Development and Assessment of a Website Governance Modeling Tool

INFM 737 Solving Problems in Information Management

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Image from: http://www.globalwebsitecreations.com

Executive Summary

Web managers and their stakeholders have a need—but currently no method—to conceptualize and evaluate their organization's website governance. My capstone work focused on development and assessment of a Website Governance Modeling Tool, designed to help map, explain, analyze, and manage website governance work and strategies. Results of the user testing of three tool prototypes were encouraging. Users found the tool helpful, easy to use, and informative. All preferred the Personalized version, which included guidance on modifying the tool for organizational needs and prompts for further actions in Web work areas.

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Problem Description

Understanding and managing an organization's website governance is a challenge that includes people, policies, and processes across multiple work areas and strategies. The challenge primarily encompasses two concepts: strategy and work. That is: *why* are we doing what we're doing? And *how* are we doing what we're doing?

Strategically, it is a challenge for any single "Web manager" to coordinate, strategize, and manage staff and tasks for an organization's Web presence across varied "Web work" areas. Functionally, many different work areas make up a website presence. Altogether, various authors have identified up to 21 different "Web work" areas, and there may be many different staff responsible for work on an enterprise website.

Currently, no tool is available to help a Web manager (and their stakeholders) conceptualize and assess Web work areas. This project developed and assessed a website governance modeling tool for Web managers, to allow them to analyze, map, explain, and manage their organization's website governance.

Background Information

I have a long-standing interest in website governance and management issues. Since 1986 I have worked in publishing and communications, holding such positions as Managing Editor, Editor-in-Chief, and Director of Communications in commercial, non-profit, and university settings. My current title is Senior Web Content Manager at Cascades Technologies, Inc., based in Herndon, Virginia. For the past 2 years I have worked at the General Services Administration in Washington, DC, on HowTo.gov, a website of best practices for government Web managers. Since 2009 I have created five Wikipedia articles on website governance issues, including the

articles for “website governance”, “Web content lifecycle”, and “Federal Web Managers Council”.

This project took place in the community of Web workers, not in one single organization. I identified two users and two stakeholders from professional contacts. Fortuitously, one pair of user/stakeholder was available from one organization in the midst of re-developing their website and its governance policies. Because of the close working relationship between Web manager and stakeholder, this pair in particular provided greater insight into development and refinement of the modeling tool.

The four subjects were also selected for their varied work experiences and current employment. Three types of organizations are represented in my subjects: government, university, and commercial.

Review of Literature

Several authors have described different areas of Web work and how an organization’s website is managed. In a 2006 study, Damarin devised six categories of Web work: Web design; information architecture; content production; site building; programming; and coordination. In 2006 Diffily introduced his Website Management Model, composed of four elements, each of which encompassed a set of management activities. In his Comparison Chart of Web Governance Models for Large Organizations, Buchholz (2011) included such Web work areas as domain, hosting, content management, design, and training. The U.S. federal government published its revisions to its Federal Classification and Job Grading Systems to “Series 2200: Information Technology Group” (U.S. OPM, 2011), which provides “definitions, titling instructions, and detailed occupational information for this job family” (p. 4). The series 2200

focuses more on technical aspects of website management, including design, development, systems administration, and information architecture.

Another relevant source of information for defining Web work is how organizations seek employees. How an organization defines the work it needs done for its website may be the best resource because it is the source of information "closest to the ground": that is, organizations hire for what work they need done. A scan of the job site indeed.com (indeed.com, 2012) for Web-related work reveals at least 10 distinct categories or work function areas: administration, analytics, communications, content, design, development, management, marketing, production, and programming.

My personal work in website management has spanned more than a decade. My interest in this area led me to develop a Website Governance Functional Model (Jacoby, 2011 a,b) (see Appendix A), which was developed from and built upon the work of Damarin (2006), Bucholz (2012), and U.S. federal job descriptions (U.S. OPM, 2011), among other sources. The Website Governance Functional Model filled a gap of website governance frameworks because it focuses on where work is happening—in functional Web work areas. In this way the Website Governance Functional Model follows a business reference model, which concentrates on the many functional areas of the core business of an enterprise. According to the Wikipedia definition: "A business reference model is a means to describe the business operations of an organization, independent of the organizational structure that perform them" (Wikipedia, 2012). This was an appealing model for me to describe website governance issues because it focused on the work being done without regard to how a business might choose to organize that work into internal structures.

To further refine Web work areas in the Website Governance Functional Model, I chose eight authors who described in their publications approaches to conceptualizing and defining Web work areas. Some authors focused on work areas, such as Content, Design, and Software Development; others took a holistic (or conceptual) approach to website governance and management issues, such as Policies & Procedures, Roles & Responsibilities, and Sponsorship. Appendix B is the matrix of website governance work areas and concepts from Damarin (2006), Diffily (2006), MS SharePoint Guide (2007), Lummis (2009), WelchmanPierpoint (2009), Harrison (2009), Kahn (2011), and Bucholz (2011). In the matrix, a "work area" is defined as a fundamental and distinct functional Web work area (for example, content, design, social media, analytics); while a "concept" is defined as a general idea (for example, process, maintenance, roles and responsibilities). Development of this matrix helped me see en masse all Web work areas and concepts, from many different authors, and which work areas and concepts were most common across researchers and thought leaders.

The idea for converting the Website Governance Functional Model into an interactive tool for use by Web workers was spurred in part by Osterwalder's Business Model Canvas, which he developed based on his PhD thesis (Osterwalder, 2004). What appeals to me about the Business Model Canvas is that it is designed for use by individuals, in any organization, to tailor to their *specific* business setting and situation by using pre-established "building blocks" found in every business (businessmodelgeneration.com, 2012). The nine building blocks of business in Osterwalder's model are customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure. Each Canvas starts with these components, and each person must individualize his or her Business Model Canvas to "map, discuss, design, and invent new business models" for their

business (businessmodelgeneration.com, 2012). The notion that a tool could be designed for modeling website governance seemed attractive, if it could address both strategic and functional website governance issues.

Analysis of Problem

I used the following methods to analyze this problem: interviews with users, point-of-view (POV) madlib, and composite character profiles. Details of each method are provided below.

Initial Interviews with Users. Semi-structured interviews were conducted with two users at their job sites (see Appendix C for questions). User 1 (U1) works as a Web manager at a federal agency in Washington, DC. User 2 (U2) works as a program manager in charge of an online database and contributing to website development at Johns Hopkins University. Both users were provided a copy of the Website Governance Functional Model (Appendix A) several days in advance of the interview. Both interviews were recorded.

Initial Interview with U1. U1 stated in her interview that the Website Governance Functional Model is:

> a validation of how I see website governance. I was having a conversation with one of my superiors not too long ago about the modern Web manager and all that person is expected to know and do, so to me this model really lays that out in the most relevant buckets, and just sort of validates and confirms my thinking about website governance. No alterations, really.

This was followed up with questioning about how to turn the model into a tool for conceptualizing Web work. U1 stated:

> I think having the ability to further decompose these boxes would be a really useful tool, kind of like a work breakdown structure that's done in project management…. I think that would be useful to blow out the boxes and decompose them further and shift them

> around, not only to describe what you do to people above you and people you work with but also serve as a pictorial job description.

I asked how U1 thought the model could help her in her role as a Web manager. To this she replied: "I think it would be useful to help explain to superiors all that's involved in each of these boxes. It could also be used, I think, as a [help for a] position description, to essentially describe their job and what they do, and how much time they spend on each area."

Initial Interview with U2. U2 stated that the Website Governance Functional Model is "not that different from what we're talking about and thinking about, as far as all the pieces that are involved."

Asked how the model could help in her role as a Web manager, she responded: "I think it really helps to see all these boxes here so that you could focus on each one and why it's important." She also commented on how the model might be made into an interactive tool: "Maybe for your interactive model you could bump out any box and put roles and responsibilities so that you're coming to them [stakeholders] with a roadmap and a game plan to sell it [the project plan]."

She summarized her thoughts on prototype development:

> People are starting to understand that there are teams that work within some of these boxes. I think a model like this might help people think about structure on the project, and how one box might affect another box.

Takeaways from Initial Interviews with U1 and U2. The results of the user interviews helped me focus on user needs from their unique work perspectives. U1 emphasized the usefulness of the model as a way to show to a supervisor all of the different types of Web work and what is involved in each work area. U1 also noted it would be helpful to be able to

personalize the model, to "blow out the boxes and decompose them further and shift them around" inside the model itself.

U2 said the model helped her because it confirmed how she and her colleagues were already thinking about website governance issues. She said that because the model showed all the Web work areas, at once, it would allow her to focus on ones that were important for her and her project team. U2 also talked about the model helping the team "think about structure on the project, and how one box might affect another box." U2 also commented that an "interactive model" would allow the user to "bump out any box", insert details, and take that to stakeholders as a "roadmap" or "game plan" for Web work.

Point-of-View Madlib. I used Point-of-View Madlib (d.school, 2010) to help me think about my user's challenges. The Point-of-View Madlib is geared to an "actionable problem statement" by capturing and harmonizing "three elements of a POV: user, need, and insight" (p. 21): [USER] needs to [USER'S NEED] because [SURPRISING INSIGHT]

From this exercise I developed the following:

1. Jane needs to keep track of all the work she's doing on her website because she feels she cannot get a handle on it all.

2. Susan needs to be able to see everything—all at once—that she is working on the company website because she needs to explain to her manager why she needs to hire more Web staff.

3. Jim needs to show to his boss why Web work is taking so long because of inter-related work area challenges.

Composite Character Profile (d.school, 2010). My Project Director suggested I build my profiles based on my 2 users, who work in a government and a university setting. The two

character profiles are in Appendix D. Using the composite character profiles during development of the prototypes helped me focus on each user's unique needs.

Summary of Analysis of the Problem. Users in my analysis (Web managers) are faced with many challenges. They need to know all of the Web work areas within their scope of concern and influence for their organization's website. They would like to see (and understand)—in one display—each work area, what might be involved in each work area, and how work areas relate to one another. This would help them to think about "structure on the project" (U2). Users also need to explain their work to other staff in the organization (across departments, at their level, and to executive management), so any tool should have information that is understandable to anyone at any level in (or outside) the organization. Finally, because organizations differ in website governance needs, strategies, and work areas, users need a customizable tool, one that can change with their changing needs (U1: "blow out the boxes and decompose them further and shift them around"). In sum, Web managers working on their organization's website governance issues need a tool that does the following:

Actions	Answers Such Questions As…
1. Contains *all* Web work areas	What are all the pieces of Web work?
2. Provides details of each Web work area	What is in each piece? Who is responsible for the work? What are the processes used to accomplish work?
3. Shows how Web work areas interact and relate to each other	How do the pieces fit together?
4. Helps them explain their website governance and Web work and strategies to others	What do the pieces mean? Why are we doing this work? Where is the organization going?
5. Can be customized to fit their specific needs	Can I make this my own picture? Can it change to suit my changing needs?

Discussion of Alternative Solutions

After consulting with my Project Director, I developed three versions of the website governance modeling tool for user testing: decision support (Rules version), case-based reasoning (Story version), and prompts for personalization (Personalized version). In each version I developed material for two Web work area boxes: Content and Design.

Decision Support (Rules Version). For this alternative I used a simple rule-based decision support system. I used a list of heuristics for website development from the U.S. Department of Health and Human Services' (HHS) *Research-Based Web Design and Usability Guidelines* (HHS Guidelines, 2006). The *HHS Guidelines* include 209 guidelines across 18 Web design and usability topics (such as content organization, navigation, and accessibility), based on research from a variety of fields, including cognitive psychology, computer science, human factors, technical communication, and usability. The *HHS Guidelines* are based on more than 400 separate sources of research. There were 11 Content and 11 Design guidelines used as decision support heuristics in my Rules Version.

Case-based Reasoning (Story Version). Case-based reasoning uses "old experiences to understand and solve new problems" (Kolodner, 1992). For this alternative I developed a story for the two Web work boxes. In each story I touched on a variety of issues that might be commonly found in that Web work area.

Prompts for Personalization (Personalized Version). In this alternative I used "prompts for personalization" in the two Web work boxes. The "prompts" were brief questions or ideas covering the basics of the function of that Web work area, designed to prompt the user down different paths of thinking about the work that might occur in the functional area. The "personalization" was designed into the prototype. A note in the prototype reminded users that they should type in the boxes as they needed to work on their Web work areas, and that they

should feel free to modify boxes or move them around inside the tool to help them map, discuss, conceptualize, or manage their Web work areas.

Prototype Development. I used MS Word 2010 to develop each prototype. The first page of the prototype featured all Web work areas, arranged by grouping like-with-like. In the Story and Rules versions, a hyperlink in each box took the user to the related story or rules within the same document. In the Personalized version, each box contained a series of prompts about that Web work area; enough so that the user needed to "pull out" the box to view them all. All three versions contained a brief set of instructions on use. The three versions are shown in Appendix E.

Three Versions Provided to Users and Stakeholders. These three versions were emailed to all users and stakeholders, with instructions to take notes on any of their preferences, thoughts, ideas, etc., as they tested the tools.

Follow-up Interviews with U1 and U2. Follow-up interviews were scheduled with U1 and U2, allowing them about a week to use the prototypes. Interviews were unstructured. Both interviews were recorded.

Second Interview with U1. U1 stated that her favorite version of the tool was the Personalized version (with prompts), and her least favorite was the Story version. She said, "My favorite one was where the information was right in the box. I think it's a good idea because I think whenever people are filling out something like this, people feel a little lost at first, so whatever hints you can give people is helpful." She also noted that the Personalized version closely resembled the same type of workflow with "prompts in a box" that her team has set up for customers to use on their own website.

She explained why the Story version was her least favorite: “The one with the stories struck me as the least useful because it seems like the stories could be so varied…..so unique.”

Second Interview with U2. Like U1, U2 also stated that she liked the Personalized version: “I gravitated towards the Personalized version, for two reasons. I like the way it looked; I liked the way the boxes were drawn…. But I also liked being prompted with questions to think about.” She also noted that “[i]t seemed very easy to use, maybe putting bullet points [in the boxes], bolding the questions—I thought it was very user friendly.”

U2 suggested combining both the Personalized and the Rules version. “I liked the information that was in the Rules version, because they were concrete things I needed to think about and do. I like the idea of things you need to think about—the Personalized version—and linking down to the rules [from the Rules version] and the different things that I need to do. I almost thought you could merge these two together.”

However, U2 did not realize that the Web work boxes in the prototype could be moved around inside the tool, if needed. She suggested that the tool could “have some guidelines for using it”.

Like U1, U2 found the Story version least useful. “I would definitely not go to this one as much.”

Finally, U2 requested permission to use the tool to help her through their team’s current Web re-design project. I plan to follow-up with U2 to understand her real-world application of the tool.

Takeaways from Second Interviews with U1 and U2. Both users preferred the Personalized version over the other two versions. Also, both users did *not* like the Story version; this version will be dropped in any further development of the tool. One of the two users (U2)

suggested combining the Personalized version with the Rules version into one tool, so that there would be "prompts in a box" and also "rules to follow". U2 suggested more instructions be included with the tool so that users would understand better how to use the tool.

Both users seemed to analyze the tool based on their professional experiences. U1 seemed to feel more comfortable with the Personalized version because its design was familiar to her from her own website. U2 seemed to believe that combining the Personalized and Rules versions would help her understand and address *all* of the Web work issues and situations she needed to keep track of during her website re-design process.

Interviews with Stakeholders. Semi-structured interviews were planned with the two stakeholders (S). S1 is Chief Operating Officer for a local strategic Web marketing agency. S2 is a program manager at Johns Hopkins University (she works in the same program with U2). Interview questions for stakeholders are presented in Appendix F. An in-person or phone interview appointment could not be arranged with S1, so the questions were provided by email. The interview with S2 was done in person and recorded.

Email Interview with S1. The interview response from S1 was not received.

Interview with S2. S2's reaction to the tool was very positive:

> I'm really impressed. The particulate nature of this [tool] is really useful. I think some of these things don't get thought about as part of a whole. I think they get thought about in compartmentalized ways. Having them all laid out like this in one place is really useful…. This is an amazing framework that looks really flexible…. I wish I had this [tool] 6 months ago.

S2 noted that she thought the tool would help her team "draw together the discrete pieces that should really be integrated."

S2 also had recommendations for improving the tool: "I would like to see something like more relationships between them [the Web work boxes]. Who are the people who think about

Social Media? And how do they overlap with the people who think about Analytics? I'm not sure you can graphically represent that in a simple enough way to make it useful." We discussed ways in which this might be done, graphically or with text.

She also recommended creating a layer between the Strategy boxes at the top of the tool and all of the Web work areas in the body of the tool. "This [area] is all communication. I think it would be useful to specify communications tools between the strategy level and the implementation level. How does the strategy get conveyed? Where can the implementing person go back to check the strategy?" We discussed this topic further and how the existing boxes for certain strategies could contain links to internal drives and documents, contact information, and bulleted text to convey this information. She said, "The fact that this tool doesn't dictate which way you go with that is very positive. It allows for the culture of the organization to come through." She said that instructions for use of the tool could be worded to encourage true personalization of the tool.

She concluded: "I think for an organization that already has a Web presence, this would be very useful in tying together existing structures….. and, on the flip side, for a new organization to build a sound foundation. I think it would be really useful from both perspectives."

Takeaways from Interview with S2. S2 had positive reactions to the tool, overall, and a few recommendations for improvements. Through our discussions she learned how the tool could be personalized for organizational needs, and this information seemed to satisfy her needs as a stakeholder. She liked the idea of having a tool that her organization could make its own, to suit its unique needs.

Because S2 works with U2 in the same program, I plan to follow-up with both to determine how this user/stakeholder pair used the tool for their specific work circumstances.

Potential Benefits and Risks. Potential benefits of the website governance modeling tool seem great. The number of users tested was small, but each seemed very enthusiastic about the tool and its potential benefit for them in analyzing and managing their specific website governance issues. The user/stakeholder pair who requested to keep the tool for their use in their current website development project supports this potential benefit.

Through my analysis of the three versions of the tool I identified at least two risks to using the tool:

1. The tool is not a complete representation. Users seemed to generally appreciate the all-encompassing nature of the website governance modeling tool, but there were concerns raised about areas that were not represented on the tool, such as communication structures and relationship structures between Web work areas. One way to reduce this risk would be to include specific guidance inside the tool for its purpose and use, emphasizing the active role that the user should play in analyzing, mapping, and explaining their organization's Web work, governance structures, and Web-related strategies.

2. The tool is too prescriptive. I sensed this risk during all three interviews: that users might feel hemmed in by the prearranged Web work areas. And U2's mentioning that she would like to see the Personalized and Rules versions combined seemed to me to indicate that some users could use the tool as a mere checklist of tasks. The risk here is that users see the tool as just another "thing to do" or "get through", and not use it as a creative planning and strategic management tool. This risk could be obviated by including other Web work area boxes off to the

side in the MS Word document, with clear instructions that "creative play" is to be encouraged when using the tool for website and strategic management purposes.

Justification of Selected Alternative

The sample of users was small in this analysis, but it was clear that the Personalized version was the favored alternative. I attribute this to the fact that the Personalized version is the only version that is customizable. As S2 noted: "The fact that this tool doesn't dictate which way you go with that [forcing the user to use the tool in only one way] is very positive. It allows for the culture of the organization to come through."

Description of Activities Related to Prototype Development and Evaluation

I developed my prototype based on five activities:

1. My literature review
2. My matrix of website governance work areas and concepts (Appendix B)
3. Findings from the first round of user interviews
4. Design thinking exercises Point-of-View Madlib and Composite Character Profile
5. Feedback from my Project Director

The first four activities laid the foundation for the Web work area boxes and what each might contain. The last activity (feedback from my Project Director) directed me to develop the three different versions, one each based on a decision support system (Rules version), case-based reasoning (Story version), and personalization (Personalized version).

I chose MS Word for development of the website governance modeling tool because it is a common software application in modern offices. I considered using alternatives, such as Google Docs and Gliffy, but quickly abandoned those in favor of MS Word, primarily because of familiarity.

Because of time constraints, I developed only two Web work area boxes (Content and Design) in each of three versions (Appendix E). For the Personalized version I chose prompts designed to help a Web manager focus on primary activities in each Web work box. For the Rules version, I selected guidelines from the *HHS Guidelines* (2006). These are accepted among the Web manager community as being very useful for website development and improvement based on user research. The *HHS Guidelines* had 11 guidelines for both Content and Design, which I used verbatim in my Rules version. Within this MS Word version, I hyperlinked from the Web work area to a section in the tool document that had the list of guidelines. For the Story version I wrote a story about how a Web professional might handle a specific situation for each Web work area. For each version a brief set of instructions were provided on tool use. All three alternative tools are shown in Appendix E.

Evaluation of the prototype consisted of follow-up interviews with both users and interviews with my stakeholder, after they all had time to study and use the tool any way they chose. These evaluations were helpful in that they provided not only direct feedback on specific questions but also deeper explorations of suggestions for improvements to the tool.

Next Steps

I have six "next steps" I would like to take with the Website Governance Modeling Tool:

1. Draft prompts for the remaining Web work areas, and develop instructions for use
2. Secure a Creative Commons license
3. Develop a website for promotion and sharing
4. Publish an article introducing the new tool to the community of Web managers
5. Elicit Web management community involvement for further development
6. Follow-up with U2/S2 for their real-world experiences

I have registered the URL www.website-governance.com to be the homepage for the Website Governance Modeling Tool, and I have started to draft content. I have also contacted the Managing Editor of a website publication, and she has expressed interest in seeing an article.

I am exploring options for sharing the tool with the community of Web managers. One idea is to use an open-source wiki platform (such as TWiki®), in which the community would be able to contribute to development of the tool in an open and collaborative space. Another way to work with the community would be by hosting the URL on a development platform such as Drupal™ and install a wiki module. Still another method of encouraging community involvement and creating a space for discussion on a Drupal website is through a forum module. Each of these options will need to be explored in-depth to determine the best hosting and tool development solution.

The Website Governance Modeling Tool I would like to ultimately develop would allow a Web manager to analyze, map, explain, and manage their website governance work and strategies. It should be intuitive, simple to use, re-usable, and shareable. It should be an interactive tool that represents his or her organization's Web presence, with all of its building blocks. As such, it would be a changeable blueprint that would help the user structure, and re-structure, website governance issues of importance to them, to meet their changing needs in Web work and strategies. It should be designed to help Web professionals process through and manage their website governance strategies and functional work areas. Because a Web manager has many stakeholders, the tool should also help those stakeholders (other organization staff, executive management, outside vendors and contractors) see and understand—at a glance—the organization's website governance. In all of this the tool should help make the complex understandable, and even fun to work with.

Lessons Learned

I learned several lessons through this capstone project.

One lesson that showed itself over and over again was the great importance of user feedback. During my interviews I gained valuable insights into how users might (or might not) use the tool. Their suggestions will help me move forward, and I hope that community input—from many users actually using the tool—can refine and enhance the tool.

Another lesson was the benefit of seeing commonalities of thought among different authors in my matrix of website governance work areas and concepts (Appendix B). During my literature review I realized that different authors were addressing similar and important issues of website governance, but I was able to benefit only by analyzing their work across the matrix.

A third lesson learned was the value of different design thinking techniques. I had never used the Point-of-View Madlib technique, and I found this to be an interesting exercise to help me reach my "actionable problem statement". Developing the Composite Character Profiles helped me focus on my end users throughout my prototype development.

A final lesson learned was the great amount of time and effort that goes into addressing information management problems and solutions. I've gained new insights and a deeper appreciation for the professionals addressing information management challenges.

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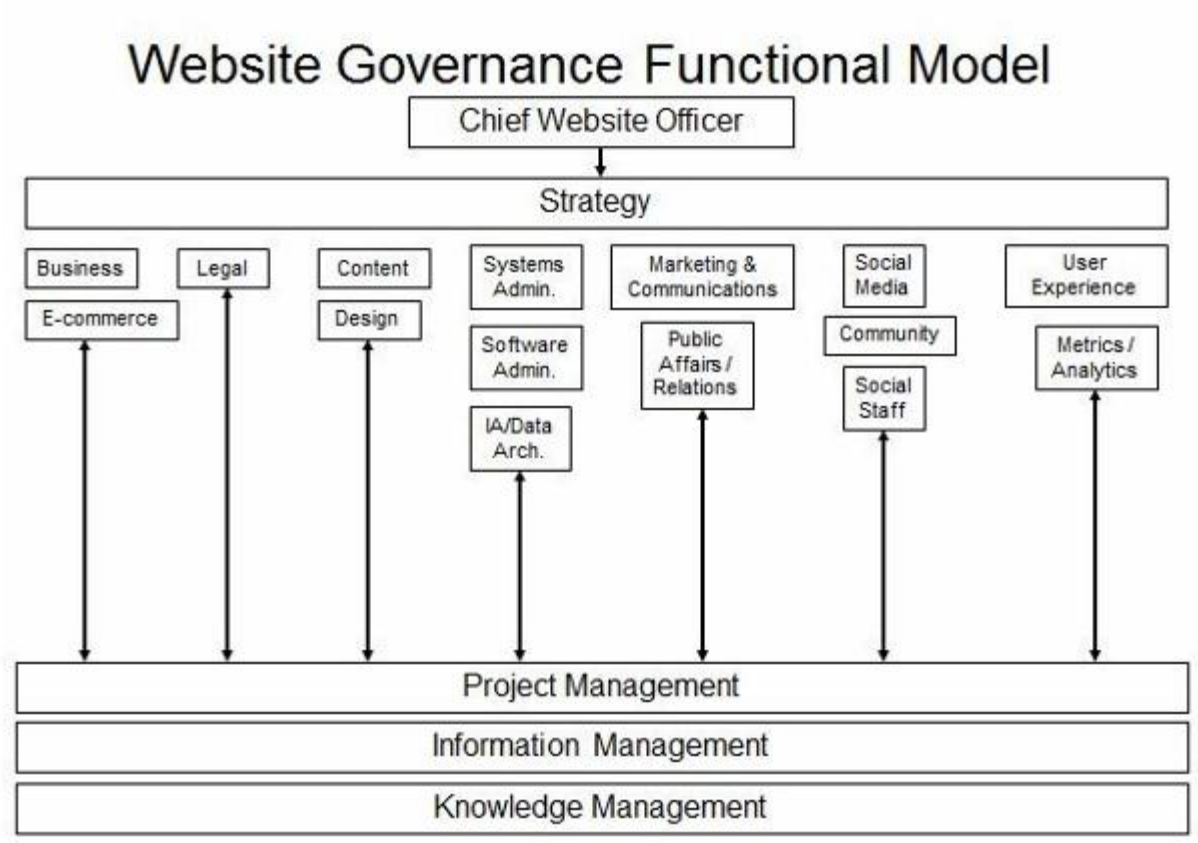
Appendices

Appendix A. Website Governance Functional Model



From Jacoby, 2011(b)

Appendix B. Matrix of Website Governance Work Areas and Concepts

	Damarin (2006)	**Diffily (2006)**	**MS SharePoint Guide (2007)**	**Lummis (2009)**	**WelchmanPierpoint (2009)**	**Harrison (2009)**	**Kahn (2011)**	**Bucholz (2011)**
Characteristic / **Work Area**	6 "Web Work" Roles	Four Elements of Website Management	Checklist Guide for SharePoint Deployment	"Stewardship"	Web Governance and Standards Compliance	The 5 "R's" of Governance	Web Professionals as Change Agents	Type of Governance Model (C, D, F)*
Analytics		✓-		✓			✓	
Business				✓			✓	
Content	✓	✓-	✓-	✓	✓-		✓-	✓
Community			✓-					
Customer Service		✓-						✓
Design	✓	✓-			✓-		✓-	✓
Information Architecture	✓		✓		✓-			
Legal							✓-	
Marketing & Communications		✓-	✓-	✓			✓-	✓
Review / QA / Testing		✓-	✓			✓		
Search			✓					
Social Media								
Software Administration	✓	✓-	✓-		✓-		✓-	✓
Systems Administration	✓	✓-	✓-		✓-		✓-	✓
Taxonomy			✓					
Training			✓	✓				✓
User Experience	✓-						✓-	
Concept	**Damarin (2006)**	**Diffily (2006)**	**MS SharePoint Guide (2007)**	**Lummis (2009)**	**WelchmanPierpoint (2009)**	**Harrison (2009)**	**Kahn (2011)**	**Bucholz (2012)**
Information Management			✓					
Funding			✓-	✓			✓-	
Policies & Procedures			✓-		✓	✓	✓-	✓
Process			✓-		✓	✓	✓-	✓
Project Management	✓	✓-	✓				✓-	
Roles & Responsibilities			✓-	✓	✓	✓	✓	
Strategy			✓-	✓			✓	✓
Governance/Sponsorship		✓	✓-	✓	✓		✓	✓
Maintenance		✓						
Development		✓	✓					
Infrastructure (IT)		✓	✓	✓				

✓ = primarily noted or explicit inclusion
✓- = secondarily noted or referenced in relation to a primary sector or element
* centralized, decentralized, or federated model of Website Governance

Appendix C. User Interview Questions

1. Does this model alter how you think about website management? If so, how?
2. What "work areas" (boxes) do you think are missing from the model? (For example, "training")
3. What are the most important questions, activities, or concerns you would apply to each work area (box)?
4. How could you use this model to help you in your Web manager role?
5. How would you design a prototype of this model to be interactive; that is, design it so that you can alter it to suit your needs?
6. How could you use this model to explain your website work activities to your managers?

Appendix D. Composite Character Profiles

Kathy

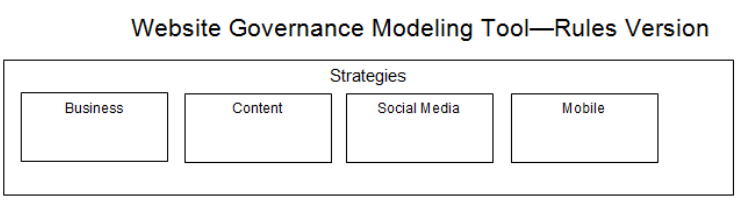
- 57 years old
- Married, 3 children, 2 grandchildren
- Program manager and website database lead at local university (JHU)
- Has worked in same university system for 35 years
- Has survived multiple leadership changes and staff layoffs in the JHU program
- Considers herself an “auction hound”; collectible teapots
- Dog person: owns Boston Terriers

Jane

- 44 years old
- Married, two children
- Web manager at federal agency in Washington, DC
- Master’s degree in Public Policy
- Managing a .gov website by herself for past 2 years
- Interned for Congressmen in the 1990s
- Enjoys keeping abreast of political issues

Appendix E. Three Alternative Prototypes of the Website Governance Modeling Tool

Rules Version



This is the Rules Version prototype. Rules have been provided for you to follow for each box. Use Ctrl+Click to read the rules for that box. Only 2 boxes have rules in this prototype.

Design Process and Evaluation Rules

1:1 Provide useful content

Guideline: Provide content that is engaging, relevant, and appropriate to the audience.

1:2 Establish User Requirements

Guideline: Use all available resources to better understand users' requirements.

1:3 Understand and Meet User's Expectations

Guideline: Ensure that the Web site format meets user expectations, especially related to navigation, content, and organization.

1:4 Involve Users in Establishing User Requirements

Guideline: Involve users to improve the completeness and accuracy of user requirements.

1:5 Set and State Goals

Guideline: Identify and clearly articulate the primary goals of the Web site before beginning the design process.

1:6 Focus on Performance Before Preference

Guideline: If user performance is important, make decisions about content, format, interaction, and navigation before deciding on colors and decorative graphics.

1:7 Consider Many User Interface Issues

Guideline: Consider as many user interface issues as possible during the design process.

1:8 Be Easily Found in the Top 30

Guideline: In order to have a high probability of being accessed, ensure that a Web site is in the 'top 30' references presented from a major search engine.

1:9 Set Usability Goals

Guideline: Set performance goals that include success rates and the time it takes users to find specific information, or preference goals that address satisfaction and acceptance by users.

1:10 Use Parallel Design

Guideline: Have several developers independently propose designs and use the best elements from each design.

1:11 Use Personas

Guideline: Use personas to keep the design team focused on the same types of users.

Content Rules

15:1 Make Action Sequences Clear

Guideline: When describing an action or task that has a natural order or sequence (assembly instructions, troubleshooting, etc.), structure the content so that the sequence is obvious and consistent.

15:2 Avoid Jargon

Guideline: Do not use words that typical users may not understand.

15:3 Use Familiar Words

Guideline: Use words that are frequently seen and heard.

15:4 Define Acronyms and Abbreviations

Guideline: Do not use unfamiliar or undefined acronyms or abbreviations on Web sites.

15:5 Use Abbreviations Sparingly

Guideline: Show complete words rather than abbreviations whenever possible.

15:6 Use Mixed Case with Prose

Guideline: Display continuous (prose) text using mixed upper- and lowercase letters.

15:7 Limit the Number of Words and Sentences

Guideline: To optimize reading comprehension, minimize the number of words in sentences, and the number of sentences in paragraphs.

15:8 Limit Prose Text on Navigation Pages

Guideline: Do not put a lot of prose text on navigation pages.

15:9 Use Active Voice

Guideline: Compose sentences in active rather than passive voice.

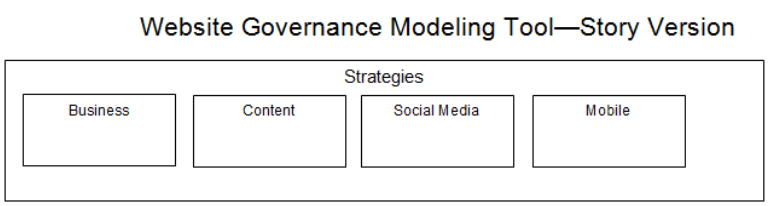
15:10 Write Instructions in the Affirmative

Guideline: As a general rule, write instructions in affirmative statements rather than negative statements.

15:11 Make First Sentences Descriptive

Guideline: Include the primary theme of a paragraph, and the scope of what it covers, in the first sentence of each paragraph.

Story Version



This is the Story Version prototype.
Stories have been written for you to learn about how others have done work for each box.
Use Ctrl+Click to go to the story for that box.
Only 2 boxes have stories in this prototype.

Design Story

Kathy Anderson is a designer for a small contracting firm in Washington, DC. She's currently working for several differe agency websites and sub-sites, getting called into projects and meetings on an "as needed" basis. Kathy loves her work she works with; she sees part of her job as educating her clients, so she engages with them to share her expertise and Web designs.

In one recent meeting on a website re-design for an agency sub-site on small business development, the project leader was questioning Kathy's design. Let's listen in:

"I used the personas we developed for this particular design," Kathy said. "We looked to them for their information need on user performance with format, interaction, and navigation, before we settled on any one design element."

Sue nodded, and Kathy recognized an opportunity to explain more.

"You can see there's plenty of white space here on the homepage, and I've minimized background images here, too," sl you can see here on the down-level page mock-up we're using images to greater effect, to draw the visitor into the site. use too many, or have them too large, or they'll slow the visitor's experience and look too cluttered."

Kathy continued, "The homepage establishes user expectations right away, through the top navigation elements, and al content elements—those recur throughout the site. We've used fluid layouts, and tidied up the display with the icons yo all the text labels are much clearer, cleaner, and shorter."

Sue continued to nod and said, "What about the field project tables?"

Kathy reached into her portfolio and said. "I've worked on those." The "field project tables" were special designs Kathy h be used for different types of "incubator" (or start-up) small businesses. The table included grouped elements of field pr such as location of office, number of staff, names of projects, along with a geo-location thumbnail map, with a color sch pattern for distinct types of businesses.

Sue looked the tables over and said, "This is great! This will provide our pages with the consistent navigation we need; all the important information at once."

Kathy left the meeting feeling very good about her work.

Content Story

Jim Wilson is a Web Manager starting his first day on the job for a mid-size health care program (Health 4 All) at George Washington University (GWU). There are a lot of ideas running through his head as he's driving in to work this morning. He's excited about starting his new position: there are about 150 people on staff, with another 75 staff in field offices in 16 countries (Sub-Saharan Africa, Asia, and Latin America). Funding comes from a variety of sources, primarily though through the US Agency for International Development. Jim runs the program's sole website (www.Health-4-All.org) and is responsible for all its content.

Jim was recruited from a content development company to re-develop and then manage the Health4All.org website. He'll be heading up a "content team" of one junior (print and Web) editor and a handful of program managers who have been told they need to regularly contribute to the "new" website.

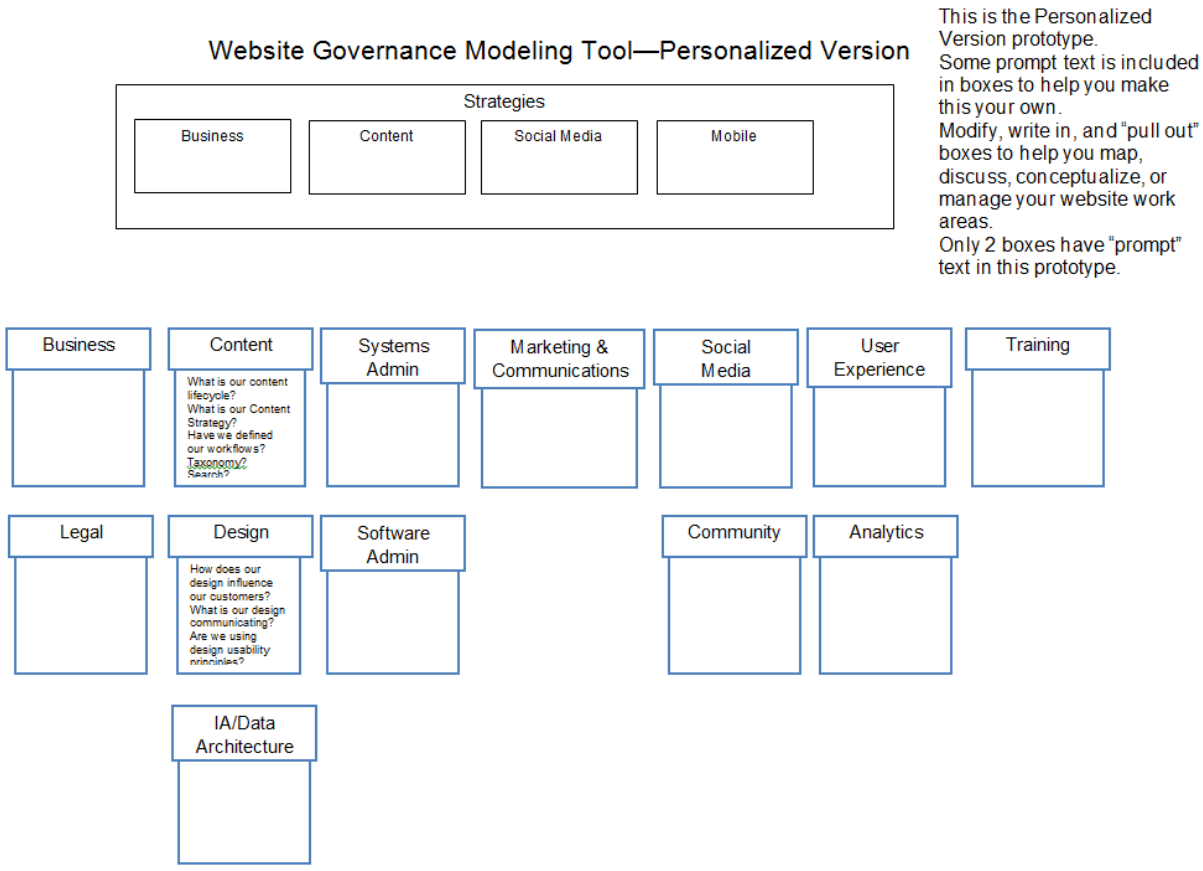
As a content developer, Jim wants to provide useful content to his site visitors. In his head as he's driving in to work he's already beginning plans for developing his Content Strategy for the Health-4-All website: where he'll get his content from, how he'll develop content for the new website, and how he'll manage the site's content post-launch.

He thinks he'll be able to use some writing guides and page content templates that he's used with previous clients, but the Health-4-All website is unique. He knows he needs to develop a Web Style Guide for this particular site, for *all* the content owners. He also wants to develop different page content templates, so that as content owners write their webpages they'll have some guidance on structuring page content to facilitate the user experience.

Jim took the time over the weekend to review the current website in detail; what he saw was a sprawling collection of webpages, some related to projects, some related to publications, some related to the GWU school of public health. He quickly started jotting ideas down for improvements: avoiding jargon, using familiar words to users, using "active" voice, "chunking" content to facilitate page scanning, and limiting the number of words and sentences on pages.

Jim knew he'd have his work cut out for him, but he was looking forward to the challenge.

Personalized Version



Appendix F. Stakeholder Interview Questions

1. What are your impressions of the website governance modeling tool?

2. Of what value would the tool be for:

    -your organization's website governance?

    -your organization's website management?

    -your organization's website strategy?

    -resource allocation?

3. What improvements would you suggest for this tool?