.g., staff surveys) is not successful then perhaps an analysis of agency documents, reports, guidelines, and other policies may be successful. In the selection of method and data collection techniques careful thought must be given to the level of effort it will take to obtain the data versus the usefulness of the data received. Finally, we have found that methods and data collection that would seem to work in all agencies simply do not.

#### GOOD ENOUGH DATA

It is unclear if traditional quality of data concerns with reliability, validity, usability, and generalizability are appropriate when utilizing naturalistic data collection and analysis approaches – “good enough” data may replace “high quality” data for purposes of decision making regarding website information policy compliance. For most agencies trying to comply with a host of information policy requirements, they need prescriptive advice for how best to move toward more or better compliance. Website managers have little patience with academics who want in-depth analysis of data as opposed to practical recommendations for how to solve a particular problem.

#### Improving Policy-Based Assessments

Preliminary findings from work done to date suggest that assessment techniques, measures, and indicators can be developed that assess the degree to which Federal agencies are in compliance with information policy laws, regulations, and guidelines that affect the development and management of those websites. While there certainly are a number of issues to address and resolve, techniques for conducting such assessments are possible.

There is less confidence that there is the interest, knowledge, skills, and motivation at the government agency level to engage in such assessments. As suggested above, agency officials have numerous demands on their time and resources. The extent to which they can commit those resources to evaluating compliance with information policies is problematic at best. Past experience from this investigator suggests that the best motivator for agency compliance with information policy is litigation against the agency or the threat of litigation.

Further, the study team believes that the methods employed and the indicators under development can be utilized for assessing policy compliance for other governmental entities – especially at the state and local governmental levels. Remaining to be explored is the degree to which the techniques outlined here can be applied successfully to other countries.

Ultimately, the policy analyst must use very practical and reality-based approaches for conducting policy-based assessments. These include:

- Excellent working knowledge of the information policy instruments and implications of those instruments for website development and management;
- Having fewer measures and statistics that are most useful to the agency as opposed to a large collection of statistics and measures which are unclear and very time-consuming to produce;
- Efficient data collection methods that do not require significant time on the part of agency personnel;
- Straight-forward data analysis that does not include complicated statistical computations; and
- Short, concise reporting with specific, practical, and do-able recommendations that are easily understood by agency staff.

Methods and measures for assessing agency compliance with information policy are only in their infancy. A significant amount of work is still needed in this evaluation area, but work is progressing. Indeed, better assessment techniques and more useful measures are essential if U.S. and other governmental organizations are to provide better websites that comply with existing laws and regulations.

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