



© Reuters/Tami Chappell – Centers for Disease Control workers monitor H1N1 flu virus in Atlanta.

## **Comparing Technology Innovation in the Private and Public Sectors**

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Many argue that the private sector is more entrepreneurial and innovative than the public sector. Commercial enterprises – responding to market pressures and the need to stay competitive – incorporate new technologies into their operations as a way to boost efficiency and productivity. In contrast, government agencies don't have customers in the traditional sense and aren't required to show a profit on their revenues. Most public departments have multiple constituents, such as voters, taxpayers, legislators, administrators, the media, advocacy organizations, and nonprofit organizations. Still, to understand the real factors facilitating technology innovation and advancing entrepreneurship, systematic data evaluating innovation in business and government is needed.

The following paper evaluates the websites of leading U.S. corporations with state and national governments, grades their overall performance, and examines nearly two dozen features of digital innovation, including: personalization, interactivity, transparency, PDA access, disability access, language translation, number of online services, privacy, security, and user feedback. We found that many government websites lacked multimedia, interactivity, and personalization – key features that allow users to tailor information to their own needs. On the other hand, public sector agencies were more effective at providing disability access than commercial enterprises. When it came to privacy policies, public sector websites also offered stronger consumer protections than commercial sites.

Also included in this paper are interviews with key leaders from companies that have implemented successful strategies for developing and maintaining first-rate websites. We draw on their experiences to determine the keys to successful innovation.

## Keys to Successful Technology Innovation

Technology can be a tool for making government better and democracy stronger, writes Beth Simone Noveck in *Wiki Government* (Brookings Press, 2009). For public sector agencies to improve, their websites need more interactive features, greater customization, and inclusion of visitor feedback. Government departments also need to become more collaborative in their decision-making processes. There are ways to add citizen judgments to policymaking that draw on the expertise of those outside of government. Broadening citizen participation and involving more people in key decisions helps the public sector take advantage of “crowd-sourcing” and draw on the wisdom of outside people.

In interviewing corporate leaders and studying examples of technology innovation in the private sector, we identified five reasons why the private sector has outpaced government in effective implementation. To help organizations of all types become better innovators, we offer **five keys to implementing successful**

## technology innovation.

**1. Successful innovators spend a significant amount of their overall budget on information technology.** Leading companies spend 2.5 percent of their budget on technology, which is higher than the average of 1.88 percent reported for state government agencies in *Digital Government: Technology and Public Sector Performance* (Princeton University Press, 2005). In order to reap the productivity gains seen in the private sector, governments need to increase their IT spending.

**2. Successful innovators focus on the customer, value market research, and take visitor feedback seriously.** Leading companies attribute effective technology innovation to market research and by identifying customer needs. They do this more effectively than government agencies. A government official, for example, expressed a desire to conduct market research for his agency website but lacked the financial resources. When asked how he obtained visitor feedback, he replied that the agency monitored its complaint lines. There is an obvious problem with this approach – this feedback is reactive, not proactive. The key to customer orientation is conducting research that anticipates potential problems down the road. This ability to see around corners is what distinguishes successful from less effective innovators.

**3. Successful innovators provide incentives for management and design teams to work together.** One of the key features in technology innovation is getting organizational incentives right. Based on interviews in the public and private sectors, the biggest barrier to innovation is unwillingness to work together. Too many agencies do not align their management structures and design teams in a way that encourages people to work together. The only way to reach economies of scale, save money, and boost productivity is through organization-wide cooperation.

**4. Successful innovators devote time to figuring out their competition and determining how to position themselves vis-à-vis market competitors.** Company leaders insist that understanding the competition and recognizing their niche relative to other companies is vital to effective implementation. Public sector agencies generally do not have competitors and lack sufficient incentives to learn from other agencies. As a result, public agencies are largely unable to adapt to changing circumstances and unlikely to adopt new practices.

**5. Successful innovators tie resource allocation to customer satisfaction.** Ultimately, there must be clear consequences that result from effective or ineffective technology innovation. Seeing as there must be positive outcomes to reward units that innovate, understand the competition, and undertake market research, there must also be ramifications for failure. Organizations need to incorporate consumer reactions into resource decisions; else, staff members will not take consumer views seriously. Public sector agencies can request visitor feedback in a variety of ways, such as through online surveys, comment forms,



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and systematic surveys on visitor experiences or formal decision-making processes. These feedback mechanisms need to be added to organizational decision-making so that those agencies receiving positive reviews receive a bonus for excellent performance.

## Ratings of Corporations, State Government, and Federal Agencies

We tracked the following 18 features from corporate, state government, and federal agency websites: publications; databases; audio clips; video clips; foreign language access; ads; user fees; premium fees; W3C disability access; privacy policies; security policies; allowing digital signatures on transactions; an option to pay via credit card; email contact information; areas to post comments; option for email updates; allowing for personalization of the website; and PDA or handheld device accessibility. We awarded a website four points for every feature it had; thus, a website could receive a maximum of 72 points.

Each website qualified for up to 28 additional points based on the number of online services it offered: zero for no services, one point for one service, two points for two services, three points for three services, and a maximum of 28 points for 28 services or more. After compiling scores for features and online services, our technology index ran from a scale of zero (having no features or online services) to 100 (having all 18 features and at least 28 online services).

We examined the websites of 68 leading U.S. corporations this year, as well as 1,476 state government and 61 federal government websites last year. In order to get a representative view of private sector use of technology, we drew a stratified sample of companies of varying sizes and sector types, and analyzed how their website handled a variety of digital features. For the public sector, we analyzed leading federal government sites and approximately 30 websites for each state government. Websites included those of court offices, legislatures, elected officials, major departments, and state and federal agencies serving crucial functions of government—such as health, human services, taxation, education, corrections, economic development, administration, natural resources, transportation, elections, and agriculture.

Overall, we found that the corporate websites scored the highest, earning an average of 65 out of 100 possible points. State websites earned about 54 points; federal websites, 51 points.

**Table 1: Average Technology Innovation Rating for Public and Private Sector Websites**

	Average Rating (from a scale of 0 to 100)	Range of Scores
Corporations	65	37 to 92
State Government	54	31 to 84
Federal Government	51	21 to 92



Top corporate websites included Wells Fargo, Home Depot, Walgreens, AT&T, American Express, and Federal Express (see Appendix A-1 for full listing). Delaware received the highest state ranking, followed by Georgia, Florida, California, Massachusetts, and Maine. (see Appendix A-2 for full listing). The top federal e-government performers included the national portal USA.gov, followed by the Department of Agriculture, General Services Administration, Postal Service, Internal Revenue Service, and Department of Education (see Appendix A-3 for full listing).

**Table 2: Top 10 Public and Private Sector Websites**

<b>Top Corporations</b>	<b>Top State Governments</b>	<b>Top Federal Agencies</b>
Wells Fargo 92 <i>points</i>	Delaware 83.7 <i>points</i>	USA.gov 92 <i>points</i>
Home Depot 84	Georgia 78.3	Agriculture 79
Walgreens 84	Florida 77.9	General Services Admin. 77
AT&T 82	California 70.9	Postal Service 76
American Express 81	Massachusetts 69.5	Internal Revenue Service 73
Federal Express 81	Maine 67.7	Education 72
CVS Caremark 80	Kentucky 67.3	Small Business Admin. 71
Symantec 78	Alabama 66.4	Library of Congress 70
Google 77	Indiana 65.0	Treasury 69
Microsoft 77	Tennessee 64.3	Federal Reserve 69

## Comparing Online Information

In this study, we analyzed the availability of publications, databases, and audio and video clips on private and public sector websites. We found that nearly all private and public sector websites offered publications and most had databases.

However, the private sector outpaced public in providing audio and video clips. Ninety-eight percent of corporate sites had audio clips, compared to 40 percent of state sites and 70 percent of federal sites. Eighty-two percent of corporate sites had video clips, compared to 48 percent of state government sites and 72 percent of federal government sites.

We also found that corporations often had webcasts of investor conference calls. In addition, in employment sections, a number of companies featured videos of current employees talking about jobs at their employer. In the public arena, audio and video content typically featured politicians giving speeches or webcasts of government meetings, such as state legislature or congressional committees.

**Table 3: Percent of Public and Private Sector Websites Offering Publications, Databases, and Audio/Video Clips**

	<b>Corporations</b>	<b>State Government</b>	<b>Federal Government</b>
Publications	100%	98%	100%
Databases	100	88	98
Audio Clips	98	40	70
Video Clips	82	48	72

### **Electronic Services**

Fully executable online service delivery benefits both government and its constituents. In the long run, such online capabilities can potentially lower the cost of service delivery as well as make services more widely accessible to the general public. People wouldn't need to visit, write, or call an agency in order to execute a specific service.

Of the websites examined, all corporate sites featured online services, compared to 98 percent of federal sites and 88 percent of state sites. Nearly all of the company sites had three or more online services, compared to 66 percent of state sites and 88 percent of federal websites. Corporate sites offered an average of 14 electronic services, which was lower than the average of 24 services for state sites, but higher than the average of 10 online services for federal agencies.

**Table 4: Percent of Public and Private Sector Websites Offering Electronic Services**

	<b>Corporations</b>	<b>State Government</b>	<b>Federal Government</b>
No Services	0%	12%	2%
One Service	0	13	3
Two Services	2	11	7
Three or More Services	98	66	88

### **Novel Services or Features**

Corporate websites contained a number of interesting features. In addition to providing standard services for ordering merchandise, a number of corporate sites devoted sections to correcting online rumors, offered ways for visitors to submit innovative ideas, participate in politics, and file reports about suspected illegal or unethical behavior. For example, Zimmer Holdings offered a "Zimmer Compliance Hotline" that allowed people to report violations of applicable laws, violations of Zimmer's Code of Business Conduct, or violations of federal health care program requirements. U.S. Steel offered "EthicsPoint" where visitors could

report suspected illegal or unethical conduct.

Several companies allowed people to submit ideas online for inventions or business innovation. Examples include: Proctor and Gamble with "[Connect and Develop](#);" Coca-Cola with "[Coke Submit](#);" Kraft Foods with "Kraft;" General Mills with "[General Mills Worldwide Innovation Network \(G-WIN\)](#);" Starbucks with "[My Starbucks Idea](#);" Campbell's Soup with "[Ideas for Innovation](#);" Weyerhaeuser with "Inventions;" Ford with "Ideas;" and Avery Dennison with "[Have an Idea?](#)"

Some companies used their websites to debunk rumors and myths about their products. For example, Coca-Cola had a "Facts & Myths" section that disputed stories alleging that its product contained material unsuitable for vegetarians or Muslims. Starbucks ran a "rumor response" section correcting false stories about the company's relationship with the U.S. military.

Financial services companies provided several online services, such as online banking, bill pay, and brokerage. Online customers could also apply for checking accounts, credit cards, loans, and lines of credit; get insurance quotes; utilize calculators for home equity amortization, debt consolidation, and home improvement; and order foreign currency or traveler's checks. Wells Fargo offered vSafe, a "virtual safe" for storing important personal documents online.

Several companies participated in the eTree program, whereby shareholders could sign up for electronic delivery of proxy materials, in which case the company would then plant a tree on behalf of that customer. According to their websites, participating companies included Coca-Cola, Verizon, and McDonalds.

Noteworthy features and services from the following government websites include:

- Indiana Portal: offered a browse aloud text reader that assisted visually impaired and foreign language visitors
- Michigan Portal: offered 10 Podcasts, 72 RSS feeds, foreign language access in Spanish and Arabic, and some materials/forms in Albanian, Chinese, French, Hmong, Korean, Polish, Russian, Serbo-Croatian, and Vietnamese
- Minnesota Portal: offered RxConnect prescription price comparisons and a methamphetamine offender registry
- Missouri Attorney General: offered a methamphetamine complaint form
- Montana Portal: online services were accompanied by demos that assisted visitors through the various steps
- Montana Environment: dedicated a section of its website to a methamphetamine cleanup program
- North Carolina Public Safety: offered a "Silver Alert" system for notifying the public of missing persons with dementia or other cognitive issues
- North Dakota Portal: offered e-postcards
- Wyoming Portal: allowed visitors to chat online with Healthcare Providers, view course descriptions and order online, pay tickets online, and book a

tour of the Capital

- Wisconsin Portal: offered a business wizard that assisted users with finding information on starting a business, an interactive statewide construction map, and a rare mammal observation form

## Privacy and Security

A growing number of websites offer privacy and security statements, yet they remain more prevalent on commercial versus public sites. Ninety-seven percent of corporate sites had a privacy policy, compared to 73 percent of state government sites and 84 percent of federal government sites. Seventy-nine percent of corporate sites had a security policy, compared to 57 percent of state government and 77 percent of federal sites.

**Table 5: Percent of Public and Private Sector Websites with Privacy and Security Policies**

	Corporations	State Government	Federal Government
Privacy Policies	97%	73%	84%
Security Policies	79	57	77

In order to assess particular aspects of privacy and security, we evaluated the content of the following publicly posted statements. For privacy policies, we sought the following features: whether the privacy statement prohibited commercial marketing of visitor information; use of permanent cookies or individual profiles of visitors; disclosure of personal information without the prior consent of the visitor, or disclosure of visitor information to law enforcement agents.

In this analysis, we found that the public sector did a better job than companies in protecting consumer privacy. For example, only 10 percent of corporate sites prohibited the use of cookies, compared to 39 percent of state government sites and 56 percent of federal government websites. Ninety-one percent of corporate sites said they shared information with law enforcement, compared to 48 percent of state agencies and 72 percent of federal agencies.

**Table 6: Percent of Public and Private Sector Websites Protecting Consumer Privacy**

	Corporations	State Government	Federal Government
Prohibit Commercial Marketing	62%	52%	82%
Prohibit Cookies	10	39	56
Prohibit Sharing Personal Information	0	50	82



Share Information with Law Enforcement	91	48	72
Use Computer Software to Monitor Traffic	76	56	82

## Readability

According to national statistics, about half of the U.S. population reads at the eighth grade level or lower. A number of writers have evaluated text from health warning labels to government documents to see if they are written at a level that can be understood by most citizens. The fear, of course, is that too many government documents and information sources are written at too high of a level for citizens to comprehend.

To see how various websites fared, we tested the grade-level readability of each website. We employed the Flesch-Kincaid standard, a common reading tool evaluator employed the U.S. Department of Defense. The Flesch-Kincaid standard is computed by dividing the average sentence length (number of words divided by number of sentences) by the average number of syllables per word (number of syllables divided by the number of words).

As shown below, the average grade readability level of corporate sites was at the 12.5 grade level. This was higher than the 11.9 grade level for state sites and 10.5 grade level for federal sites. All these levels were well above the reading comprehension of the typical American.

**Table 7: Readability Level of Public and Private Sector Websites**

	Corporations	State Government	Federal Government
Fourth Grade or Less	0%	2%	10%
Fifth Grade	0	1	0
Sixth Grade	3	1	8
Seventh Grade	0	2	5
Eighth Grade	3	5	8
Ninth Grade	7	6	10
Tenth Grade	7	7	8
Eleventh Grade	21	10	7
Twelve Grade or Higher	59	67	44
Mean Grade Level	12.5 years	11.9 years	10.5 years

## Disability Access

Corporate sites featured lower levels of disability access than public sites. We

tested disability access using Wave Version 4.0 software, which can found at <http://wave.webaim.org>, developed by the Center for Persons with Disabilities at Utah State University. This organization offers software that tests websites against standards of compliance with the standards recommended by the World Wide Web Consortium (W3C). We used this software to judge whether sites are in compliance with the Priority Level One standards recommended by the W3C. Sites were judged to be either in compliance or not in compliance. In this study, 16 percent of corporate sites satisfied the W3C standard of accessibility. This was lower than the 19 percent of state sites and 25 percent of federal sites meeting that standard.

**Table 8: Percent of Public and Private Sector Websites with Disability Access**

<b>Corporations</b>	<b>State Government</b>	<b>Federal Government</b>
16%	19%	25%

### **Foreign Language Access**

Corporate sites did the best at providing foreign language access. Seventy-nine percent of corporate sites provided foreign language access, compared to 40 percent of state government sites and 43 percent of federal government websites. A foreign language feature meant any accommodation to the non-English speaker, such as a text translation into a non-native language.

**Table 9: Percent of Public and Private Sector Websites with Foreign Language Access**

<b>Corporations</b>	<b>State Government</b>	<b>Federal Government</b>
79%	40%	43%

### **Ads, User Fees, and Premium Fees**

Not surprisingly, corporate sites were much more likely to feature commercial advertising. Fifty-six percent had ads, compared to 3 percent for state government sites and 2 percent of federal sites. When defining an advertisement, we eliminated computer software available for free download (such as Adobe Acrobat Reader, Netscape Navigator, and Microsoft Internet Explorer) since they were necessary for viewing or accessing particular products or publications. Links to commercial products or services available for a fee were included as advertisements as were banner, pop-up, and fly-by advertisements.

**Table 10: Percent of Public and Private Sector Websites with Ads and Fees**

	<b>Corporations</b>	<b>State Government</b>	<b>Federal Government</b>
Ads	56%	3%	2%
User Fees	6	7	3
Premium Fees	3	1	0

Private and public sector websites differed vaguely in their employment of user or premium fees. Six percent of corporate sites had user fees, whereas 7 percent of state sites and 3 percent of federal sites. Few sites employed premium fees to access content. We defined premium fees as financial charges that were required to access particular areas on the website, such as business services, access to databases, or viewing up-to-the-minute content. A charge was classified as a premium fee if a payment was required in order to enter a general area of the website or access a set of premium services.

### **Public Outreach**

One of the most promising aspects of digital technology is its ability to bring people closer to businesses and governments. In our examination of websites, we explored whether a visitor could email a contact in a particular department, excluding webmasters. In general, we found that most sites offered this information (97 percent of corporate sites, 88 percent of state sites, and 82 percent of federal sites).

However, corporate sites were much more likely than government sites to have areas where visitors could offer feedback on the organization. Ninety percent of corporate sites offered ways for visitors to submit comments, higher than the 48 percent of state sites and 62 percent of federal websites. Features included designated areas to post comments, such as message boards, surveys, and chat rooms.

**Table 11: Percent of Public and Private Sector Websites that Offered Interactive Features**

	<b>Corporations</b>	<b>State Government</b>	<b>Federal Government</b>
Email	97%	88%	82%
Comments	90	48	62
Email Updates	98	43	74
Personalization	29	25	31
PDA Access	10	3	2

Corporate sites did a better job of utilizing interactive features. Ninety-eight percent of corporate sites allowed visitors to register to receive updates regarding specific issues, compared to 43 percent within state government and 74 percent at the federal level. With this feature, web visitors could submit their email address,

street address, or telephone number to receive alerts, such as a monthly e-newsletter highlighting an attorney general's recent opinion or notification whenever the website was updated. Public and private sector websites differed slightly in their ability to personalize information to the interests of the visitor. Twenty-nine percent of corporate sites allowed this, compared to 25 percent of state sites and 31 percent of federal sites. Ten percent of company sites provided PDA access, higher than the 3 percent for state government and 2 percent for the federal government.

## Factors Facilitating Innovation

As demonstrated in accumulating research, innovation is important for economic development, efficiency, and effectiveness. Over the last two decades, the private sector has reaped extraordinary benefits in using technology to improve productivity. Indeed, the virtue of the technology revolution is that it allows organizations to gain economies of scale that improve efficiency and effectiveness.

To see what lessons could be drawn from the private sector, we conducted interviews with leaders in corporations with a demonstrated track record of innovation. These were individuals who worked at companies that scored well in our overall ratings and who were directly involved in overseeing those activities. We present here case studies of successful technology innovation.

### Wells Fargo

Wells Fargo is a leading financial services company with branch offices across the country. Senior Vice President of Internet Services Group Secil Watson considers it quite "revolutionary" in how much the cost of technology has been reduced in recent years. She remembers how during the first dot.com boom—"before the bust"—\$5 million was the "seed funding" required for starting an online business. But now, that same website can be created for \$500,000. Because of technology, she says, "if you want to start something, it's actually very cost effective."

The Wells Fargo website has been successful not only in its online features, but also in its customer satisfaction. Watson credits this to the company's user-centered design process. By "user-centered," she explains the company tries to "bring the user to the table at every step of the decision making process." She believes it's extremely important for a company to understand why customers are going to the website, and what kind of tasks they perform online once they are there. A company needs to know what its "deepest promise" to the customers is. "Really delivering on that promise," she says, "is critical and elemental in designing any experience for customers."

One way Wells Fargo tries to understand its customers is through the "voice of the customer" process, which focuses on customer ideas about existing experiences and features. At Wells Fargo, Watson's team looks at call center data to see what

customers are calling, writing and complaining about. Watson thinks that companies should be aware of customer complaints, and turn them into opportunities – whether by fixing the issue or creating new functionality. They look at existing survey tools, and other social media channels such as blogs and other websites. They “bring all of these things back together, centralize them, and then create a dictionary of all the information, so that you can start quantifying and watching trends.” By making the data searchable, product managers and others can look for and make sense of the information.

Wells Fargo conducts a “qualitative method” of customer research through its “corporate ethnographies.” Representatives actually visit customer homes and offices to see firsthand “how the customers manage broadly the tasks that concern banking.” They ask the customers to keep diaries, and write about their experiences with Wells Fargo services, and reactions to them. These include cross channel and cross product interactions, such as experiences at a Wells Fargo bank, on the website, or with a customer service representative. As the company likes to have “a significant amount of verbatim information from the customer” when it does surveys, it keeps the questions broad and open-ended.

Once they have the qualitative results, they sit down with a cross functional team, to go through all of the information, group them by theme, and brainstorm. This allows them to build customer profiles or personas, to answer “who are our customers? And what kinds of things are important to them?” They look at behavioral data on customers – what accounts they hold, demographic information, and put quantifications on this data [for example, this person represents 10-15% of our customers].

At the company’s quarterly and annual planning cycles, project managers “leverage the insights from the previous six months, and use the different tools that they have from customer satisfaction reports, voice of the customer reports, to ethnographies and behavioral metrics.” Watson says they look at all of this information and focus on “concept generation and concept development.” As a business, of course, they also need to put a business case on the innovation, and consider returns and market size. She said that the way Wells Fargo thinks about technology innovation is to consider “what would make the most business sense? Is it the right channel for customers to use? For a bank to offer?”

With regards to managing the expectations of senior leadership when it comes to innovation, Watson thinks it has been helpful because most of the bank’s senior managers have some background in technology. It can be a problem for a company if its leadership is unfamiliar with technology. They think that the initial funding request for a project is an exclusive and final request. However, as Watson points out, “it’s not like that with websites. There’s always a tail to the innovation cost. And cleanup costs too, to remove features that are out of date or not frequently used.” As such, private companies and public agencies need to have technology budgets that focus on that “long tail.” This is important, because “once you build that capability, customers may want it forever and ever and ever.” Since



you “can’t always build a bigger boat,” however, “sometimes, you have to re-architect” what you already have.

Wells Fargo is “very decentralized” in its organization structure. “We put the power into the professionals,” she says, so every product manager is in charge of their section of their website. When asked whether this increased competition for funding and resources, Watson responded “it’s a delicate balance.” The company addresses the issue of resource competition by making it clear that product management groups “have to work with the same number of resources” when it comes to innovation. It has done so by designating the insight and experience design groups who work with the teams as “horizontal groups” or “base resources,” as Watson calls them. To encourage innovation, Wells Fargo does not ask its teams to “incrementally fund” the experience design team. “If everything is an incremental expense,” Watson explains, “then people might want to skip it, and discount it.” Essentially, if teams have to themselves pay for every step in the innovation process, they may be inclined to bypass some of the steps entirely and go straight to the finish line.

One problem websites often have is that sometimes they try to give you too much information. “But people don’t go to websites for information,” she says, “they go there to do certain tasks.” She does not think that a website is about “what’s new” or “what’s current.” She believes that “it’s more about what’s in it for me.” Translated into website design, this means putting the customer “much more in the driver’s seat” and allowing them to “find things intuitively.”

On the subject of innovating effectively in the public sector, Watson thinks “it’s definitely do-able.” She says there are cases where the public sector “seems to be on the ball” and notes the increasing use of alternative communications pathways in the public sector. For example, she finds efforts to use blogs or Twitter to get people engaged in public issues very effective. She points to her local California Department of Motor Vehicles as an example of an organization that has done well in taking advantage of technology. “They actually have a very good website,” she says, “you can find all the forms that you need, and you can schedule an appointment.” She believes they have “a really good cross-channel process.”

Watson emphasized that it’s important “to be clear about who your customers are” as well as the goals you’re trying to achieve. She commented that this can be more difficult for the public sector, which often has multiple constituencies and multiple goals. She says that it would be very difficult for Wells Fargo if they had lots of constituent groups. Sometimes “you need to make hard tradeoffs, in the way you architect the website.” She recommends trying to “do the most for the most customers, or for the high value customers” and to get it done right.

### AT&T

AT&T is a telecommunications company that has moved beyond telephone landlines and long distance into mobile and wireless communications. According

to Vice President ATT.com Phil Bienert, the beauty of the word “innovation” lies in the fact that it opens up “virtually unlimited possibilities.” This notion, combined with that of web space, has led to the emergence of concepts that simply did not exist years ago. He credits innovation with “driving this rapid, constant evolution of what’s taking place online,” like the current social media boom.

On the role of technology in innovation, he argued that technology is an “enabler” that allows customers to “find out where their kids are through their mobile devices, or be able to share all their vacation pictures with their friends.” As such, he sees innovation less from a technology perspective, and more from what customers can do with it.

Ideas for web innovation come from a mix of sources – from the leadership and from employees, but “the vast majority of what drives what happens on AT&T.com comes from customers.” Sometimes, this is in the form of “explicit feedback” like usability surveys or comments left on the website. At other times, suggestions come from direct customer requests or seeing what customers are doing on the website.

To gather user information, Bienert relies on web “dashboards,” which he looks at several times a day, “watching what takes place on the website in real time and seeing what’s happening with every single mobility site.” This provides useful information in terms of what AT&T can do on optimization. He said that focusing on even just “one or two basis points of improvement every week” adds to constantly “moving the needle.”

While ATT.com can compare itself to the “competitive set” in its own industry, its customers are “going to ATT.com, then Yahoo, then Apple,” so that’s where the company is going to “benchmark” itself. Bienert explains that AT&T is “always looking at what’s taking place on the other websites” because that’s where their customer’s “expectations are being set” in terms of an online experience.

The AT&T leadership understands the “big picture” and doesn’t question why innovation is important. “At every step in the chain-of-command, there is a real understanding and appreciation of it.” He said there is “huge amount of enthusiasm from senior management” which he attributes to the fact that the senior management “[uses] the site themselves, so they can internalize it,” in addition to the fact that the leadership is very focused on and in tune with customers.

While “getting the mandate has been less difficult” at AT&T, Bienert said that they “still have to get into the nuts and bolts” because they have to deliver and be accountable. “Whatever we do for the site,” he said, “we have to show how it’s moving the needle for the company.” He later added, “stake-holders are looking at what you’re spending, and what you’re doing.”

On how public agencies can take a page from the private sector experience in technology innovation, Bienert said that “the principles that make for a great experience apply to any sector.” He argued that “First and foremost,” an

organization must “start with the customers.” He would encourage public agencies like the IRS and Post Office to ask themselves, “Who are your customers? And what are they trying to accomplish?” and then let that “drive [their] definition of innovation.”

He recognizes that government agencies may have a difficult time answering the question about who their customers really are, because it could be a number of groups. Is it the public? Congress? The media? “Not that AT&T doesn’t have multiple stakeholders,” but he thinks that for the public sector, having a number of stakeholder complexities “can be distracting in staying focused on what they want to accomplish.”

It can be done, though, as evidenced by government sites that have done well. He points to NASA as one such example. “The sites that NASA has built, it’s clear they started with their customers – the public – in mind,” says Bienert. “They have done a phenomenal job of understanding what their audience is looking for.” He added that the IRS has “done a lot of great things with online documents.”

One advantage to letting customer needs drive a company’s priorities for innovation is that it can help companies avoid “making things that are splashy and fancy” in the immediate moment, but ultimately unproductive in the long-run. Bienert strongly advises against taking a superficial short-term approach to innovation. “We can’t repeat sins of the last Dot.com bust.”

Bienert cautioned against running into the fallacy - “which agencies and a lot of big companies have done” - that if you simply put in the investment and the big upgrades that success will happen. When it comes to innovating, he says, “you don’t turn it around overnight.” Creating a good website and innovating effectively, “requires investment over time.” Bienert recommends having a “a continuous and sustained long term view on investment,” because “the shelf life for something online is very, very short - something good today, 6 months from now, is stale and old.” Successful innovation is a constant process for which “there’s no finish line.”

Looking ahead, Bienert says that the “mobility factor combined with the trend about social networking” means that a lot of technologies are popping up and “evolving very quickly.” This has led to a lot of “noise” in the marketplace right now, which he thinks is important to distinguish from real trends. In his opinion, the “noise to genuine trend ratio is starting to get out of kilter.” He makes a point that “even doing the most mundane task efficiently, is more innovation than anything you can do that is exciting and has video or social networking.”

Bienert explains that at the end of the day, “AT&T is a very large company, with very specific objectives on sales and customer service, and they can’t afford to derail that by chasing the latest, hottest trend.” At the same time, they also don’t want to be viewed as behind the trends, and not meeting customer expectations. “Don’t throw your resources at stuff that people will say is ‘so 2009,’” says Bienert, but do pursue “thoughtful innovation that’s oriented around

customer needs.” Companies and agencies should seek to “balance being innovative, with not wasting resources on trends that will have a short longevity in the marketplace.”

AT&T does this by “feeling [its] way ahead to see where the core of the market will go.” They might test out a feature on a section of their site –their Online Marketplace feature, for example – follow it, learn from it, see how customers use and respond to it, and then integrate their insights into the mainstream shopping experience. As Bienert puts it, “there are places where without making massive investments, you can test market reaction.”

### FedEx

FedEx is a major shipping company with operations around the globe. Vice President for Digital Access Marketing Russ Fleming explained that from the on-set, founder Fred Smith recognized the value technology could bring to business, with its potential to provide expedited, real-time delivered service to customers. Smith viewed technology as a “backbone of business” – an insight that has guided the company’s innovation. “I think there were some technology innovators, some visionary technologists,” Fleming said, “who saw that you could deliver customer service through the Internet, just like you did over the phone.” These technologists believed that a website “could be more than brochure-ware, but transactional.” What happened next, Fleming explained, was a “marriage of that insight on customer service, with what that new channel could do.” FedEx took the same technology that was working for operators, and applied it to customers. In the 6 to 7 years since the launch of the FedEx site, the company has steadily moved transactions “from 1-800 to web.”

Smith directed the company’s development with the understanding that “running FedEx would require a big investment in technology.” Company Spokesperson Matt Cenicerros estimates that FedEx currently devotes a little bit more than \$1 billion of its \$39 billion revenue, towards technology innovation. This puts IT spending at 2.5 percent of the company’s budget. He said this figure has remained steady throughout the years. This is higher than the 1.88 percent average for government agencies across America.

FedEx re-designs their website every three years. Fleming explained that it’s always driven by the needs of the business. Since it is not possible to re-design everything at once, they generally re-design one country/regional site (i.e.: North America) first, before rolling it out to their other country sites (they have over 200 different ones). He says that FedEx has a very high quality internal development team, and so most of their website development is done in-house. However, they do consult third party experts for design advice as well.

Fleming attributes the success of the FedEx website to the company’s strong understanding of its customer base. “We spend a lot of time trying to define our customers,” he said, by conducting usability groups, customer interviews and a

variety of other surveys. The aggregation of this feedback then provides the company with fuller insight into the customer experience. For example, FedEx learned that customers think of “shipping” as quite a number of things, beyond just one simple act of mailing something. In their view, “shipping” involves everything from requesting a pickup, to printing a label, tracking their item, and verifying its delivery.

Recognizing the different people who comprise their customer base is something else that Fleming believes has served FedEx well in its technology innovation. “We can more effectively serve our customers,” Fleming explained, by distinguishing among consumers and business professionals and “becoming more sophisticated about user-types.” As evidence of their customer satisfaction, Ceniceros pointed out that FedEx received the Malcolm Baldrige award in 1996 for customer service based on its ability to deliver for its users.

As FedEx continues to move forward, Fleming sees challenges in the “proliferation of websites and technologies” and in trying to keep up with the changing expectations of customers. “We’re leaders in using a website to enable your business,” said Ceniceros, so FedEx is “looking at technologies that are also dot.com, looking at the mobile environment, looking at shipping applications for the iPhone,” and using technologies from Adobe that would allow tracking applications to stay live on a desktop. In addition, the company is exploring other ways to engage customers, including social networks, blogs and Twitter.


Based on what has worked well for FedEx in technology innovation, Ceniceros would recommend the following to public agencies who want to succeed: “define [your] business needs, get more from [your] investments, look beyond dot.com and C.P.U based computing, define the customer base, and compete.” Fleming believes that these are areas in which the public sector has not done so well, and has subsequently challenged its ability to innovate in technology.

The first – knowing *who* their constituents are – is important because, “if they’re really clear about who their customer is, if they have a customer at the center of their universe” then agencies can focus their efforts on how that customer could be served, and differentiate among their customer base.

According to Fleming, a second factor – the lack of competition – is significant for the public sector, because “a competing agency doesn’t necessarily preclude you from existing, so you can still get funded by legislation.” He considers this an “impediment to finding ways to innovate,” and thinks that the public sector could become more innovative if it found ways to “artificially put those measures and indicators in place.”

A third challenge to public sector technology innovation is the fact that an agency’s revenue is not necessarily tied to its customer satisfaction. Or, as Fleming described it, “their revenue isn’t often determined by how they serve their customer base.” He believes that there should be measures on an agency’s performance and efficacy, “to shore up the fact that they aren’t directly driving the





revenue that they get.” He suggested that agencies could perhaps “identify companies in the private sector that mirror their reason for being,” and thereby “establish accountability through a private sector lens.”

On overcoming the challenges of organizational fragmentation and resource constraints, Fleming said that one must first understand the governance structure that’s in place, then “leverage all the tools at [your] disposal”, whether its research results or customer feedback, in order “to make your initiatives prioritized amongst all the opportunities that it’s competing with.” When promoting technological innovation, an organization will consider its [the innovation’s] “relative value to customers, the relative value to the business, and balance the two.”

## Conclusion

On most dimensions of technology innovation, the private sector outpaced the public sector. On dimensions such as interactivity, personalization, and language translation, corporate websites performed better than government agencies. However, government agencies performed better than their commercial counterparts on privacy policies and disability access. Not surprisingly, the public sector performed highest in the areas concerning public privacy and security, which are subjects it cares about most.

The key to successful technology innovation is to offer interactive features, greater customization, and visitor feedback to websites. Private sector websites perform well because they are customer-focused and draw on their visitors’ experiences and expertise. By the same token, government departments need to be more collaborative in their decision-making processes. Taking advantage of citizen judgments is a great way to leverage outside knowledge. The public sector could become more innovative and entrepreneurial if it could involve citizens further in key decisions.

**Governance Studies**

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This research was funded by the Ewing Marion Kauffman Foundation. The contents of this publication are solely the responsibility of the Grantees.

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## Appendix

**Table A-1 Corporation Ratings**

Rank	Website	Rating (0-100 Pts)	Rank	Website	Rating (0-100 Pts)
1.	Wells Fargo	92	2.	Home Depot	84
3.	Walgreens	84	4.	AT&T	82
5.	American Express	81	6.	Federal Express	81
7.	CVS Caremark	80	8.	Symantec	78
9.	Google	77	10.	Microsoft	77
11.	Disney	74	12.	IBM	74
13.	Staples	74	14.	Apple	73
15.	CSX	73	16.	Ford Motor	73
17.	Waste Management	72	18.	Safeway	71
19.	Amazon	70	20.	Best Buy	70
21.	Chevron	70	22.	Exxon Mobil	70
23.	Verizon	70	24.	Kraft Foods	69
25.	Altera	68	26.	Starbucks	68
27.	General Electric	67	28.	Nike	67
29.	Quest Diagnostics	67	30.	Campbell Soup	66
31.	Zimmer Holdings	66	32.	Avery Dennison	65
33.	Boeing	65	34.	Proctor & Gamble	65
35.	Wal Mart	65	36.	Merrill Lynch	64
37.	H&R Block	63	38.	McDonalds	63
39.	Nordstrom	63	40.	Polo Ralph Lauren	63
41.	Target	63	42.	Time Warner	63
43.	Harley Davidson	62	44.	Johnson & Johnson	62
45.	Sherwin-Williams	62	46.	Caterpillar	61
47.	Black & Decker	60	48.	Coca-Cola	60
49.	Whole Foods Market	60	50.	Bed Bath & Beyond	59
51.	General Mills	59	52.	Smucker	59
53.	Broadcom	58	54.	Mastercard	57
55.	Textron	57	56.	CB Richard Ellis	56
57.	KB Home	56	58.	Anheuser-Busch	54
59.	Pfizer	54	60.	AutoNation	53
61.	Weyerhaeuser	53	62.	Family Dollar Stores	50
63.	U.S. Steel	50	64.	Viacom	50
65.	Newmont Mining	47	66.	Raytheon	46
67.	JPMorgan Chase	45	68.	Wisconsin Energy	37

**Table A-2 State Government Ratings**

<b>Rank</b>	<b>State</b>	<b>Rating (0-100 Pts)</b>	<b>Rank</b>	<b>State</b>	<b>Rating (0-100 Pts)</b>
1.	Delaware	83.7	2.	Georgia	78.3
3.	Florida	77.9	4.	California	70.9
5.	Massachusetts	69.5	6.	Maine	67.7
7.	Kentucky	67.3	8.	Alabama	66.4
9.	Indiana	65.0	10.	Tennessee	64.3
11.	Connecticut	64.2	12.	Colorado	62.2
13.	Arizona	61.1	14.	Arkansas	60.0
15.	Alaska	59.1	16.	Pennsylvania	58.2
17.	Texas	55.1	18.	Oregon	53.9
19.	Washington	53.5	20.	New York	51.4
21.	South Dakota	51.4	22.	New Jersey	51.0
23.	Ohio	48.8	24.	Wisconsin	48.6
25.	Rhode Island	48.3	26.	Michigan	47.4
27.	Virginia	47.4	28.	South Carolina	47.3
29.	North Carolina	44.8	30.	Minnesota	44.0
31.	North Dakota	43.4	32.	Iowa	43.2
33.	Kansas	43.1	34.	Oklahoma	42.8
35.	Utah	42.5	36.	New Hampshire	42.3
37.	Nebraska	42.2	38.	Illinois	41.9
39.	Missouri	41.6	40.	West Virginia	41.2
41.	Montana	41.1	42.	Louisiana	39.8
43.	Idaho	39.6	44.	Vermont	39.5
45.	Nevada	39.3	46.	Hawaii	35.8
47.	Wyoming	35.7	48.	Maryland	32.9
49.	New Mexico	32.5	50.	Mississippi	31.1

**Table A-2 Federal Government Ratings**

<b>Rank</b>	<b>Website</b>	<b>Rating (0-100 Pts)</b>	<b>Rank</b>	<b>Website</b>	<b>Rating (0-100 Pts)</b>
1.	USA.Gov Portal	92	2.	Dept. of Agriculture	79
3.	General Services Administration	77	4.	Postal Service	76
5.	IRS	73	6.	Dept. Of Education	72
7.	Small Business Administration	71	8.	Library of Congress	70
9.	Department of Treasury	69	10.	Federal Reserve	69
11.	Health and Human Services	69	12.	SSA	69
13.	Veterans Affairs	69	14.	HUD	67
15.	National Parks	67	16.	FDIC	65
17.	Government Printing Office	65	18.	NASA	64
19.	Department of Transportation	62	20.	SEC	62
21.	Department of Labor	61	22.	NTSB	61
23.	Homeland Security	60	24.	CPSC	59
25.	FDA	59	26.	Department of Energy	58
27.	FCC	58	28.	EPA	57
29.	Federal Trade Commission	56	30.	House	56
31.	Department of Justice	55	32.	Department of Defense	54
33.	Department of Interior	44	34.	NEH	53
35.	National Endowment for the Arts	53	36.	Senate	53
37.	White House	53	38.	Dept. of Commerce	52
39.	GAO	52	40.	CIA	51
41.	Congressional Budget Office	51	42.	Natl Labor Relations	51
43.	National Science	48	44.	EEO	47
45.	Department of State	47	46.	5 <sup>th</sup> Circuit Court of Appeals	42
47.	US Trade Rep	41	48.	Federal Election Commission	40
49.	Office of Management and Budget	40	50.	6 <sup>th</sup> Circuit Court of Appeals	35
51.	Supreme Court	35	52.	1 <sup>st</sup> Circuit Court of Appeals	34
53.	7 <sup>th</sup> Circuit Court of Appeals	32	54.	11 <sup>th</sup> Circuit Court of Appeals	31
55.	Federal Court of Appeals	31	56.	2 <sup>nd</sup> Circuit Court of Appeals	27
57.	8 <sup>th</sup> Circuit Court of Appeals	27	58.	10 <sup>th</sup> Circuit Court of Appeals	26
59.	4 <sup>th</sup> Circuit Court of Appeals	26	60.	9 <sup>th</sup> Circuit Court of Appeals	26
61.	3 <sup>rd</sup> Circuit Court of Appeals	21			