



© Reuters/Yuriko Nakao - A visitor places her hands on a tangible earth, a digital globe, at an exhibition pavilion in Rusutsu town, northern Japan.

Improving Technology Utilization in Electronic Government around the World, 2008

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Key Findings:

This report reviews the current condition of electronic government and makes practical suggestions for improving the delivery of information and services over the Internet. Using a detailed analysis of 1,667 national government websites in 198 nations around the world undertaken in Summer 2008, this report studies the types of features available online, the variation that exists across countries, and how current e-government trends compare to previous years, as far as 2001. Significant findings include:

- **Countries vary enormously in their overall e-government performance.** In technology utilization, the United States has fallen behind countries such as South Korea and Taiwan. The most highly ranked e-government nations in this study are South Korea, Taiwan, the United States, Singapore, Canada, Australia, Germany, Ireland, Dominica, Brazil and Malaysia. At the other end of the spectrum, countries such as Tuvalu, Mauritania, Guinea, Congo, Comoros, Macedonia, Kiribati, Samoa and Tanzania barely have a web presence.
- **Across the world, 50 percent of government websites offer services that are fully executable online, up from 28 percent last year.** Ninety-six percent of websites this year provide access to publications and 75 percent have links to databases.
- **Only 30 percent of government websites show privacy policies and 17 percent have security policies.** Visible statements outlining how a website secures visitors' privacy and security are valuable assets for encouraging people to use e-government services and information. Few global e-government websites offer policy statements dealing with these topics.
- **Only 16 percent of government websites have some form of access for disabled persons.**
- **Only 57 percent of government websites provide foreign language translation to non-native readers.** Eighty percent offer at least some portion of their websites in English.
- **Fourteen percent offer the ability to personalize government websites to a visitor's area of interest, while three percent provide PDA accessibility.** E-government offers the potential to bring citizens closer to their governments. Regardless of the type of political system that a country has, the public benefits from interactive features that facilitate communication between citizens and government.

The remainder of this report reviews these findings in greater detail and closes by making recommendations for more effective use of digital technology.



Few developments have had broader consequences for the public sector than the introduction of the Internet and digital technology. Electronic government offers the promise of utilizing technology to improve public sector performance as well as employing new advances for democracy itself. In its boldest formulation, technology is seen as a tool for long-term system transformation.

Unlike traditional bricks and mortar agencies, digital delivery systems are non-hierarchical, non-linear, interactive and available 24 hours a day, seven days a week. The non-hierarchical character of Internet delivery permits people to look for information at their own convenience. The interactive aspects of e-government allow both citizens and bureaucrats to send as well as receive information.

Given the fundamental nature of these advantages, some predict the Internet will transform government. Many have welcomed electronic governance as a way to improve service delivery and responsiveness to citizens. "Electronic government will not only break down boundaries and reduce transaction costs between citizens and their governments but between levels of government as well," states Stephen Goldsmith, President George W. Bush's former Special Advisor for Faith-Based and Community Initiatives. Jeffrey Seifert and Matthew Bonham argue digital government has the potential to transform governmental efficiency, transparency, citizen trust and political participation in transitional democracies.

Many governmental units have embraced the digital revolution and are putting a wide range of materials – from publications, databases to actual government services—online for citizen use. Governments around the world have created websites that facilitate tourism, citizen complaints and business investment. Tourists can book hotels through the government websites of many Caribbean and Pacific island countries. In Australia, citizens can register government complaints through agency websites. Nations such as Bulgaria, the Netherlands and the Czech Republic are attracting overseas investors through their websites.

Despite the great promise of technological advancement, public sector innovation has tended to be small-scale and gradual. Factors such as institutional arrangements, budget scarcity, group conflict, cultural norms and prevailing patterns of social and political behavior have restricted government actions. Because governments are divided into competing agencies and jurisdictions, policymakers struggle to get bureaucrats to work together in promoting technological innovation. Budget considerations prevent government offices from placing services online and using technology for democratic outreach. Cultural norms and patterns of individual behavior affect the manner in which technology is used by citizens and policymakers. In addition, the political process is characterized by intense group conflict over resources. With open and permeable systems, groups organize easily and make demands on the political system.

The United States has fallen behind many countries in Internet access and broadband usage. According to the 2007 Science, Technology and Industry Scoreboard of the Organization for Economic Cooperation and Development, America lags Switzerland, Sweden, Australia, the Netherlands, Denmark and Germany in Internet subscribers per 100 inhabitants. Whereas 36 percent of Swiss residents have access to Internet subscription services, 31 percent of Americans have access to the Internet. More worrisome is broadband access. Here, the U.S. ranks 15th among OECD nations, down from fourth place in 2001. Thirty-five percent of Danes have access to high-speed broadband, compared to only 22 percent of Americans. This limits the ability of Americans to take full advantage of the Internet and media-rich applications. To

maintain its technology edge in the 21st century, the United States simply must invest more in research and development.

On the other hand, for countries that have implemented portal sites, there remain inconsistencies in terms of design, navigation and usability. Portals are useful to citizens because they offer uniform, integrated and standardized navigational features. Unfortunately, many national websites have been inconsistent in terms of design features. Because government agencies carefully guard their autonomy, it has taken a while to get agencies to work together to make the tasks of citizens easier to undertake. Common navigational systems help the average citizen capitalize on the wealth of material that is available online.

Governments need to utilize more features that enhance public accountability. Website search engines, for example, are simple but important tools that allow citizens to find the information they want on a particular site. Currently, only one-third of government websites are searchable, limiting ordinary citizens from finding the information relevant to them.

The same logic applies to the technologies that allow citizens to post comments or otherwise provide feedback about a government agency. Citizens bring diverse perspectives and experiences to e-government, and agencies benefit from citizen suggestions, complaints and feedback. A simple feature such as a comment form empowers citizens by giving them an opportunity to voice their opinion about government services they would like to see.

Countries need to update their sites on a regular basis. Some sites appear to have not been updated in several years, and consequently contain inaccurate information, broken links and incorrect email contact information. By maintaining their sites and placing more materials online, countries would be encouraging citizens and members of the business community to go online and use e-government resources.

Clearly, a major problem of electronic government is the up-front costs of developing a website and putting services online. Right now, many nations appear to be undertaking these tasks in isolation from others. As a result, countries are robbing each other of the opportunity to achieve economies of scale that would lower the per unit cost of official government websites. Smaller and poorer countries should undertake regional e-government alliances that would allow them to pool resources and gain greater efficiency at building their infrastructure. Such collective efforts give citizens, interested in a region, one place to find information that cuts across individual nations. At the same time, such a site also offers economies of scale to specific countries in placing cultural and religious material on the Internet. These efforts at regional cooperation are valuable because they put countries in a position where they can share knowledge and expertise as well as lower their overall budget costs.

In general, e-government is not radically transforming the public sector. While some countries have embraced digital government broadly defined, the United States is falling behind in broadband access, public sector innovation and in implementing the latest interactive tools to government websites. This limits the transformational potential of the Internet and weakens the ability of technology to empower citizens and businesses. Government websites must make better use of available technology, and address problems of access and democratic outreach.

Top E-Government Countries

To evaluate the state of digital government, this study examines 18 different features. Four points are awarded to each website for the presence of the following features: publications, databases, audio clips, video clips, foreign language access, not having ads, not having

premium fees, not having user fees, disability access, having privacy policies, security policies, allowing digital signatures on transactions, an option to pay via credit cards, email contact information, areas to post comments, option for email updates, option for website personalization and PDA accessibility. These features provide a maximum of 72 points for particular websites.

Each site then qualifies for up to 28 points based on the number of online services executable on that site (one point for one service, two points for two services, three points for three services and on up to 28 points for 28 or more services). The overall e-government index runs along a scale from zero (having none of these features and no online services) to 100 (having all features plus at least 28 online services). Totals for each website within a country were averaged across all of that nation's websites to produce a zero to 100 overall rating for that nation.

The top ranking country is South Korea at 64.7 percent. Therefore, every analyzed website for that nation has nearly two-thirds of the features important for information availability, citizen access, portal access and service delivery. Other high-scoring nations include: Taiwan, the United States, Singapore, Canada, Australia, Germany, Ireland, Dominica, Brazil and Malaysia. The Appendix lists e-government scores for each of the 198 countries, plus comparisons between 2007 and 2008.

Differences by Region of World

There are major differences in e-government by region of the world. In looking at the overall e-government scores by region, North America scores the highest (53.1 percent), followed by Asia (39.7 percent), Pacific Ocean Islands (39.0 percent), Western Europe (37.2 percent), South America (33.3 percent), Middle East (32.3 percent), Central America (31.2 percent), Russia and Central Asia (31.2 percent), Eastern Europe (30.1 percent) and Africa (26.3 percent).

Table 1. E-Government Ratings by Region

	2001	2002	2003	2004	2005	2006	2007	2008
North America	51.0%	60.4%	40.2%	39.2%	47.3%	43.1%	45.3%	53.1%
Western Europe	34.1	47.6	33.1	30.0	29.6	35.2	36.8	37.2
Eastern Europe	--	43.5	32.0	28.0	27.1	29.2	31.7	30.1
Asia	34.0	48.7	34.3	31.6	37.3	35.9	39.5	39.7
Middle East	31.1	43.2	32.1	28.1	27.4	29.4	33.5	32.3
Russia/Central Asia	30.9	37.2	29.7	25.3	25.0	30.6	27.8	31.2
South America	30.7	42.0	29.5	24.3	25.9	28.0	32.1	33.3
Pacific Ocean Islands	30.6	39.5	32.1	29.9	27.9	32.4	33.8	39.0
Central America	27.7	41.4	28.6	24.1	24.1	25.0	29.2	31.2
Africa	23.5	36.8	27.6	22.0	22.0	24.3	26.0	26.3

Source: Compiled by author

Online Information

This study examines how much material on government sites is available online to citizens. Most agencies have made extensive progress at placing information online for public access. Ninety-six percent of government websites around the world offer publications that citizens can

access and 75 percent provide databases.

A number of public sector websites incorporate audio clips or video clips on their official sites. This year, 18 percent of sites provide audio clips and 24 percent offer video clips.

Table 2. Percentage of Government Websites Offering Online Services

	2001	2002	2003	2004	2005	2006	2007	2008
Phone Contact Info.	70%	77%	--	--	--	--	--	--
Address Info.	67	77	--	--	--	--	--	--
Links to Other Sites	42	82	--	--	--	--	--	--
Publications	71	77	89%	89%	89%	94%	96%	96%
Databases	41	83	73	62	53	72	80	75
Audio Clips	4	8	8	12	9	13	20	18
Video Clips	4	15	8	13	11	14	22	24

Source: Compiled by author

Electronic Services

For e-government service delivery, this study examines the number and type of online services offered. Features are defined as services only if the entire transaction can occur online. If a citizen has to print out a form and then mail it back to the agency to obtain the service, it does not count as a service that can be fully executed online. Searchable databases count as services only if they involve accessing information that result in a specific government service response.

Of the websites examined around the world, 50 percent have services that are fully executable online, compared to 28 percent in 2007, 29 percent in 2006, 19 percent in 2005, 21 percent in 2004, 16 percent in 2003 and 12 percent in 2002. Of this group, 19 percent offer one service, nine percent have two services and 22 percent have three or more services. Fifty percent have no online services.

Table 3. Percentage of Government Websites Offering Online Services

Online Services	2001	2002	2003	2004	2005	2006	2007	2008
None	92%	88%	84%	79%	81%	71%	72%	50%
One	5	7	9	11	8	14	11	19
Two	1	2	3	4	3	5	4	9
Three or more	2	3	4	6	8	10	13	22

Source: Compiled by author

North America (including the United States, Canada and Mexico) is the area offering the highest percentage of online services. Eighty-eight percent had fully executable, online services, followed by Asia (49 percent), Western Europe (59 percent), the Middle East (50 percent) and Pacific Ocean Islands (66 percent). Only 10 percent in Russia and the former Soviet Republics offer electronic services, and 30 percent in Africa offer online government services.

Table 4. Percentage of Government Websites Offering Online Services by Region of World

	2001	2002	2003	2004	2005	2006	2007	2008
North America	28%	41%	45%	53%	56%	71%	62%	88%
Pacific Ocean Islands	19	14	17	43	24	48	28	66
Asia	12	26	26	30	38	42	36	49
Middle East	10	15	24	19	13	31	29	50
Western Europe	9	10	17	29	20	34	34	59
Eastern Europe	--	2	6	8	4	12	11	32
Central America	4	4	9	17	15	11	22	63
South America	3	7	14	10	19	30	46	75
Russia/Central Asia	2	1	1	2	3	11	10	10

Source: Compiled by author

Box 1. Online Services that Appear Frequently on Government Websites

- Publications available for online ordering
- Forms made available for sending complaints
- Online registration for events or seminars; send an e-card
- Online booking services (e.g., booking airline, accommodation and transportation services)
- Apply for jobs and/or scholarships
- Interactive kids games
- Various calculators (e.g., inflation calculator, fuel cost calculator and exchange rate calculator)
- Location locator (e.g., "Find a School")
- Check status of application (e.g., check status of immigration case)
- Order products online
- Apply for employment insurance benefits
- Apply for pension retirement plan
- Apply for passport
- Apply for personal access code
- Change address
- Business planner
- Park reservations
- Insurance claim
- Abroad registration
- Personalized weather
- Library access
- Tax slips
- Travel reports
- Firearm registration

Box 2. Novel and Innovative Features on Government Websites

- The U.S. White House website offers virtual tours of various rooms in the White House. The viewer uses computer keys to navigate around the room.
- The U.S. Department of Education website offers an “On the Road” journal to highlight the secretary’s tour of the nation’s schools. The site also provides “video quotes” of the secretary speaking on education issues.
- The U.S. Small Business Administration website contains a monthly online chat discussion forum where small business owners and experts can discuss entrepreneurship.
- The U.S. White House website offers an online interactive forum that allows visitors to interact with White House officials.
- The NASA webpage allows visitors to customize the page, add widgets and feeds, and bookmark things they like.
- USA.Gov offers live web chat to answer questions.
- Antigua and Barbuda’s Department of Tourism has online newsgroups where people planning trips can have online discussions.
- Ecuador’s Ministry of Defense site has streaming radio with options for news or different genres of music.
- An offshoot site of the Ecuadorian Ministry of Defense plays dark music and gunshot every time visitors click on something new.
- Ecuador’s Ministry of Defense has a “Spiritual Help” section with passages from the New Testament.
- Fiji has a website called CHRIS (Computerized Human Resources Information System) to which the ministries of finance and labor provide links. It is a job matching site, and aids in labor supply and demand in Fiji. This is a more comprehensive system than those provided by other countries.
- There is a hieroglyphic translator on the Egyptian Tourism Website.
- The National Endowment for Arts has an application where visitors can share the page via Facebook, MySpace and Stumble, for example.
- Peru’s Portal Commission Website offers a “Desktop Calendar” download that helps visitor’s organize their trip to Peru.
- The U.S. National Park Service has a great Kids section called “WebRangers” that is more interactive and comprehensive than the Kids sections of other government sites.
- The U.S. Department of Agriculture has a feature called “Ask Karen;” this is an automated response system that answers questions visitors may have about food safety, and it’s available 24 hours per day.
- Many websites (the U.S. Secretary of State, for example) have pop-up surveys asking how people like the site.
- Inside the Canadian Health website, there are sections where there is an interactive drop-down menu. This provided more ease when navigating through the website.
- The Canadian Portal site provides a good example of an accessibility feature that provides audio readings of the page – vital for those visitors who have problems seeing or reading information on websites. This feature allows visitors to change the voice and speed of the reading.
- A few Canadian sites and the Norwegian portal site allow visitors to customize pages to suit their needs.
- The New Zealand Conservation site has an option that allows visitors to order information according to region.
- The Austrian Agriculture site allows visitors to calculate their ecological footprint.

The **most unusual feature** was found at the Luxembourg Central Bank, <http://www.bcl.lu/en/bcl/index.html>, where a tsunami relief request actually linked visitors to a Wikipedia site for the Star Trek television character “Worf” (<http://en.wikipedia.org/wiki/Worf>). However, the link was taken down soon after it appeared.

The inability to use credit cards and digital signatures on financial transactions is one feature that has slowed the development of online services. On commercial sites, it is common practice to offer goods and services online for purchase through the use of credit cards. However, of the government websites analyzed, only 5 percent accept credit cards and 2 percent allow digital signatures for financial transactions, similar to last year.

Privacy and Security

Visible statements outlining how a site insures visitors' privacy and security are valuable assets for encouraging people to use e-government services and information. However, few global e-government sites offer policy statements dealing with these topics. Only 30 percent of examined sites have some form of privacy policy on their site, and 17 percent have a visible security policy. Both of these are areas that government officials need to take much more seriously. Unless ordinary citizens feel safe and secure in their online information and service activities, e-government will not grow rapidly.

Table 5. Percentage of Government Websites Offering Privacy and Security Policies

	2001	2002	2003	2004	2005	2006	2007	2008
Privacy	6%	14%	12%	14%	18%	26%	29%	30%
Security	3	9	6	8	10	14	21	17

Source: Compiled by author

This study examines the content of these publicly posted statements, including the following features: whether the privacy statement prohibits commercial marketing of visitor information; use of cookies or individual profiles of visitors; disclosure of personal information without the prior consent of the visitor, or disclosure of visitor information with law enforcement agents.

In general, government websites offer weak protections of visitor privacy. For example, only 23 percent of government websites prohibit the commercial marketing of visitor information; just eight percent prohibit cookies, 21 percent prohibit sharing personal information, and 14 percent share information with law enforcement agents. And with regard to security policies, 15 percent indicate that they use computer software to monitor traffic.

Disability Access

To test disability access, this study examines the actual accessibility of government websites through the Wave Version 4.0 software 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). In previous years, the automated "Bobby 5.0" software produced by Watchfire, Inc. (now part of IBM) was used.

To evaluate each government agency regarding its compliance with the W3C guidelines, Priority Level One standard was used. Sites are judged to be either in compliance or not in compliance based on the results of this test. According to this analysis, 16 percent of

government websites are accessible to the disabled, down from 23 percent last year.

Table 6. Percentage of Government Websites Offering Disability Access

	2004	2005	2006	2007	2008
Disability Access	14%	19%	23%	23%	16%

Source: Compiled by author

Foreign Language Access

Fifty-seven percent of national government websites have foreign language features that allow access to non-native speaking individuals. A foreign language feature means any accommodation, such as text translation into a different language, to the non-native speakers in a particular country. Many have no language translation on their site other than their native tongue. Eighty percent offer at least some portion of their websites in English.

Table 7. Percentage of Government Websites Offering Foreign Language Translation

	2001	2002	2003	2004	2005	2006	2007	2008
Foreign Language Translation	45%	43%	51%	50%	49%	52%	62%	57%

Source: Compiled by author

Ads, User Fees and Premium Fees

Many nations are struggling with the issue of how to pay for electronic governance. When defining an advertisement, this study eliminates computer software available for free download (such as Adobe Acrobat Reader, Netscape Navigator and Microsoft Internet Explorer) since they are necessary for viewing or accessing particular products or publications. Included as advertisement are links to commercial products or services available for a fee, as well as banner, pop-up and fly-by ads.

As shown below, only 4 percent of government websites in 2008 rely on ads, similar to last year's statistic.

Table 8. Percentage of Government Websites Offering Ads, User and Premium Fees

	2001	2002	2003	2004	2005	2006	2007	2008
Ads	4%	8%	2%	4%	4%	3%	5%	4%
User Fees	--	1	0.2	1.3	2	1	1	1
Premium Fees	--	0	0.2	0.7	1	0.2	2	1

Source: Compiled by author

Box 3. Examples of Ads on Government Websites

- The Slovenia Tourism website advertises car rental, other tourism bureaus, sponsored festivals, mobile phone providers and a rafting company.
- The Malta Tourism website contains advertisements for a national beer, a national soft drink, a national airline and a car rental service.
- The Togo portal contains advertisements for government podcasts available on iTunes, as well as for a golf club in Togo.
- The U.S. presidential website has a link to iTunes in order to download the president's Christmas soundtrack.
- On the Mexico's Secretary of Labor website, a pop-up box for a "How Dumb are You?" quiz appears.
- Comoros' portal has an advertisement bar at the top of the page.
- On the Eritrea's Ministry of Information website, there is an advertisement for cable on the left-hand side.
- Antigua and Barbuda's Tourism website has some advertisements for resorts and hotels.
- Zambia's News Agency website has an advertising bar at the top.
- Zambia's portal has an advertising banner that promotes MoneyNet Enterprises.
- Vietnam's General Statistics website has an ad for United Airlines.
- The Congo portal has an advertisement for a hotel.
- Republic of Congo's Permanent Mission to the United States website does not have any ads, but there is a section promoting advertising space on their page.
- On Vietnam's Ministry of Tourism website, there is an advertising banner at the top that reads "For Advertising."
- Vietnam's News Agency website has some advertisements on the left-hand side of their page.
- The Pakistan website posts ads by Google, which advertises trips and sending money to Pakistan.
- The Albanian Institute of Public Relations website has ads for Falcom, Comport, AE News, Pekomeri, Google.com and Yahoo.com.
- The Algerian National Television website has spots for Canal Algerie, BLS (language translating service), Terastone, Som's and Satral Motors.
- The Australia Department of Broadband, Communications and the Digital Economy website has an ad for Freetv.com.
- The Lebanon Ministry of Health website has a link to Yahoo!
- The Lichtenstein Tourism website has ads for Mittendrin08 and Liechtensteinische Landesbank.
- The Macedonian portal has a link to Invest in Macedonia.com.
- The Malaysia Department of Immigration and Malaysia Department of Education website has an ad for Malaysia International Islamic Financial Centre.com.
- France's portal has a link to Parlonsagriculture.com.
- France's Ministry of Agriculture website has ads for Anpe.fr, monster.com, TeleMaque and PortEA.
- The France Ministry of Employment website has an ad for TMS.fr.
- The Burkina Faso portal had a link to ICT best practices.net.
- The Mongolia Tourism website has ads for eznis.com (airline), talkaboutmongolia.com, miat.com, (Mongolian airlines), Selenatravel.com, Mongolianbutterfly.com, e-mongol.com, monglian-ways.com, samarmagictours.com, feltnationart.com and visitmongolia.com.
- The Djibouti Telecom website has a link to Kempinski hotels.
- The Netherlands Tourism website has ads for Sixt Rent-a-Car, Kayak.com, Avis, NH hotels and Julidans.com.
- The Guinea-Bissau website has ads for Fatloss4idiots.com/stomachfat, FT.com, travel.yahoo.com and euronewsusa.com.

In general, user fees remain relatively scarce among the analyzed sites. Most services and databases could be completed or obtained by mail or in person at no additional charge. As for the few sites (1 percent of all sites) that included fees, charges applied to access to publications or databases, or to register for a particular database.

One percent of sites have premium sections that charged fees for entry.

Box 4. Examples of Government Websites with Premium Fees

- On the Vietnam News Agency website, there is a subscription fee for accessing certain pages and news sections.
- On an environmental website found in Canada, there is a customized weather report system that provides in-depth forecasts. The cost is unknown because it is commercial and requires communication with an associate of the provider.
- On the Canadian Federal Court website, there is a service provided to lawyers for electronic filing. This requires a premium of a rate of \$9 CAN per each envelope.
- On the Industry Canada website, there is a service which costs \$8 CAN and then \$8 CAN more for more hits when searching for company names.
- The Canadian Statistics website has an E-STAT premium page, which contains information available to participating schools and organizations.
- Canada's Nuclear Safety website has a premium service fee for tracking nuclear material in transport.
- On the New Zealand Fisheries website, there is a section that requires membership fees to enter. It requires visitors be part of a scientific community.

Public Outreach

E-government offers the potential to bring citizens closer to their governments. Regardless of the type of political system that a country has, the public benefits from interactive features that facilitate communication between citizens and government. In examining of national government websites, this study looks for various features that would help citizens contact government officials and make use of information on websites.

Email is an interactive feature that allows ordinary citizens to pose questions to government officials or request information or services. This study found that 88 percent of government websites offered email contact material so that a visitor could email a person (other than the Webmaster) in a particular department.

Table 9. Percentage of Government Websites Offering Public Outreach

	2001	2002	2003	2004	2005	2006	2007	2008
Email	73%	75%	84%	88%	80%	91%	86%	88%
Search	38	54	--	--	--	--	--	--
Comments	8	33	31	16	37	33	42	42
Email Updates	6	10	12	16	16	19	21	32
Broadcast	2	2	--	--	--	--	--	--
Website Personalization	--	1	1	2	2	6	7	14
PDA Access	--	--	2	1	4	1	4	3

Source: Compiled by author

Forty-two percent offer areas to post comments (other than through email), the use of message boards and chat rooms. Websites using these features allow citizens and department members alike to read and respond to others' comments regarding issues facing the department.

Thirty-two percent of government websites allow citizens to register to receive updates regarding specific issues. With this feature, visitors can input their email addresses, street addresses or telephone numbers to receive information about a particular subject as new information becomes available. The information can be in the form of a monthly e-newsletter highlighting a prime minister's views or in the form of alerts notifying citizens whenever a particular portion of the website is updated.

Fourteen percent of sites allow websites to be personalized to the interests of the visitor, and three percent provide personal digital assistant (PDA) access. Some sites have started to take advantage of mobile phone access (WAP). This is a good way to adapt local technology to digital access.

Where Do We Go from Here? Summary and Policy Recommendations

Government websites frequently presented access problems, both at the level of the initial search and the internal navigation. Many sites were difficult to find, and links had to be followed from sources such as Google or Wikipedia. When conducting an online search for a ministry, agency or department, that given organization should appear first in the search results. Since several of the different types of sites (such as tourism and finance) are linked not only to the government but to related industries, it is crucial that the government-sponsored sites display before separate commercial enterprises. Government server timeouts were also a relatively common problem. To increase the efficiency of e-government, the level of accessibility must be improved.

To facilitate broader access, web designers should make government websites available in other relevant languages. Many sites have foreign language versions, but many of the translations contain only a fraction of the information that the original site contains. Governments should attempt to make their entire site available in one or more foreign languages, thus ensuring that government is accessible to all citizens of that country as well as to interested foreigners.

To encourage citizen use of online government, website maintenance needs to be improved across the board. Site maintenance and updating presented many problems. Once the accessibility difficulties were surmounted and the sites were found, many of them contained broken internal links or presented versions that, though ostensibly available, did not function properly or offer complete information. Some of these broken links simply frustrate and confuse the user, while others may lead to commercial sites with irrelevant advertisements. Another common maintenance issue was that many of these sites have not been updated in years. A problematic example of this difficulty was found on the Somalia Official Government website, which prominently featured a section entitled "Daily News Updates." The most recent news report in that section, however, covered the 2006 attacks on the president of Somalia's convoy, which killed his brother. Internal links should function properly, websites should maintain and update content regularly, and English language versions (if available) of various websites should be as easily navigable and complete as the original versions.

The organization of many government websites was problematic. Many sites, such as the U.S. General Services Administration, had so much information crammed onto their pages that it inevitably led to user confusion. A surplus of internal links also contributed to this confusion. Solving organizational problems may prove difficult, as there is typically a large amount of information that must be offered by a site or a given portion of that site. Search boxes, which many government websites lack, provide convenient methods of organizing information so that it is easily accessible.

Government websites which present a great deal of dense information could be improved by personalization, which would help to remove clutter. Allowing visitors to answer a few basic questions about their user needs or requiring them to register prior to entering the site would allow a more streamlined presentation of information. Portal sites can also assist with streamlined navigation; portal sites and other government sites should link to each other and be governed by the same navigational standards and rules. For instance, if there is a privacy policy present on a portal site, it should include linked government sites in its stipulations.

Several basic changes to the layout of government websites could improve organization. First, the webpage format and URL format of each site should be kept uniform. This type of consistency, along with sites are easily readable and attractively presented (using pleasant colors and professional fonts) would provide increased navigational ease. Using an outline form on a site's navigation panel would also provide greater navigational ease to users. The integration of a floating toolbar would help to simplify navigation and provide easier access to databases. By using a toolbar, or by organizing databases by date and topic, sites would allow visitors to be more focused in their use of the sites. In addition, a prominently featured "Home" link would eliminate the wasted time that many users spend trying to navigate back to the original page. Finally, multimedia sections can be quite useful in presenting information, and these sections should be clearly labeled so that users do not have to search for audio or video material.

Examples of easily navigable sites suggest that organizational problems are not insurmountable. On the sites for Mexico's Secretary of Education and Yugoslavia's Ministry for Economic Cooperation and Development, for instance, links don't lead in confusing directions and the division of sections is quite clear. It is easy to search for and to find crucial information on these sites without encountering the distraction of superfluous information. Graphics also help to break up the text and attract the eye, thus making it easy to locate certain tools or pieces of information. The Great Britain portal represents a good example of the ways in which a government can make important personal services readily available in a single location. The 73 services available on the portal are divided into groups thematically and presented under the "Do it Online" portion of the site. There is not a significant amount of extraneous information on the site, so the services are easily accessible.

Better organization of government websites will mitigate many of the technical problems that arise from e-government use. However, when smooth organization is not enough to help users navigate government sites, technical support might become necessary. To provide such technical support, sites could offer assistance via instant messaging for parts of the business day.

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Appendix

A Note on Methodology

The data for this analysis consist of an assessment of 1,667 national government websites for the 198 nations around the world (see Appendix for the full list of countries). This study analyzes a range of sites within each country to get a full sense of what is available in particular nations. Among the sites analyzed are those of executive offices (such as a president, prime minister, ruler, party leader or royalty), legislative offices (such as Congress, Parliament or People's Assemblies), judicial offices (such as major national courts), Cabinet offices and major agencies serving crucial functions of government, such as health, human services, taxation, education, interior, economic development, administration, natural resources, foreign affairs, foreign investment, transportation, military, tourism and business regulation. Websites for subnational units, obscure boards and commissions, local government, regional units and municipal offices are not included in this study. The analysis was undertaken during June and July, 2008 at Brown University in Providence, Rhode Island. Earlier versions of our 2001 to 2007 studies can be found online at www.INSIDEPolitics.org.

Websites are evaluated for the presence of various features dealing with information availability, service delivery and public access. Features assessed included the name of the nation, region of the world and having the following features: online publications, online database, audio clips, video clips, non-native languages or foreign language translation, commercial advertising, premium fees, user payments, disability access, privacy policy, security features, presence of online services, number of different services, digital signatures, credit card payments, email address, comment form, automatic email updates, website personalization, personal digital assistant (PDA) access and an English version of the website. Where national government websites are not in English, this study uses foreign language readers to evaluate government websites.

Table A-1 E-Government Country Rankings, 2008 (with 2007 in parentheses)

Rank	Nation	Rating Out of 100 Pts	Rank	Nation	Rating Out of 100 Pts
1. (1)	South Korea	64.7 (74.9)	2. (3)	Taiwan	58.7 (51.1)
3. (4)	United States	53.7 (49.4)	4. (2)	Singapore	53.1 (54.0)
5. (6)	Canada	53.0 (44.1)	6. (8)	Australia	53.0 (43.5)
7. (10)	Germany	49.8 (42.9)	8. (11)	Ireland	45.2 (42.4)
9. (14)	Dominica	45.0 (41.0)	10. (13)	Brazil	43.6 (41.1)
11. (25)	Malaysia	42.8 (36.9)	12. (68)	Monaco	42.0 (32.0)
13. (75)	Ghana	42.0 (32.0)	14. (21)	Spain	37.7 (40.6)
15. (43)	France	41.6 (35.6)	16. (16)	Liechtenstein	41.0 (40.0)
17. (28)	Brunei	41.0 (36.5)	18. (7)	Portugal	40.5 (43.8)
19. (189)	Tonga	40.0 (20.0)	20. (50)	Mexico	39.5 (33.9)
21. (74)	Cyprus (Turkish Rep.)	39.0 (32.0)	22. (15)	Bahrain	38.7 (40.3)
23. (59)	Colombia	38.4 (32.8)	24. (22)	Hong Kong	38.2 (37.5)
25. (20)	Italy	38.1 (38.0)	26. (66)	Luxembourg	37.9 (32.1)
27. (88)	Chile	37.7 (31.0)	28. (23)	Finland	37.5 (37.3)
29. (12)	Switzerland	37.4 (42.3)	30. (111)	Saint Lucia	37.3 (29.0)
31. (19)	New Zealand	37.2 (41.8)	32. (30)	Liberia	37.0 (36.0)
33. (26)	Netherlands	37.0 (36.8)	34. (18)	Andorra	37.0 (39.0)
35. (5)	Great Britain	36.7 (44.3)	36. (47)	India	36.6 (34.2)
37. (40)	Japan	36.6 (35.9)	38. (56)	Panama	36.3 (33.1)
39. (42)	Qatar	36.1 (35.6)	40. (52)	Arab Emirates	36.1 (33.6)
41. (32)	Azerbaijan	36.0 (36.0)	42. (165)	Togo	36.0 (24.0)
43. (24)	Vatican	36.0 (37.0)	44. (34)	Bhutan	36.0 (36.0)
45. (73)	Botswana	36.0 (32.0)	46. (101)	Cape Verde	36.0 (30.0)
47. (35)	Costa Rica	36.0 (36.0)	48. (94)	Guatemala	36.0 (30.8)
49. (39)	North Korea	36.0 (36.0)	50. (29)	Cyprus (Republic)	35.9 (36.4)

Rank	Nation	Rating Out of 100 Pts	Rank	Nation	Rating Out of 100 Pts
51. (62)	Serbia and Montenegro	35.8 (32.4)	52. (85)	Belize	35.7 (31.0)
53. (89)	Saudi Arabia	35.1 (30.9)	54. (57)	Kazakhstan	31.0 (35.0)
55. (27)	Czech Republic	34.8 (36.7)	56. (41)	Malta	34.8 (35.8)
57. (45)	Croatia	34.8 (35.0)	58. (48)	Peru	34.7 (34.0)
59. (128)	Estonia	34.7 (28.0)	60. (63)	Norway	34.4 (32.4)
61. (9)	Turkey	34.2 (43.5)	62. (64)	Denmark	34.1 (32.1)
63. (147)	Madagascar	34.0 (26.0)	64. (185)	Nigeria	33.9 (28.3)
65. (31)	Austria	33.8 (36.0)	66. (44)	Israel	33.3 (35.5)
67. (51)	China (People's Republic)	33.3 (33.7)	68. (46)	Iceland	33.1 (34.6)
69. (161)	Nauru	33.0 (24.0)	70. (87)	Cambodia	33.0 (31.0)
71. (155)	Mauritius	32.8 (24.7)	72. (60)	Sweden	32.7 (32.7)
73. (81)	Egypt	32.6 (31.3)	74. (58)	Syria	32.6 (32.8)
75. (79)	Kuwait	32.4 (31.9)	76. (142)	Afghanistan	32.3 (26.7)
77. (132)	Kyrgyzstan	32.3 (28.0)	78. (110)	Latvia	32.0 (29.0)
79. (67)	Libya	32.0 (32.0)	80. (33)	Sierra Leone	32.0 (36.0)
81. (100)	Suriname	32.0 (30.0)	82. (151)	Uzbekistan	32.0 (25.7)
83. (191)	Equatorial Guinea	32.0 (40.0)	84. (130)	Haiti	32.0 (28.0)
85. (114)	Lithuania	31.8 (28.7)	86. (116)	Uruguay	31.8 (28.4)
87. (149)	Dominican Republic	31.8 (26.0)	88. (107)	Jordan	31.6 (29.6)
89. (96)	Philippines	31.3 (30.5)	90. (115)	Ukraine	31.3 (28.4)
91. (119)	Mongolia	31.3 (28.0)	92. (152)	El Salvador	31.3 (25.6)
93. (184)	Myanmar	31.0 (20.0)	94. (86)	Bulgaria	36.0 (30.8)
95. (133)	Russian Federation	30.9 (27.8)	96. (108)	Nepal	30.6 (30.6)
97. (137)	Ecuador	30.5 (27.6)	98. (148)	Belarus	30.5 (26.0)
99. (140)	Georgia	30.5 (27.0)	100. (134)	Morocco	30.4 (27.8)

Rank	Nation	Rating Out of 100 Pts	Rank	Nation	Rating Out of 100 Pts
101. (80)	Lebanon	30.4 (31.5)	102. (104)	Bosnia and Herzegovina	30.3 (29.8)
103. (163)	Soloman Islands	30.0 (24.0)	104. (143)	Sudan	30.0 (26.7)
105. (92)	Belgium	30.0 (30.8)	106. (54)	Armenia	30.0 (33.3)
107. (135)	Pakistan	29.8 (27.7)	108. (90)	Vietnam	29.8 (30.9)
109. (129)	Iran	29.7 (30.7)	110. (57)	Poland	32.7 (32.7)
111. (150)	Senegal	29.6 (25.7)	112. (82)	Slovenia	20.0 (29.0)
113. (55)	Argentina	29.4 (33.1)	114. (166)	Bolivia	31.8 (28.7)
115. (127)	Angola	29.3 (28.0)	116. (53)	Hungary	31.8 (28.4)
117. (138)	Greece	29.1 (27.1)	113. (169)	Congo (Republic)	29.0 (29.0)
119. (91)	Oman	28.8 (30.9)	120. (172)	Yemen	28.6 (22.9)
121. (139)	Paraguay	28.5 (27.0)	122. (168)	Cote d'Ivoire	28.5 (24.0)
123. (158)	Algeria	28.3 (28.0)	124. (123)	Barbados	28.3 (28.3)
125. (159)	Venezuela	28.2 (24.3)	126. (106)	Maldives	28.0 (29.6)
127. (183)	Moldova	28.0 (20.0)	128. (162)	Palau	28.0 (24.0)
129. (188)	Somaliland	28.0 (28.0)	130. (71)	Swaziland	28.0 (32.0)
131. (72)	Tajikistan	28.0 (32.0)	132. (167)	Burundi	28.0 (24.0)
133. (180)	Cameroon	28.0 (21.3)	134. (37)	Ethiopia	28.0 (36.0)
135. (38)	Gabon	28.0 (36.0)	136. (76)	Grenada	28.0 (32.0)
137. (65)	Jamaica	28.0 (32.1)	138. (178)	Thailand	27.9 (21.7)
139. (97)	Saint Kitts and Nevis	27.3 (30.3)	140. (47)	Albania	27.3 (28.0)
141. (93)	Trinidad and Tobago	26.8 (30.8)	142. (171)	Honduras	26.7 (23.0)
143. (153)	Nicaragua	26.5 (25.2)	144. (84)	Kenya	26.3 (31.2)
145. (177)	Rwanda	26.3 (21.9)	146. (120)	Mozambique	26.0 (28.0)
147. (98)	Romania	26.0 (40.5)	148. (105)	Antigua and Barbuda	26.0s (29.7)
149. (136)	South Africa	25.9 (27.7)	150. (131)	Iraq	25.9 (28.0)

Rank	Nation	Rating Out of 100 Pts	Rank	Nation	Rating Out of 100 Pts
151. (176)	Laos	25.7 (22.0)	152. (156)	Bangladesh	25.7 (24.7)
153. (103)	Slovakia	25.7 (29.8)	154. (129)	Gambia	25.5 (28.0)
155. (146)	Uganda	25.3 (26.2)	156. (83)	East Timor	25.3 (31.2)
157. (169)	Cuba	25.3 (24.0)	158. (175)	Tunisia	25.3 (22.4)
159. (69)	Bahamas	25.0 (32.0)	160. (109)	San Marino	25.0 (29.3)
161. (179)	Namibia	24.8 (21.5)	162. (141)	Fiji	24.4 (26.8)
163. (154)	Djibouti	24.4 (24.9)	164. (49)	Zambia	24.3 (34.0)
165. (160)	Mali	24.0 (24.0)	166. (118)	Micronesia	24.0 (28.0)
167. (121)	Niue	24.0 (28.0)	168. (164)	Somalia	24.0 (24.0)
169. (124)	Sri Lanka	24.0 (28.0)	170. (174)	Chad	24.0 (22.7)
171. (102)	Cook Islands	24.0 (30.0)	172. (36)	Eritrea	24.0 (36.0)
173. (77)	Guinea-Bissau	24.0 (32.0)	174. (78)	Guyana	24.0 (32.0)
175. (170)	Indonesia	24.0 (24.0)	176. (173)	Malawi	23.0 (22.7)
177. (157)	Seychelles	22.8 (24.7)	178. (70)	St. Vincent and the Grenadines	22.7 (31.0)
179. (144)	Zimbabwe	22.7s (26.7)	180. (99)	Lesotho	22.0 (30.0)
181. (145)	Benin	22.0 (26.7)	182. (126)	Papua New Guinea	16.0 (20.2)
183. (182)	Marshall Islands	20.0 (20.0)	184. (122)	Niger	20.0 (20.0)
185. (187)	Sao Tome and Principe	20.0 (20.0)	186. (190)	Turkmenistan	20.0 (20.0)
187. (112)	Vanuatu	20.0 (29.0)	188. (191)	Burkina Faso	20.0 (20.0)
189. (192)	Central Africa Republic	20.0 (20.0)	190. (193)	Tanzania	18.5 (18.3)
191. (122)	Samoa	18.5 (28.0)	192. (198)	Kiribati	18.5 (8.0)
193. (181)	Macedonia	16.0 (20.0)	194. (196)	Comoros	16.0 (12.0)
195. (126)	Congo (Democratic Republic)	16.0 (28.0)	196. (186)	Papua New Guinea	16.0 (20.2)
197. (194)	Mauritania	12.0 (18.0)	198. (195)	Tuvalu	12.0 (16.0)

Table A-2 Individual Country Profiles for Selected Features, 2008

	<i>Online Services</i>	<i>Publications</i>	<i>Data bases</i>	<i>Privacy Policy</i>	<i>Security Policy</i>	<i>W3C Disability Accessibility</i>
Afghanistan	33%	100%	100%	17%	0%	0%
Albania	33	89	44	0	0	0
Algeria	40	100	60	0	0	0
Andorra	150	100	50	100	0	0
Angola	0	100	100	0	0	0
Antigua	100	83	33	17	17	17
Arab Emirates	75	92	75	17	58	0
Argentina	69	100	92	0	0	15
Armenia	0	100	50	25	0	0
Australia	97	100	100	100	53	17
Austria	80	100	80	20	0	80
Azerbaijan	0	100	100	0	0	0
Bahamas	100	100	100	0	0	0
Bahrain	56	100	88	0	0	0
Bangladesh	33	83	33	17	0	33
Barbados	33	100	33	0	0	33
Belarus	0	88	88	0	0	13
Belgium	20	80	20	40	20	10
Belize	67	100	100	0	0	0
Benin	0	50	50	0	0	0
Bhutan	0	100	100	100	0	0
Bolivia	83	83	67	0	0	17
Bosnia	17	100	50	17	0	0
Botswana	0	100	100	50	0	50
Brazil	38	100	100	15	8	31
Brunei	50	100	100	25	0	0
Bulgaria	0	100	100	0	0	0
Burkina Faso	0	100	75	0	0	0
Burundi	0	100	0	0	0	0
Cambodia	0	100	100	0	0	0
Cameroon	0	100	100	0	0	0
Canada	66	100	100	100	100	62
Cape Verde	0	100	100	0	0	100

Central Africa	0	0	0	0	0	0
Chad	0	100	100	0	0	0
	<i>Online Services</i>	<i>Publications</i>	<i>Data bases</i>	<i>Privacy Policy</i>	<i>Security Policy</i>	<i>W3C Disability Accessibility</i>
China-Mainland	41	100	95	5	0	5
Republic of China -Taiwan	50	100	92	100	100	92
Colombia	100	100	100	0	20	0
Comoros	0	100	100	0	0	0
Congo-Dem Rep	0	100	0	0	0	0
Congo-Rep	100	100	0	0	0	0
Cook Islands	0	100	50	0	0	0
Costa Rica	0	100	0	0	0	0
Cote d'Ivoire	50	100	50	0	0	0
Croatia	40	100	80	0	0	20
Cuba	14	100	43	14	14	0
Cyprus-Rep	50	88	88	13	0	0
Cyprus-Turk	100	100	100	100	0	0
Czech Rep	46	100	85	8	8	0
Denmark	53	100	87	7	0	13
Djibouti	43	86	86	0	0	14
Dominica	100	100	0	100	0	0
Dominican Rep	88	100	88	13	13	0
East Timor	0	83	17	50	17	17
Ecuador	73	100	91	00	0	0
Egypt	77	100	46	8	0	0
El Salvador	63	100	100	0	0	0
Eq Guinea	0	100	0	0	0	100
Eritrea	0	100	0	0	0	0
Estonia	17	100	100	17	17	0
Ethiopia	0	100	0	0	0	0
Fiji	44	100	78	0	0	0
Finland	38	100	100	38	0	15
France	69	100	96	54	4	15

Gabon	0	100	100	0	0	0
Gambia	25	75	50	0	0	50
Georgia	0	100	88	0	0	0
Germany	100	100	100	100	100	63
Ghana	100	100	100	0	0	0
	<i>Online Services</i>	<i>Publications</i>	<i>Data bases</i>	<i>Privacy Policy</i>	<i>Security Policy</i>	<i>W3C Disability Accessibility</i>
Greece	38	88	38	13	0	25
Grenada	0	50	50	0	0	50
Guatemala	75	100	75	0	0	0
Guinea	0	0	0	0	0	0
Guinea-Bissau	0	0	0	0	0	100
Guyana	0	100	50	0	0	0
Haiti	0	100	0	0	0	0
Honduras	43	100	57	0	0	0
Hong Kong	24	100	76	59	53	35
Hungary	33	92	100	33	8	8
Iceland	72	89	100	6	0	72
India	78	100	94	6	0	6
Indonesia	0	100	100	0	0	0
Iran	33	100	83	33	0	0
Iraq	8	85	46	8	8	0
Ireland	61	100	89	100	61	39
Israel	40	100	73	7	0	0
Italy	29	100	100	71	57	57
Jamaica	35	100	82	24	24	0
Japan	45	100	90	50	50	15
Jordan	43	100	100	0	0	0
Kazakhstan	50	100	100	0	0	0
Kenya	33	89	89	0	0	0
Kiribati	50	50	0	0	0	0
Korea, North	0	100	0	100	100	0
Korea, South	100	100	86	100	100	57
Kuwait	56	100	56	0	11	0
Kyrgyzstan	33	100	67	0	0	0
Laos	0	86	29	0	0	29

Latvia	50	100	50	0	0	0
Lebanon	37	100	74	5	5	5
Lesotho	0	100	0	0	0	0
Liberia	100	100	100	0	0	0
Libya	0	100	100	0	0	0
Liechtenstein	100	0	100	100	0	0
Lithuania	64	100	64	0	0	18
Luxembourg	89	100	78	83	6	6
	<i>Online Services</i>	<i>Publications</i>	<i>Data bases</i>	<i>Privacy Policy</i>	<i>Security Policy</i>	<i>W3C Disability Accessibility</i>
Madagascar	100	100	100	0	0	0
Malawi	33	100	67	0	0	67
Malaysia	75	88	50	75	50	38
Maldives	0	100	40	20	0	0
Mali	0	100	0	0	0	0
Malta	40	100	40	100	0	20
Marshall Islands	0	100	50	0	0	0
Mauritania	0	0	0	0	0	0
Mauritius	54	100	77	8	8	0
Mexico	100	100	79	11	05	0
Micronesia	0	100	100	0	0	0
Moldova	0	100	100	0	0	0
Monaco	100	100	100	50	50	0
Mongolia	25	100	75	0	0	0
Morocco	38	100	63	0	0	38
Mozambique	0	100	100	0	0	0
Myanmar	33	100	100	0	0	0
Namibia	20	90	55	30	10	10
Nauru	100	100	100	0	0	100
Nepal	0	100	65	6	0	6
Netherlands	48	100	96	35	0	43
New Zealand	61	100	93	86	21	25
Nicaragua	70	100	70	0	0	0
Niger	0	100	0	0	0	0
Nigeria	43	100	100	29	0	0
Niue	0	100	100	0	0	0

Norway	23	97	100	7	3	3
Oman	38	100	63	25	13	0
Pakistan	64	95	91	32	18	0
Palau	0	100	100	0	0	0
Panama	88	100	88	63	44	0
Papua New Guinea	22	67	67	0	0	1
Paraguay	55	100	55	00	9	27
Peru	84	100	81	5	0	5
Philippines	83	100	83	25	8	4
	<i>Online Services</i>	<i>Publications</i>	<i>Data bases</i>	<i>Privacy Policy</i>	<i>Security Policy</i>	<i>W3C Disability Accessibility</i>
Portugal	26	100	89	53	0	53
Qatar	45	100	64	18	18	0
Romania	27	87	67	0	0	7
Russia	17	94	83	0	0	22
Rwanda	38	75	38	0	0	0
Sao Tome	0	0	0	100	0	0
St. Kitts/Nevis	67	67	33	33	0	0
St. Lucia	0	100	33	67	0	0
St. Vincent	0	33	33	67	0	0
Samoa	75	100	0	0	0	0
San Marino	100	0	0	0	0	0
Saudi Arabia	46	100	100	15	0	0
Senegal	40	100	80	60	0	0
Serbia and Montenegro	25	100	83	8	0	17
Seychelles	17	67	0	0	0	17
Sierra Leone	0	100	0	0	0	0
Singapore	63	97	67	100	100	10
Slovakia	28	94	44	0	0	0
Slovenia	15	100	46	15	0	0
Solomon Islands	0	100	50	50	0	50
Somalia	0	0	0	0	0	100
Somaliland	0	100	100	0	0	0
South Africa	48	100	59	17	3	7

Spain	90	100	80	25	5	5
Sri Lanka	0	100	0	0	0	0
Sudan	0	100	50	0	0	50
Suriname	0	100	0	0	0	0
Swaziland	0	50	0	50	0	0
Sweden	81	100	54	12	0	58
Switzerland	67	96	71	83	0	46
Syria	40	100	80	0	0	0
Tajikistan	0	50	50	0	0	0
Tanzania	10	43	38	0	0	0
Thailand	29	100	100	0	0	0
Togo	0	100	0	0	0	0
	<i>Online Services</i>	<i>Publications</i>	<i>Data bases</i>	<i>Privacy Policy</i>	<i>Security Policy</i>	<i>W3C Disability Accessibility</i>
Trinidad	62	85	38	38	15	15
Tunisia	25	50	50	0	0	0
Turkey	96	100	52	0	0	22
Turkmenistan	0	100	0	0	0	0
Tuvalu	0	0	0	0	0	0
Uganda	0	89	67	11	0	0
Ukraine	10	100	100	0	0	10
United States	98	100	98	84	77	25
Uruguay	100	100	100	9	0	9
Uzbekistan	0	75	75	0	50	0
Vanuatu	0	100	100	0	0	0
Vatican	100	100	100	0	0	0
Venezuela	89	100	89	0	0	0
Vietnam	38	100	88	0	0	0
Yemen	0	100	86	0	0	0
Zambia	75	100	50	0	0	0
Zimbabwe	0	67	37	0	0	0

Table A-3 Individual Country Profiles for Selected Features, 2008

	<i>For. Lang.</i>	<i>Ads</i>	<i>User Fee</i>	<i>Comments</i>	<i>Updates</i>	<i>Personalization</i>
Afghanistan	100%	0%	0%	50%	33%	0%
Albania	89	11	0	44	22	11
Algeria	100	20	0	30	0	0
Andorra	100	50	0	0	50	0
Angola	0	0	0	67	0	0
Antigua	0	17	0	83	0	0
Arab Emirates	83	17	0	0	25	67
Argentina	23	0	0	38	15	0
Armenia	100	0	0	50	0	0
Australia	23	14	0	0	0	0
Austria	100	0	0	20	0	0
Azerbaijan	100	0	0	100	0	0
Bahamas	0	0	0	0	0	0
Bahrain	100	11	0	11	22	56
Bangladesh	100	0	0	17	0	0
Barbados	100	0	0	33	0	0
Belarus	50	0	0	50	38	38
Belgium	100	0	0	10	20	0
Belize	33	0	0	100	67	33
Benin	50	0	0	0	0	0
Bhutan	100	0	0	0	0	0
Bolivia	0	0	0	17	33	0
Bosnia	100	0	0	17	67	0
Botswana	0	0	0	50	0	50
Brazil	77	0	0	77	0	23
Brunei	75	0	0	100	50	25
Bulgaria	100	0	0	75	0	0
Burkina Faso	0	0	0	0	0	0
Burundi	0	0	0	100	0	0
Cambodia	100	0	0	100	0	0
Cameroon	0	0	0	100	0	0
Canada	0	10	10	62	83	38
Cape Verde	0	0	0	100	0	0

Central Africa	0	0	0	100	0	0
Chad	100	0	0	0	0	0
	<i>For. Lang.</i>	<i>Ads</i>	<i>User Fee</i>	<i>Comments</i>	<i>Updates</i>	<i>Personalization</i>
China-Mainland	64	5	0	82	14	0
Republic of China -Taiwan	100	0	0	96	73	23
Colombia	0	0	0	100	40	20
Comoros	0	100	0	0	0	0
Congo-Dem Rep	41	0	100	0	0	0
Congo-Rep	0	100	0	0	100	0
Cook Islands	0	0	0	50	0	0
Costa Rica	0	0	0	100	100	0
Cote d'Ivoire	50	0	0	50	0	0
Croatia	100	0	0	20	40	0
Cuba	29	0	0	14	29	0
Cyprus-Rep	75	0	0	50	13	13
Cyprus-Turk	100	0	0	100	0	0
Czech Rep	100	0	0	15	77	15
Denmark	100	0	0	13	53	0
Djibouti	29	14	0	29	0	0
Dominica	100	0	0	100	100	0
Dominican Rep	25	0	0	38	13	0
East Timor	50	0	0	33	0	0
Ecuador	9	0	0	45	27	0
Egypt	92	0	0	54	0	8
El Salvador	38	0	0	38	13	13
Eq Guinea	100	0	0	0	0	0
Eritrea	0	100	0	100	0	0
Estonia	67	0	0	33	17	67
Ethiopia	50	0	0	0	100	0
Fiji	0	0	0	44	0	0
Finland	100	0	0	77	46	0
France	46	12	4	50	69	42
Gabon	100	0	0	0	0	0
Gambia	0	0	0	25	0	25
Georgia	100	0	0	50	38	13

Germany	75	0	0	100	100	0
Ghana	0	0	0	100	100	100
Great Britain	23	0	0	32	61	7
Greece	100	0	0	25	25	13
	<i>For. Lang.</i>	<i>Ads</i>	<i>User Fee</i>	<i>Comments</i>	<i>Updates</i>	<i>Personalization</i>
Guatemala	0	0	0	75	0	25
Guinea	0	0	0	0	0	0
Guinea-Bissau	100	0	0	0	0	0
Guyana	0	0	0	50	0	50
Haiti	100	0	0	0	100	0
Honduras	29	0	0	43	14	0
Hong Kong	94	0	12	6	18	6
Hungary	8	17	0	17	33	8
Iceland	11	0	0	67	17	0
India	6	0	0	61	44	11
Indonesia	0	0	0	0	0	0
Iran	33	0	0	0	17	33
Iraq	69	0	0	23	15	15
Ireland	100	0	0	67	39	6
Israel	100	7	0	27	40	13
Italy	43	0	0	0	71	0
Jamaica	0	24	0	47	12	0
Japan	100	0	0	40	50	5
Jordan	86	0	0	14	14	57
Kazakhstan	100	0	0	100	50	0
Kenya	0	0	0	33	11	0
Kiribati	0	0	0	0	0	0
Korea, North	100	0	0	0	0	0
Korea, South	100	0	0	93	93	86
Kuwait	98	67	11	0	22	44
Kyrgyzstan	100	0	0	33	33	33
Laos	100	14	0	0	0	0
Latvia	100	0	0	50	38	13
Lebanon	89	0	0	32	16	16
Lesotho	0	0	0	50	0	0

Liberia	0	0	0	100	0	0
Libya	100	0	0	100	0	0
Liechtenstein	100	100	0	100	0	0
Lithuania	100	0	0	27	36	0
Luxembourg	39	0	0	78	78	6
Macedonia	100	100	0	0	0	0
Madagascar	100	0	0	100	0	0
	<i>For. Lang.</i>	<i>Ads</i>	<i>User Fee</i>	<i>Comments</i>	<i>Updates</i>	<i>Personalization</i>
Malaysia	100	25	0	75	39	63
Maldives	100	0	0	20	0	0
Mali	100	0	0	0	0	0
Malta	100	20	0	40	20	0
Marshall Islands	0	0	0	0	0	0
Mauritania	0	0	0	0	0	0
Mauritius	8	0	0	23	0	100
Mexico	42	5	0	89	47	11
Micronesia	0	0	0	0	0	0
Moldova	100	0	0	0	0	0
Monaco	100	0	0	50	50	50
Mongolia	100	25	0	100	50	0
Morocco	50	0	0	63	25	25
Mozambique	100	0	0	0	0	0
Myanmar	100	0	0	67	0	33
Namibia	0	0	0	20	0	10
Nauru	0	0	0	0	1	0
Nepal	100	0	0	76	6	0
Netherlands	100	4	0	3	48	17
New Zealand	4	4	0	39	46	11
Nicaragua	0	0	0	10	10	0
Niger	50	0	0	0	0	0
Nigeria	0	0	0	86	57	0
Niue	0	0	0	0	0	0
Norway	100	0	0	17	17	7
Oman	50	25	13	25	38	13
Pakistan	14	27	0	36	32	0

Palau	0	0	0	100	0	0
Panama	50	0	0	25	25	0
Papua New Guinea	0	0	0	11	0	0
Paraguay	36	0	0	55	9	0
Peru	32	0	0	74	21	11
Philippines	0	0	0	42	17	4
Poland	100	8	0	4	21	0
Portugal	84	0	5	63	97	16
Qatar	91	9	0	9	18	55
	<i>For. Lang.</i>	<i>Ads</i>	<i>User Fee</i>	<i>Comments</i>	<i>Updates</i>	<i>Personalization</i>
Russia	6	22	0	56	33	67
Rwanda	88	0	0	38	0	25
Sao Tome	100	0	0	0	0	0
St. Kitts/Nevis	100	0	0	33	0	0
St. Lucia	100	0	0	67	33	0
St. Vincent	33	100	0	67	0	33
Samoa	0	0	0	0	0	0
San Marino	100	0	0	0	0	0
Saudi Arabia	100	0	0	15	8	46
Senegal	100	0	0	0	0	0
Serbia and Montenegro	100	0	0	50	42	0
Seychelles	100	17	0	17	17	0
Sierra Leone	100	0	0	0	0	0
Singapore	100	0	20	100	60	33
Slovakia	94	0	0	6	11	0
Slovenia	100	0	0	19	27	8
Solomon Islands	100	0	0	0	0	0
Somalia	100	0	0	0	0	0
Somaliland	100	0	0	0	0	0
South Africa	7	0	0	38	14	0
Spain	95	0	0	50	45	5
Sri Lanka	100	0	0	0	0	0
Sudan	100	0	0	0	0	0
Suriname	100	0	0	100	100	0

Swaziland	100	0	0	100	100	0
Sweden	100	0	0	0	54	0
Switzerland	100	0	0	67	38	4
Syria	80	0	0	0	80	40
Tajikistan	100	50	0	50	50	50
Tanzania	0	0	0	5	5	0
Thailand	100	29	0	0	29	0
Togo	100	100	0	100	100	0
Tonga	100	0	0	0	100	0
Trinidad	8	0	0	62	0	8
Tunisia	100	0	0	0	25	0
Turkey	4	4	0	4	3	4
	<i>For. Lang.</i>	<i>Ads</i>	<i>User Fee</i>	<i>Comments</i>	<i>Updates</i>	<i>Personalization</i>
Tuvalu	0	0	0	0	0	0
Uganda	0	0	0	56	11	0
Ukraine	80	10	0	50	50	10
United States	43	2	3	62	74	31
Uruguay	36	0	0	9	18	9
Uzbekistan	75	0	0	50	0	0
Vanuatu	0	0	0	0	0	0
Vatican	100	0	0	0	0	0
Venezuela	11	0	0	33	0	11
Vietnam	100	98	0	75	19	0
Yemen	100	0	0	14	14	0
Zambia	0	50	0	75	0	0
Zimbabwe	0	0	0	33	0	0