

Leveraging Web 2.0 in Government

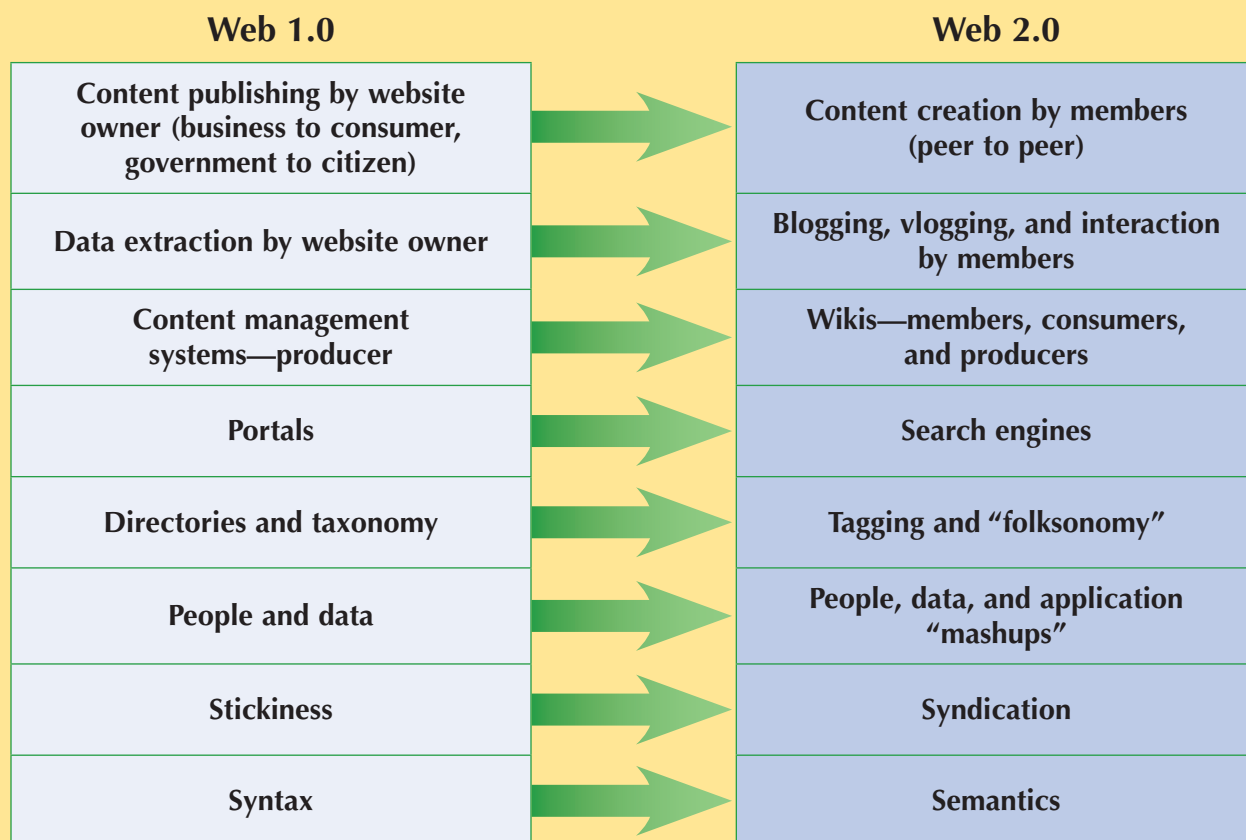
By Ai-Mei Chang and P. K. Kannan

This article is adapted from Ai-Mei Chang and P. K. Kannan, "Leveraging Web 2.0 in Government" (Washington, D.C.: IBM Center for The Business of Government, 2008).

The era of Web 2.0 is upon us. The Web 2.0 platform is a networked world supporting individual users creating content individually and collectively, sharing and updating information and knowledge using sophisticated, diverse sharing devices and tools, and remixing and improving on content created by each other. It is a network platform that allows high levels of user interactions, resulting in content and updates that are in the "permanent beta" stage, which in turn

enables rich user experiences that go much beyond the Web 1.0 era. Many technologies populate the platform—blogs, mashups, peer-to-peer computing, RSS, social networks and online communities, podcasts, wikis, tagging and bookmarking, to name a few—leading to an environment of "collective intelligence" (according to Tim O'Reilly, www.oreilly.com) that all users and firms can harness. These applications share some common characteristics. They have the potential to deliver enhanced customer service experiences, to allow high levels of interactions and the co-creation of services, and to deliver self-service through a variety of devices, both wired and wireless.

Figure 1: Transition from Web 1.0 to Web 2.0





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The challenge to businesses and governments in this era of Web 2.0 is how to effectively harness this potential and the collective intelligence that is constantly evolving in this environment. This challenge is not confined to the technology arena alone. It involves the organizational and social structures as well, and results in transformations in both areas. This is because the era of Web 2.0 is one of “social computing” that is characterized by a rapid shift of control from the firms and institutions to the users. Thus, from the government institutional perspective, the notion of the co-creation of services and governance issues would have to deal with (1) the shift in control to users and (2) users and external organizations acting as intermediaries to service other users. The design and delivery of content and services will have to be transformed. The framework and processes to create citizen relationships, to strengthen citizen trust and loyalties, and to enhance civic engagements will have to be thought through and designed carefully.

Implications of Web 2.0 for Government Agencies

The Web 2.0 platform renders the online environment individual-user-centric. From the government and business viewpoint, this means institutions will have to engage citizens and customers at sites where they are (in social network sites and online communities) rather than create portals and all-purpose websites and expect citizens and customers to approach them. This has implications for how service provision and uses of Web 2.0 are designed—pointing to the need to move away from portals to citizen-centric Web 2.0 applications such as “mashups” to deliver products and services to users’ devices.

Reaching citizens where they are—in their communities—will also enable governments to harness the collective intelligence of citizens, such as feedback on services, ways to improve the design of content and services, and ways to distribute content and services efficiently to various citizen groups. In addition, such an engagement with citizens in their own settings will enhance the trust citizens have in their government and help government to build citizen loyalty.

To engage citizens and customers in their online communities, governments and businesses need to increase their *coverage* and *reach* to deliver content and services. To do this in a cost-effective way, institutions will have to rely on emerging intermediaries, who could be individual citizens themselves or other businesses and firms who will create and enhance content and create “mashups” and applications to distribute services to citizens. Use of intermediaries will also enable governments to provide enhanced, customized services to their citizens at much lower costs than the current centralized provision of service.

Governments and businesses have to *necessarily relinquish control* in distributing service to citizens and customers through the intermediaries. This is because the intermediaries will need to access content and services from the government in a way that is most suitable for providing the appropriate service to the citizen constituents they focus on. This has clear implications for the content and service quality that citizens obtain through the new distribution outlets.

Government interactions with citizens will also become less formal in such settings, which may have a negative impact on the power of the government to wield authority. This may also lead to loss of control and bypassing hierarchical structures. In addition, there is potential for conflicts with intermediaries and among intermediaries in how content is presented and customized to citizen constituents.

The most important implication for governments and businesses as a result of the loss of control, informality of interaction, use of intermediaries, and the need for customization to citizens/customers is that the content and service have to be designed in an entirely different way from how they are now designed.

- Content has to be addressable in a very granular form so that intermediaries can pick the appropriate content and application they need to fulfill their service task.



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- Privacy of citizen content and information has to be defined at a granular level for the same reason.
- Security considerations may dictate the design of the content and transportability of content to citizens in their online communities.

Finally, evolving Web 2.0/3.0 applications will demand a new environment of collaborative culture within government agencies and organizations, which will also necessitate newer ways of designing jobs and managing human resources within the agencies.

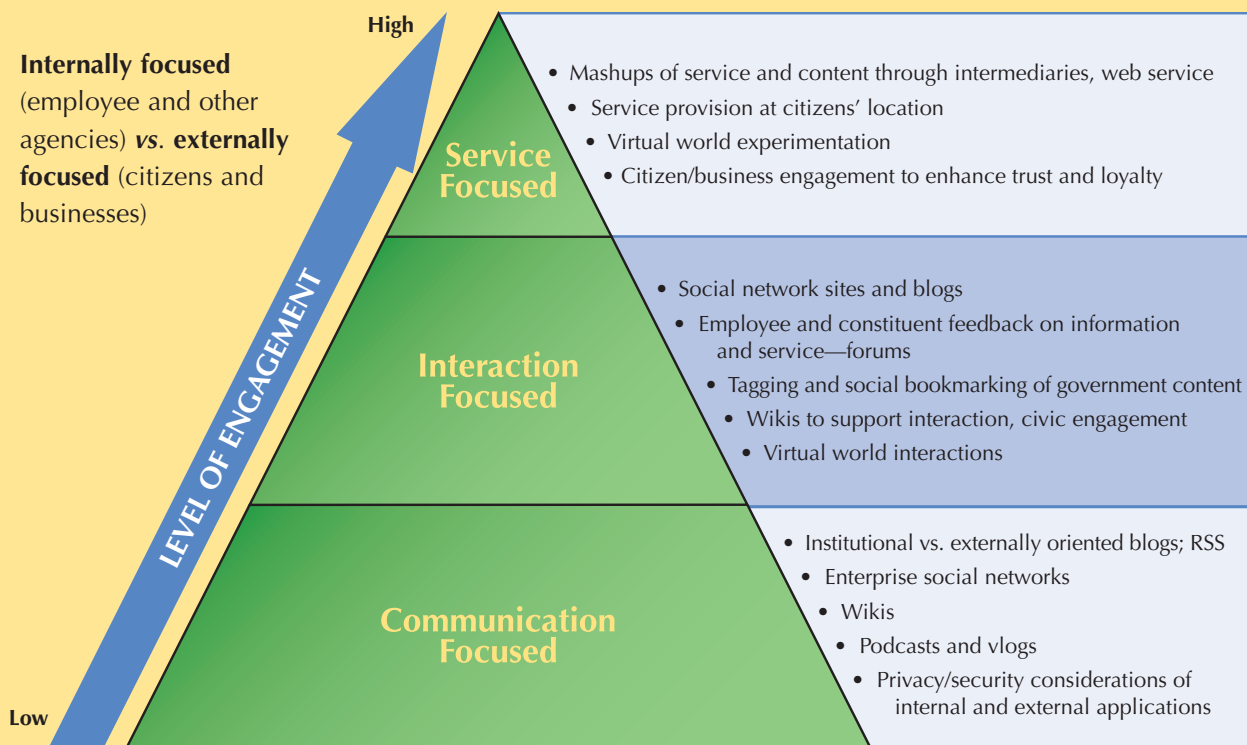
A Framework for Using Web 2.0 in Government

It is important for government executives interested in leveraging Web 2.0 to have an appreciation of the framework

for using Web 2.0. The Web 2.0 environment can span three distinct types of uses—those that are communication-focused, those that are interaction-focused, and those that are service-focused, as shown in Figure 2.

As depicted in Figure 2, the level of engagement with the citizens and constituents increases as the focus shifts from one of pure communication to one of service delivery and fulfillment. In some sense, the communication-focused uses, which form the foundation for the higher-level engagements of interaction- and service-focused uses, are also the low-hanging fruit that governments can start taking advantage of immediately. In a similar manner, the internal uses (within government) are somewhat easier than the externally focused uses.

Figure 2: A Framework for Government's Use of Web 2.0



Recommendations

Based on the implications of Web 2.0 for government and the framework for its possible uses, the authors offer the following recommendations for government executives:

Recommendation 1: Just do it. Government should embark on pilot projects to understand and experiment with social computing in the Web 2.0 environment.

Recommendation 2: Develop a government-wide inventory of common Web 2.0 issues. An inventory of common Web 2.0-related policy issues should be developed, and agencies need to address these issues collectively rather than having each agency individually develop their own solutions. This could be done from inside government—for example, out of the Office of Management and Budget’s Administrator for E-Government and Information Technology—or via an external honest broker such as the Collaboration Project, sponsored by the National Academy of Public Administration (www.collaborationproject.org).

Recommendation 3: Strategically rethink how to deliver on your mission. Individual agencies or major programs should strategically develop service-focused uses that may involve using Web 2.0 approaches to reconfigure their business models or services in order to more effectively deliver on their own core missions or outcomes that require collaboration with other agencies. This rethinking should be a part of their required agency-wide strategic planning process and not just within their technology offices.

Recommendation 4: Reconfigure your Internet information and services to be more component-based. As agencies redesign their websites, they need to focus on making their services and information more granular, or component-based, and give users the ability to use government information in “mashups” with other information sources. Along with the trend in service-oriented architecture (SOA) and the need for reusable service modules in the context of intermediaries extending the reach of government, government agencies need to develop policies to support the handling of such information and service modules. Given the increased role of reputed intermediaries in the Web 2.0 environment, government agencies might well consider leveraging intermediaries for Web 2.0 initiatives.

Recommendation 5: Ensure authenticity of government information and services. Agencies need to develop strategies and policies whereby they (or their customers) can ensure the authenticity of government-generated information and services. This is important as government begins to

“meet” citizens where they are online and as intermediaries begin to “mash up” government data and services. Users need to be assured that government-provided information is clearly labeled so they can better judge the authenticity of the information or service they are accessing. Developing such an approach may be a government-wide initiative, possibly led by the National Institute of Standards and Technology.

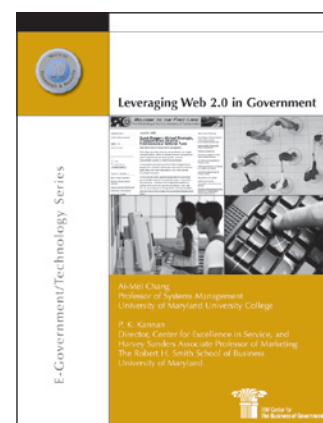
Recommendation 6: Learn and keep an open mind. It is important for government agency executives to recognize that social computing is evolving even as the Web 2.0 platform morphs into Web 3.0 and beyond; it is in a perpetual beta state. This calls for executives to have a learning attitude toward the initiatives they launch in the social computing environment. Government agencies should start measuring the levels of engagement of Web 2.0 uses from day one and measure the effectiveness of uses through direct feedback from citizens on a regular basis.

In the context of fast-paced developments in the Web 2.0 environment and the increasing trend in citizen adoption of the environment, it is imperative that government organizations start implementing pilot projects with a view to learning and leveraging the new environment. However, such initiatives should be undertaken with a full understanding of the evolving environment, its implications for applications, and citizens’ perception of such applications. We hope that this study will assist government executives in gaining a quick appreciation of these critical issues prior to planning their own initiatives. ●

TO LEARN MORE

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The report can be obtained:

- In .pdf (Acrobat) format at the Center website, www.businessofgovernment.org
- By e-mailing the Center at businessofgovernment@us.ibm.com
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