ABSTRACT

Title of Document:	GOVERNMENT WEBSITES FOR SPECIAL POPULATIONS: TOWARD CONTENT-BASED EVALUATION
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E-Government research has traditionally focused on cost-effectiveness and efficiency, operations, accessibility, usability, and information policy. Less attention has been paid to what audiences are meant to use the sites and what topics are being presented to them. This paper proposes an assessment framework that looks at the topics and formats of the information presented on government websites, and compares differences between sites of different structures, for different audiences, and from different countries.

GOVERNMENT WEBSITES FOR SPECIAL POPULATIONS: TOWARD
CONTENT-BASED EVALUATION

By

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Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Master of Library Science
2007

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ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

Every year, more government websites are created throughout the world, with an ever-increasing variety of information. In the United States, for example, generally considered an early leader in e-government development, there were over 900 federal websites as early as 1997 (Eschenfelder, Beachboard, McClure & Wyman, 1997) and the number has grown immeasurably in the past ten years. The rapid growth in implementation of this relatively new concept using technology that is still evolving quickly today, has caused vagueness and disagreement over the definition of the term "e-government." The question still plagues research today and only recently have scholars begun to move past, or even accept, the initial uncertainty. Halchin (2004) boils down the various definitions to "technology, government entities, and exchanges among parties" (p. 408). Torres, Pina, and Acerete (2005) caution against limiting the definition of "e-government" to internet-based applications, saying that "internet use by governments should not be isolated from the broader digitalization of government activity as a whole" (p. 218). In reality, although promising developments are being made in areas like text-messaging, podcasting, and electronic voting, websites are still by far the most easily created, the most common, the most popular, and the most talked-about form of e-government today.

The current trend in Western countries is to treat e-government users, whether they are citizens or businesses, as "consumers where transaction satisfaction is important" (Evans & Yen, 2006, p. 208). The United States, for instance, is trying to "apply industry best standards to government" in order to improve "internal

efficiency and effectiveness" (U.S. Office of Management and Budget, 2007).

Meanwhile, the United Kingdom's Transformational Government initiative strives to "use technology to join up and share services" in order to "deliver the full benefits to customers that these new systems offer" (Cabinet Office, 2005, p. 1). Australia's Department of Finance and Administration's goal is "technology-enabled transformation of the business of government" (2006, p. 6).

This business-like approach may be beneficial in terms of efficiency, user satisfaction, and effectiveness, but just as for-profit businesses prioritize certain demographics, it is possible, if not even probable and entirely natural, that government agencies will do the same as they develop their online services. This can already be seen in the dismal failure of many government websites to be accessible to people with disabilities (Jaeger, 2006; Shi, 2006). People without disabilities are a larger and hence may be perceived as a more critical set of "customers" and, consciously or not, more emphasis is often put on pleasing them with graphic design and flashy technology than on ensuring that the website is usable for the entire population. The "customer" groups whose needs are not adequately met are likely to already suffer from the "digital divide" phenomenon. Being excluded from government services either directly, by not being able to technically access them, as in the case of many people with disabilities, or indirectly, by feeling that the sites have nothing to offer them or are psychologically inaccessible, puts them at an even greater disadvantage.

To date, e-government research has focused largely on the structural quality of government websites. Layne and Lee (2001) discussed quality in terms of stages of

development maturity. Bertot and Jaeger (2006, in press) have approached quality as a user-centered issue, combining functionality (whether the site does what it was meant to do), accessibility (whether the site is equally accessible to all users), and usability (whether users can actually use the site as intended). Other researchers have examined quality in relation to government information policy, particularly in post-September 11 America (Halchin, 2004; Mahler & Regan 2006; Jaeger, 2007). Yildiz (2007) points out the literature's lack of analysis of the political processes behind the development of e-government as well as influential institutional factors. Some attention has been paid to the types of content available, like "downloadable forms" or "audio/video" (Kaylor, Deshazo, & Eck, 2001; Gupta, 2003), and to the structure of government sites (Ebbers, & van Dijk, in press; Ebbers, Pieterson, & Noordman, in press; Jaeger, 2005; Singh, & Sahu, in press), but research on whom the sites are for and what topics are covered has been sparse at best.

In this pilot study, I will propose, implement, and evaluate a method to begin assessing a country's e-government services for special populations, including women, seniors, people with disabilities, and ethnic and cultural minorities. The perspective of this method differs from other studies by focusing directly on the content being provided to the special populations. The method will investigate the kinds of sites that are used, the topics that they cover, and the types of content that they contain. The method is designed as an evaluation tool that can be built upon, expanded, and refined in future studies.

This chapter has covered the background information necessary for the rest of the paper, including an overview of the current state of e-government and e-

government research and the effects that the "business" approach to e-government

might have on special populations. Chapter 2 looks at the literature about website

evaluation and how specific groups of people interact with web technology. Chapter

3 describes the study and how the method and framework were developed. The

results of the data collection are described in Chapter 4. Chapter 5 provides detailed

discussion and analysis of the results. Finally, Chapter 6 gives an overview of the

study and the results, discusses the limitations of the study, and suggests future

research directions.

CHAPTER 2: RELATED RESEARCH

This chapter discusses relevant literature regarding website assessment both for commercial and for government sites, as well as research on the way different groups of people interact with web technology.

2. 1. Website Assessment

2.1.1. Assessing Commercial Sites

In 1997, James Ho proposed a two dimensional framework for evaluating commercial websites. He classified the business purposes of commercial websites into three categories: promotion of products and services, provision of data and information, and processing business transactions. He also developed four categories of "value creation:" timely (time-sensitive information such as sales and stock quotes), custom (information that can be manipulated by the user, such as database searchers or customized reports), logistic (information or services that help a user achieve a goal or purpose, like a store locator or delivery tracking) and sensational (content with an entertaining element, like contests or quizzes). In applying this three-by-four evaluation matrix, with 12 possible value/purpose combinations, to commercial websites of the late 1990's, he found significant differences between industries, as well as some things that were very consistent – logistical promotional content, for instance, was present on almost all websites, regardless of industry. He also analyzed the data by country, with less dramatic results.

Dragulanescu (2002) discussed the difference between "assessing" and "evaluating" a website. He notes that "the critical difference between evaluation and all the other above-listed skills [to rate, to estimate, to appraise, to assess, and to assay] is the inclusion of criteria and values" (p. 248). His sample evaluation tool focuses on website quality and includes sections on accuracy, authority, coverage, currency, density, interactivity, objectivity, and promptness.

Baack and Singh (2007) investigated how cultural differences among 15 countries affected web-based marketing communications. Their content analysis tool drew from both web design and marketing and included items like "graphic oriented," "guided navigation," "link to local locations," and "tradition theme" (p. 184). They used the results to test the validity of theories about cultural values in a web-based setting.

Moss, Gunn, and Kubacki (2007) criticize the extant web aesthetics literature for focusing on the "universalist paradigm," that is, focusing on finding web aesthetics that are effective for as many people as possible rather than what is preferred by various groups, leaving "an absence of data on [study subjects'] age, gender, or participation in particular markets." The paper goes on to describe in far more positive terms the "interactionist paradigm," which "views data on the perceiver as all-important" and its basis in the concept of "mirroring." Mirroring is the idea that "products should be shaped around the 'unique and particular needs' of the customer" and "the consumer's self-concept," and that "persuasiveness is enhanced by similarity between source and receiver" and "increased similarity leads to increased attention and attraction" (p. 249).

6

2.1.2. Assessing Government Sites

In an early article that does not even use the term "e-government,"
Eschenfelder et al. (1997) discussed both federal information dissemination policy
issues that affect federal websites and more tangible assessment factors in order to
answer three fundamental questions:

Are federal Websites being operated in a manner consistent with the existing
federal information policies?

Are new policies needed… to more realistically reflect the capabilities of this
new medium? …

Are federal agencies effectively employing the Web as an information-
dissemination channel?

To answer these questions, they approach government website assessment from four
perspectives, which they identify as the library science perspective (focusing on
information content and organization), the business perspective (focusing on usability
and marketing), the K-12 perspective (focusing on the quality of information) and the
computer science perspective (focusing on technical elements). The resulting list of
evaluation criteria includes fairly concrete items like "the scope of Website is clearly
stated" (p. 184) and "navigation options are distinct and spelled out" (p. 185).

Hernon (1998) adapted a framework for assessing library services for use in
evaluating "government on the web." He developed eleven "how" questions that he
suggested could be instrumental in developing metrics for agencies to use in
evaluating the effectiveness of their websites and services. The questions were

grouped into indicators of performance, productivity, efficiency, effectiveness, satisfaction, service quality, benefit, and effects/consequences (p. 438).

Gupta (2003) discussed the application of what he called "hard" and "soft" evaluation methods to e-government. He discusses hard measure likes cost-benefit analysis and e-government benchmarks (including numeric measures such as the expense-revenue ration and number of projects completed on budget) as well as scores based on services provided online, such as the presence of information about a certain topic, a link to a relevant contact, downloadable forms, or online transactions. The "soft" methods he discusses include "scoring" based on organizational objectives, fitting sites into particular stages of e-government such as those developed by Layne and Lee (2001) and using a sociological approach with opinion surveys.

Torres et al. (2005) conducted a study of 33 European cities' websites, rating them on two major dimensions: service maturity (the sophistication of the interactions citizens can have on the site) and delivery maturity (the design quality of the website). The services included were divided into seven categories: general services, education, environment—health, housing, social services, economic activities, and culture/leisure/sport.

Mahler and Regan (2006) recently investigated the governance of U.S. federal agency websites. Using content analysis (such as looking for the presence of a photo of a political figure or the presence of a news section) and interviews with appropriate agency staff, they concluded that federal website content creation in the United States is not particularly centralized and that responsibility for content resided mainly at

middle levels of the organization, in the hands of employees that are neither very high- nor low-ranking.

2.2. Websites and Special Populations

2.2.1. Women

Women are the only population in this study who are not a minority group. However, given that even in Western countries women's equality issues (like suffrage) have only been addressed in the past century or two, and that depending on the culture, women can have strikingly different health, career, and education concerns than men, it seems reasonable that many countries treat women as a "special" population.

Besides having unique information needs, women have been found to interact differently with web technology. A 2005 Pew Internet & American Life Project report (Fallows, 2005) found significant differences in the way American men and women use the internet. Women go online more than men to "send and receive email, get maps and directions, look for health and medical information, use websites to get support for health or personal problems, and get religious information" (p. ii). The study also found that women suffer from information overload more than men (p. iv) and that women are more concerned about "criminal use of the internet" (p. v). These differences may affect the way women use and react to web sites.

2.2.2. Seniors

Seniors also interact with web technology differently than people in other age groups. The Pew Internet and American Life Project (2005) found that internet users over 70 in the United States participate in a smaller set of online activities than younger people. The most common online activity is sending and receiving email (89% of users over 70), followed by getting health information (72%), getting news (68%), researching products and making travel reservations (60% each).

There are other marketing factors to be considered in designing products and services for seniors, as well. For instance, Weijters and Geuens (2006) surveyed almost 700 Belgian people over 40 and found that the labels "50+," "senior," and "retired" were considered positive labels and "third age" and "elderly" were thought of as having negative connotations. However, when some study participants were interviewed personally, regardless of how positively the respondents said they felt towards a label, they tended to dislike having the term applied to them individually.

2.2.3. Ethnic and Cultural Minorities

There appears to be less research on internet habits of and marketing for ethnic and cultural minorities than for women and seniors, probably for a combination of reasons: for instance in many cases the differences between cultural groups are less dramatic than between men and women, or between teenagers and seniors; the definition of a "minority" group changes from country to country; and of course the cultural environments of each country are different, making it difficult if not impossible to generalize results of studies between countries. Emslie, Bent, and

10

Seaman (2007) suggest reasons that the research on ethnic marketing in the United

Kingdom is limited, including "negative stereotypical images" of minorities, the

absence of ethnic minorities in marketing management, uncertainty of how to study

the minority market, and finally simply the small size of the minority population.

Emslie et al. go on to discuss some possible ways of analyzing and targeting,

the ethnic minority market, noting it is not "a single homogenous 'subculture'" and

will not benefit from a "'one size fits all' strategy." The ethnic minority population

can be analyzed in terms of acculturation with the country's mainstream culture, or by

age distribution, by geographical location, by religion, by family structures and

relations, and by consumption patterns and product usage.

2.2.4. People with Disabilities.

The literature on people with disabilities focuses more on accessibility issues

than on information-seeking behavior or marketing strategies. This is unsurprising,

as the wide range of physical and cognitive disabilities that exist create many

different social groups, communities, and perspectives among persons with

disabilities (Jaeger & Bowman, 2005). Additionally, although we talk about

"accessibility" as if it is a single dimension, it means very different things depending

on the impairment in question (Jaeger, 2006). A range of studies have demonstrated

that, in spite of laws enacted to promote e-government accessibility, the majority of e-

government sites remain inaccessible and the majority of e-government web

developers do not consider issues of accessibility in website design (Jaeger, 2006, in

press; Lazar, et al., 2003; Lazar, Dudley-Sponaugle, & Greenidge, 2004).

11

Despite these complex factors, the Pew Internet and American Life Project (Lenhart et al., 2003) reported that only 38% of Americans with disabilities use the internet, compared with 58% of all Americans in 2003. People with disabilities use email, read the news, and visit government sites as much as people without disabilities, but are less likely to buy products online and look for leisure information, and more likely to look for medical information and play games.

Knowledge of the literature on website assessment, e-government assessment, and the behaviors and preferences of special populations is necessary to create a useful framework to evaluate e-government sites for specific groups of citizens.

CHAPTER 3: METHOD AND DATA COLLECTION

3.1. Overview

To being studying the e-government services available for special populations, a framework was developed to capture a site's target audience, structure and scope (or "site type"), range of topics, and types of content. This chapter details the development of the framework, the selection of the sites, the criteria for evaluating the sites' content, and the method of analyzing the resulting data.

3.2 Framework Development

3.2.1. Content Categories and Content Types

The framework being considered needed to be able to capture the different kinds of content that could be present on a government website, regardless of the topic of the content. Ho's 1997 study identified three broad categories of "business purposes" – promotion of product and services, provision of data and information, and processing of business transactions. To better fit the e-government context of this study, the three categories were renamed. "Provision of data and information" became "educational information," "promotion of product and services" became "information about government products and services" and "processing of business transactions" was reconceptualized into "Resources," which was thought of as including items that the website user would interact with but would not necessarily be official government transactions.

Zhou (2004) used three different categories in her study of Chinese e-government sites. Within her three categories (E-Governance, E-Service, and E-Knowledge) she identified specific content types to look for on the sites. For instance, E-Governance content types included online discussion forums and chat rooms while E-Service types included searchable databases and e-filing services.

For this study, several content types were identified for each of the three content categories adapted from Ho. These types were developed after careful study of several selected sites. The "Educational information" category contained news and research (news articles, statistical publications, research reports) and other informational content (other informative articles and content). "Information about government programs and services" contained information about programs and services, or about how to apply, qualify, or access them. There were no subtypes for this content category. "Resources" included tools (forms, worksheets, evaluation tools), online government services (official government transactions), interactive "entertainment" (quizzes, e-cards, puzzles, videos), feedback or networking tools (discussion forums, polls, surveys, interactive databases), and contact information (contact forms, phone numbers, mailing addresses, email address beyond a simple website ownership email address).

3.2.2. Topics

To help identify the topics that were created for the use of each audience group, a list of topics was created, largely informed by observation of the sites that were identified for the study.

14

The "Career" topic included content about finding a job, tips on interviewing, career path advice, and job listings. The "Education" topic included information about choosing or getting into a school or class, paying for school, and reasons to go to school or to enroll in a class. The "Financial" topic included information about retirement, investment, taxes, grants, and loans. The "Health, Wellness, and Safety" topic encompassed all issues regarding physical health, mental health, fitness, nutrition, safety, diseases, disorders, and topics like domestic violence and sexual abuse. The "Housing" topic included information about finding housing and adapting living quarters for accessibility. The "Legal" topic included information about laws and regulations, as well as legal rights like employment rights and accessibility rights. The "Lifestyle" topic encompassed topics as varied as travel, transportation, and leisure activities. The "Professional" topic included all information for professionals, caregivers, employers, or other people who work with the group in question. The "Subgroup" topic included information for a specific subgroup of the audience targeted by the site (such as minority females or seniors with disabilities). The "Site/Agency" topic included information about the agency that created the site, or information about the site itself. Finally, the "Other Government Information" topic included information about other government entities.

3.2.3. Audiences

After analysis of the national portals of the six selected countries, it was decided that women, ethnic and cultural minorities, seniors, and people with disabilities were the most common and the most consistently defined special

15

population groups. Other groups, including veterans, students, children, and the

GLBT community were considered, but none of these would have provided as much

data as the four groups that were chosen, so they were not included in this preliminary

study.

3.2.4. Site Types

Agency sites and portals are well-defined and well-known in the e-

government literature. However, not all of the selected sites fell into these categories.

Since sites of different scope could well be expected to have significant differences in

the topics covered and the types of content available, three other site types were

defined, for a total of five site types.

Agency sites were defined broadly as sites belonging directly to an agency,

department, council, or other government entity, and dealing directly with that

agency's mission and operation. Portals were defined as sites for a specific group

that purported to cover a very broad range of relevant resources. National Portal

Sections were defined as sections of a national-level portal site (such as USA.gov)

that were specially identified as being for a particular audience. Subsections are

pages within a larger site that, like national portal sections, are dedicated to particular

audiences. They range in size from a single page to several subsections of their own.

Finally, Single Issue Sites are sites with their own domain name that cover a narrow

range of closely related topics, like women's health or minority-owned businesses.

3.2.5. Data Types

To capture the difference between a site having thorough article on a topic, and a site having just a link to another site with that article, three data types were recorded for each piece of content. "Site content" is information housed directly on the site being evaluated. "External links" refer to data housed on a different site, but linked to by the site being evaluated. "Other site section" refers to data stored within the same site, but in a section that is not specific to the audience in question. This data type was possible only on national portal sections and site subsections.

3.3 Countries

Websites were selected from six Anglophone countries: Australia, Canada, the Philippines, South Africa, the United Kingdom, and the United States. Besides having English-language websites, the countries were chosen to represent diverse levels of economic prosperity, levels of e-government development, and geographic locations.

Some statistics about the countries were collected from the CIA World Factbook. The population of each country was recorded; the populations ranged from 20 million to 300 million. The median age of each country's citizens (ranging from 22.7 to 39.6) was important to record since it might have an impact on the development of sites for seniors in that country. The ethnic diversity of the countries was examined to look for correlations between diversity and the number of sites for cultural and ethnic minorities. The literacy rate and number of internet users was important to look at because countries with fewer literate citizens or fewer internet

users might be less likely to invest resources into their e-government network. The countries' per capita gross domestic product (GDP) is an indicator of the size of the countries' economies.

Disability statistics and statistics on women's status are not plentiful. When reports, surveys, or census questions about disabilities are generated, they can have dramatic variation in results due to differences in the definition of a disability, data collection methods, and the designs of the studies (Mont, 2007, p. 1). However, an effort was made to obtain fairly recent statistics on the prevalence of disabilities in each country..

Statistics about the nature of the governments in question were collected from World Bank's Worldwide Governance Indicators (Kaufmann, Kraay, & Mastruzzi, 2007). The "Voice and Accountability" dimension "measures the extent to which country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media." If people are able to choose their own leaders, they may be more likely to create a responsive government that will try to provide easy access to services. "Political Stability and Absence of Violence" is defined as "the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism." If a government is trying to prevent itself from being overthrown, or otherwise distracted with violence and social upheaval, e-government services may not be one of the country's highest priorities. Finally, "Government Effectiveness" is a measure of "the quality of public services, the quality of the civil service and the degree of its independence from political

pressures, the quality of policy formation and implementation, and the credibility of the government's commitment to such policies" (p. 3). This dimension seems the most likely to have a direct effect on a country's e-government services for special populations.

3.3.1. Australia

Australia has the smallest population of the six countries, with only 20 million people, but has the third-oldest median age, 37.1 years. Ninety-two percent of the country's citizens are white and 7% are ethnically Asian. Although Australian aboriginal peoples used to make up the entire population of Australia, they are now less than 1% of the total population. The literacy rate is 99% and Australia had 15.3 million internet users in 2006. The per capita GDP is $33,300 (Central Intelligence Agency, 2007a). A 2000 survey found that 20.0% of Australians had some form of disability (Mont, 2007, p. 6). The Australian government is a federal parliamentary democracy (Central Intelligence Agency, 2007a). World Bank gives Australia a rating of 93.8 for Voice and Accountability, 76.9 for Political Stability, and 95.7 for Government Effectiveness (Kaufmann et al, 2007b). Given these statistics, one would expect Australia to have a well-developed e-government network, probably with many services for seniors. One might not expect services for ethnic or cultural minorities to be particularly well developed, with a non-white population of only 8%.

3.3.2. Canada

With a population of 33 million, Canada was the second-smallest country by population, with the highest median age – 39.1 years. The ethnic background of its population is 28% from the British Isles, 23% from France, 15% from other parts of Europe, and 2% Amerindian. English is the primary language of 59.3% of the population, 23.2% speak French, and other languages are spoken by 17.5% of Canadians. The literacy rate is 99% and there were 22 million internet users in 2005. The per capita GDP is $35,700 (Central Intelligence Agency, 2007b). A 2001 survey reported that 18.5% of Canadians have a disability (Mont, 2007, p. 6). The World Bank gives Canada a Voice and Accountability rating of 94.2, a Stability rating of 80.3, and a Government Effectiveness of 97.2 (Kaufmann et al, 2007b). With these statistics, one would expect Canada to also have a well-developed e-government with plenty of services for seniors and ethnic and cultural minorities.

3.3.3. The Philippines

By population, the Philippines were the second largest country studied, with over 90 million people. The population was the youngest studied, with a median age of only 22.7 years. The Philippines have a very diverse population many ethnic groups that speak many related but distinct dialects of Filipino (formerly Tagalog); besides Filipino itself (spoken by 28.1% of citizens), the seven other major dialects are Cebuano, Ilocano, Hiligaynon or Ilonggo, Bicol, Waray, Pampango, and Pangasinan. The literacy rate is 92.6% and there were over 4.5 million internet users in 2005. The per capita GDP is $5,000, the lowest of the six countries (Central

Intelligence Agency, 2007c). A 1995 census reported 1.3% of the population had a disability (United Nations Statistics Division, 2007). World Bank gives the Philippines a rating of 44.2 for Voice and Accountability, 11.1 for Political Stability, and 55 for Government Effectiveness (Kaufmann et al, 2007b). These factors may predict that the Philippines will have one of the least developed e-government networks, but what sites they do have for special populations will probably focus more on ethnic diversity and less on seniors.

3.3.4. South Africa

South Africa has a population of almost 44 million people, with a fairly young median age of 24.3 years. With a well-known history of racial conflict and oppression, the country's people are 79% black African and 9.6% white. The literacy rate is 86.4%, the lowest of the six countries, and there are 5.1 million internet users. The per capita GDP is $13,300, the second lowest of the countries (Central Intelligence Agency, 2007d). A 1980 survey reported that .5% of the population had a disability; this number is exceptionally low and is probably not an accurate representation of the conventional American definition of disability (United Nations Statistics Division, 2007b). World Bank gave South Africa a Voice and Accountability rating of 67.3, a Political Stability rating of 44.2, and a Government Effectiveness rating of 76.8 (Kaufmann et al, 2007b). This combination of factors may predict that South Africa has a moderately developed e-government network, with attention paid to ethnic diversity but perhaps little developed for seniors and people with disabilities.

3.3.5. The United Kingdom

The United Kingdom's population of over 60 million people is the oldest of the six countries studied, with a median age of 39.6 years. The United Kingdom's people are 92% white, 2% black, 1.8% Indian, and 1.37% Pakistani. The literacy rate is 99% and the country has 33.534 million internet users. The per capita GDP is $31,800 (Central Intelligence Agency, 2007e). A 1991 census reported that 12.2% of people in the United Kingdom had a disability (United Nations Statistics Division, 2007c). The World Bank gave the United Kingdom's constitutional monarchy (Central Intelligence Agency, 2007e) a rating of 92.8 for Voice and Accountability, a rating of 61.1 for Political Stability, and a rating of 94.8 for Government Effectiveness (Kaufmann et al, 2007b). These numbers may predict a well-developed e-government network, with many services for seniors and moderate attention paid to both ethnic diversity and people with disabilities.

3.3.6. The United States.

The United States had the largest population (over 301 million), the highest per capita GDP ($43,800), and the most internet users (208 million) of all six countries studied. The literacy rate is 99% and the median age is 36.6%. In the United States 81.7% of the population is white, 12.9%are black, 4.2% are Asian, 1% are Amerindian or Alaska Native, and .2% are Native Hawaiian or Pacific Islander. In addition, 10.7% of the population speaks Spanish (Central Intelligence Agency, 2007f). The 2000 census found that 19.4% of the population has a disability (Mont, 2007, p. 6). The World Bank gives the United States' constitution-based federal

republic (Central Intelligence Agency, 2007f) a rating of 83.7 for Voice and

Accountability, a 57.7 rating for Political Stability, and a Government Effectiveness

rating of 92.9 (Kaufmann et al, 2007b). These numbers lead one to expect a well-

developed e-government system with services for ethnic minorities, seniors, and

people with disabilities.

3.3.7. Summary

The following figures are approximate, due to rounding.

Figure 3.1 compares the population size of the six countries.

Figure 3.1 – Population
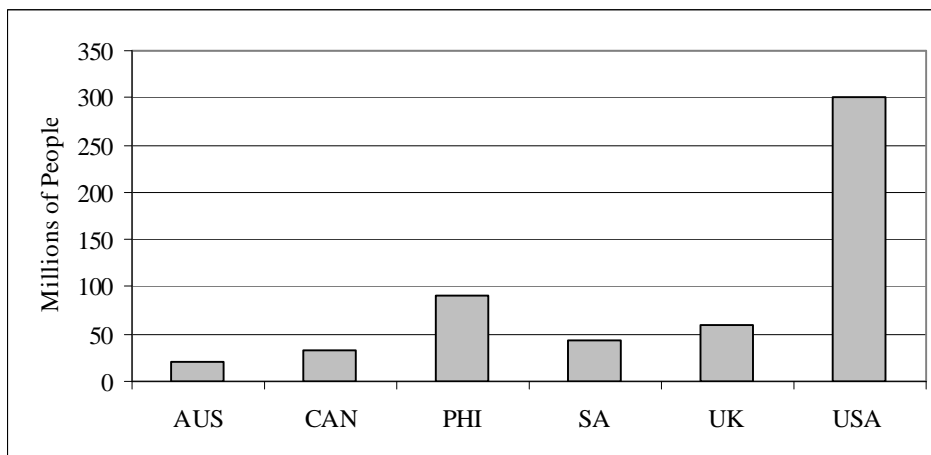
Figure 3.2 depicts the literacy rate, the percent of the population that uses the

internet, and the per capita GDP of each country.

Figure 3.2 – Literacy Rate, GDP, Internet Users
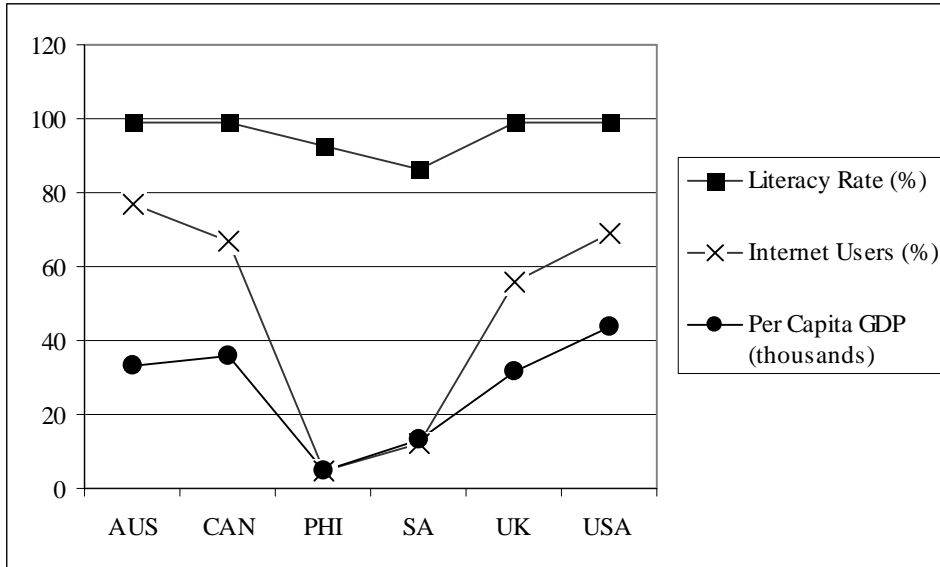
Figure 3.3 illustrates the median age and reported disability rate of each

country, along with the size of the country's largest ethnic group as a percentage of

the total population.

Figure 3.3 – Median age, disability Rate, ethnic group size
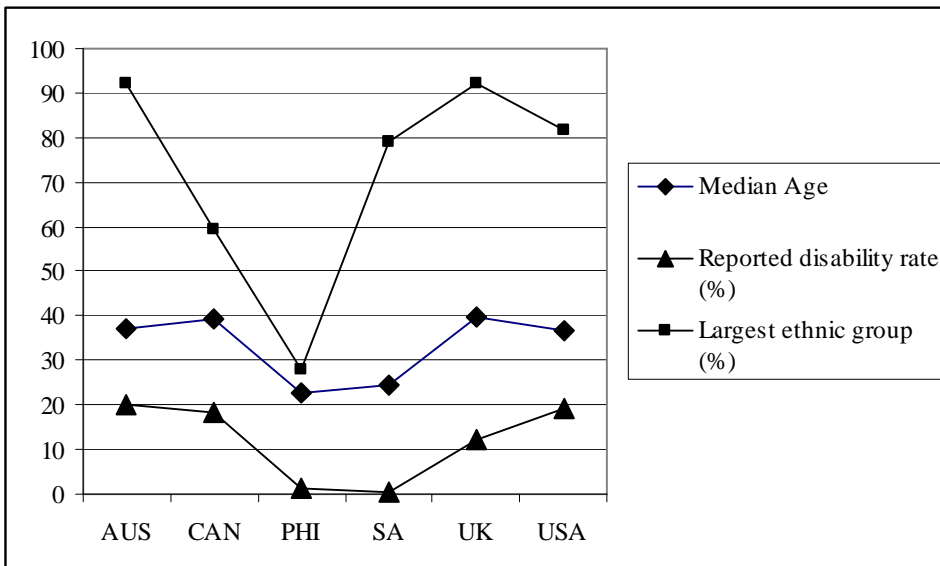
Finally, figure 3.3 compares the *Worldwide Governance Indicators* rating for each country.

Figure 3.3 – Worldwide Governance Indicators
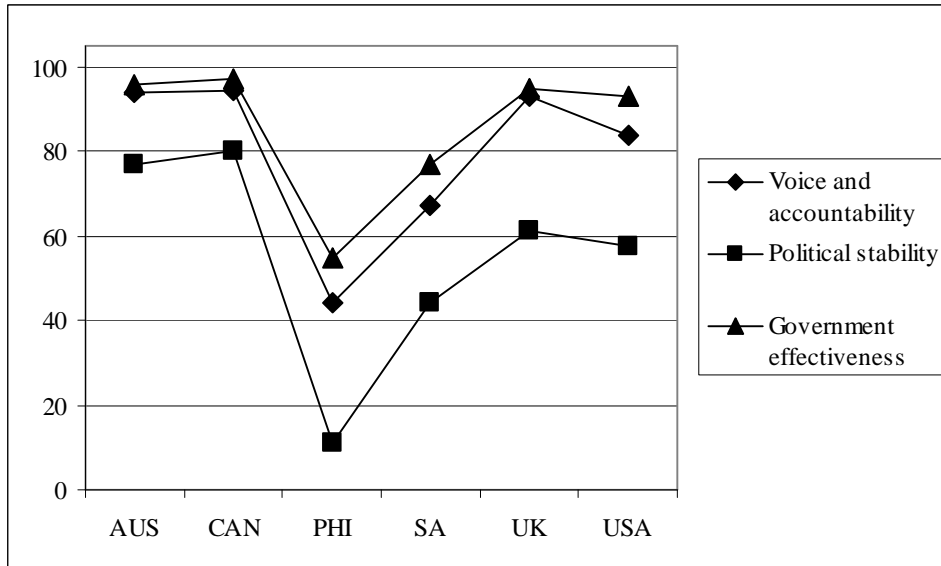
3.4 Method

3.4.1. Sites

The e-government networks of each of these six countries were searched for a representative of each of 20 possible site type/group combinations. Potential sites were assessed on site type (government entity sites, national portal sections, portals, single issue sites, and site subsections) and the target audience group (seniors, women, people with disabilities, and ethnic and cultural minorities). These five site types and four audience groups can be linked to make 20 potential combinations: portals for seniors, portals for women, single issue sites for people with disabilities, and so on.

The sites were discovered by following links on various e-government sites, as well as using the "inurl" function of Google Search to query specific government domains, specifically .gov (USA), .gov.uk (the United Kingdom), .gov.ph (the Philippines), .gov.za (South Africa), .gc.ca (Canada), and .gov.au (Australia). It was not always possible to find a representative of all 20 site type/audience combinations, since none of the countries had a site in each category. Due to the limited purposes of this study, no more than a single site per country was recorded for each site type/group combination. Although many countries had more than one site per combination, the first site that was found in each category was the one evaluated, as the first one was presumably the easiest to find and therefore the most accessible.

The search terms used to locate sites for women included woman, women, female, girl, gender, and sex. The terms used to locate sites for seniors included senior, over 50, elder, retired, and old. The terms used to search for sites for people with disabilities included disability, disabilities, disabled, handicap, impairment, impair, access, and accessibility. Finally, the terms used to find sites for ethnic and cultural minorities included minorities, minority, ethnic, race, racial, apartheid (for South Africa), indigenous, aborigine, aboriginal, black, white, and Hispanic.

Table 3.1 lists the 62 selected sites. For a more detailed listing of sites, including URLs, see Appendix A.

Table 3.1 – List of all sites used

Name of Site	Site Type	Audience
Australia		
Aged Care Australia	Single Issue Site	Seniors
Australian Institute of Aboriginal and Straight Islanders	Entity Site	Ethnic/Cult.
CRS Australia	Entity Site	Disabilities
Disability Sport	Subsection	Disabilities
Indigenous People	National Portal Section	Ethnic/Cult.

Indigenous Sport Program	Subsection	Ethnic/Cult.
JobAccess	Single Issue Site	Disabilities
Office for Women	Entity Site	Women
People with Disabilities	National Portal Section	Disabilities
Retirement Menu	Subsection	Disabilities
Seniors	National Portal Section	Seniors
Seniors.Gov.Au	Portal	Seniors
Violence Against Women: Australia Says No	Single Issue Site	Women
Women	National Portal Section	Women
Women and Sport	Subsection	Women
Women.Gov.Au	Portal	Women

Canada

Aboriginal Canada Portal	Portal	Ethnic/Cult.
Division of Aging and Seniors	Entity Site	Seniors
Indian and Northern Affairs Canada	Entity Site	Ethnic/Cult.
Integration-net.Ca	Single Issue Site	Ethnic/Cult.
Just For You: Inuit and First Nations	Subsection	Ethnic/Cult.
Just For You: People with Disabilities	Subsection	Disabilities
Just For You: Seniors	Subsection	Seniors
Just For You: Women	Subsection	Women
People With Disabilities	National Portal Section	Disabilities
People With Disabilities Online	Portal	Disabilities
Seniors	National Portal Section	Seniors
Seniors Canada On-Line	Portal	Seniors
Services for Aboriginal Peoples	National Portal Section	Ethnic/Cult.
Status of Women Canada	Entity Site	Women

The Philippines

National Commission on Indigenous Peoples	Entity Site	Ethnic/Cult.
National Commission on the Role of Filipino Women	Entity Site	Women
National Council for the Welfare of Disabled Persons	Entity Site	Disabilities

South Africa

Know Your Rights – Women's Rights	Subsection	Women
Living with a Disability	National Portal Section	Disabilities
Maternal, Child & Women's Health and Nutrition	Entity Site	Women
Retirement and Old Age	National Portal Section	Seniors

United Kingdom

Commission for Racial Equality	Entity Site	Ethnic/Cult.
Disabled People	National Portal Section	Disabilities
Disabled People and Carers	Subsection	Disabilities
Ethnic Minority Achievement	Subsection	Ethnic/Cult.
Female Prisoners	Subsection	Women
MinorityHealth	Single Issue Site	Ethnic/Cult.
Office for Disability Issues	Entity Site	Disabilities
Older People's Services	Subsection	Seniors
Over 50's	National Portal Section	Seniors
Royal Commission on Long Term Care for the Elderly	Entity Site	Seniors
Women and Equality Unit	Entity Site	Women

United States

Accessibility – Equal Access to Transportation	Subsection	Disabilities
Administration on Aging	Entity Site	Seniors
Aging	Subsection	Seniors

Asian American Health	Single Issue Site	Ethnic/Cult.
Center for Women Veterans	Subsection	Women
Disability Preparedness	Single Issue Site	Disabilities
DisabilityInfo.Gov	Portal	Disabilities
Girl Power!	Single Issue Site	Women
Minority Business Development Agency	Entity Site	Ethnic/Cult.
NIH Senior Health.Gov	Single Issue Site	Seniors
Office on Women's Health	Entity Site	Women
Peace Corps: People of Color	Subsection	Ethnic/Cult.
Senior Citizen Resources	National Portal Section	Seniors

In all, there were 17 entity sites, 12 national portal sections, 7 comprehensive portals, nine single issue sites, and 17 subsections. There were 16 sites each for ethnic and cultural minorities and seniors and 15 sites each for people with disabilities and women. There were 17 sites from Australia, 14 from Canada, three from the Philippines, four from South Africa, 11 from the United Kingdom, and 13 from the United States. These breakdowns are discussed further in Chapter Four.

3.4.2. Apparatus

The sites were assessed between September 12, 2007, and October 5, 2007. Information about each site was recorded on a form (Appendix C). Once this information was recorded for all sites, it was entered into a database created with Microsoft Access 2003. The database contained nine tables, outlined in Table 3.2.

Table 3.2 – Database Structure

Table Name	Fields (* = Primary Key)	Description
AudienceTable	*AudienceID	Numeric ID
	Audience	Text; name of audience group
ContentCategoryTable	*ContentCategoryID	Numeric ID, joined to ContentTypeID
	Content Category	Text, name of content category
ContentTypeTable	*ContentTypeID	Numeric ID
	ContentType	Text; description of content type
CountryTable	*CountryID	Numeric ID
	Country	Text; name of country
DataTypeTable	*DataTypeID	Numeric ID
	DataType	Text; description of data type
SiteTable	*SiteID	Numeric ID

28

	SiteName	Text; name of the site
	SiteOwner	Text; agency publishing site
	SiteCountry	Numeric ID, joined to CountryTable.CountryID
	SiteType	Numeric ID, joined to SiteType.SiteTypeID
	SiteAudience	Numeric ID, joined to
AudienceTable.AudienceID		
	Notes	Text field; comments on sites
	SiteSize	Numeric ID, joined to SizeTable.SizeID
	URl	Text field; URL of site
SiteType	*SiteTypeID	Numeric ID
	SiteType	Text; describes type of site
SizeTable	*SizeID	Numeric ID
	SizeSite	Text, describes size of site
SubjectTable	*Subject ID	Numeric ID
	Subject	Text, describes topics
SiteSubjectContentInfoTable		
	*SiteID	Numeric ID, joined to SiteTable.SiteID
	*SubjectID	Numeric ID, joined to SubjectTable.SubjectID
	*ContentID	Numeric ID, joined to
ContentTypeTable.ContentTypeID		
	*InfoType	Numeric ID, joined to
DataTypeTable.DataTypeID		

The database is further described in Figure 3.4, which shows that each Site

belongs to a Country, and is for an Audience Group. Each Site also has two

attributes, Site Type and Site Size. Each Site contains multiple Content Items, which

each have a Topic, Data Type, and Content Type. Each Content Type, in turn,

belongs to a Content Category.

Figure 3.4 – Entity Relationship Model
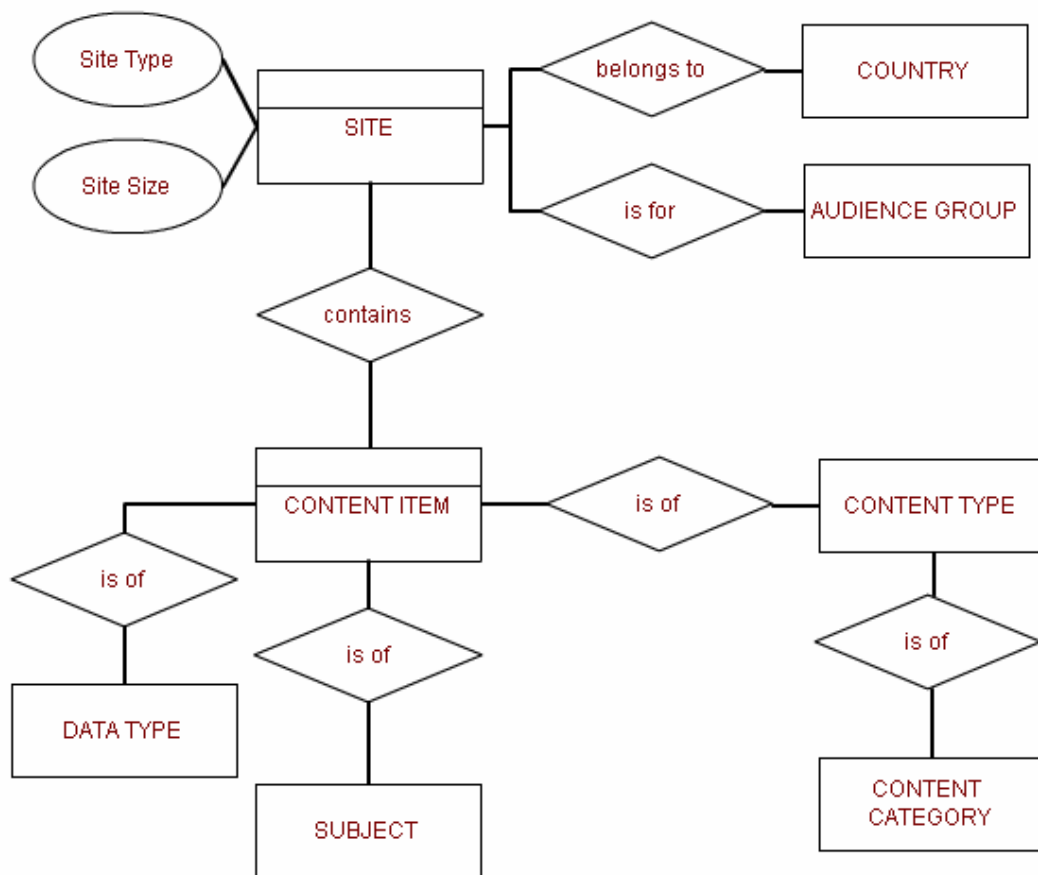
3.4.3. Procedure

Once an appropriate site was identified, information about the site was recorded on a form, including basic details about the site as well as a matrix that captured three dimensions of content, as described at the beginning of the chapter: the topic (such as health or financial information), the nature of the information (such as contact information, or information about government services), and the type of data (such as external links).

3.4.4. Queries

The queries in Appendix B were run in Microsoft Access to capture the data for analysis in Chapter 5.

The data collected in chapter 3, including site type, content type, topics, and data type, will provide a rich context for analysis of the state of e-government services for specific audiences in chapter 4.

CHAPTER 4: RESEARCH

Given the limited sample size, advanced statistical analysis would not have been productive and was not conducted. Additionally, the search method and assessment were both limited by have been conducted by a single person. The following results are presented only to illustrate that the proposed framework does work and, when used appropriately in the context of a study with broader data collection, can produce meaningful results.

4.1 Countries

4.1.1. Sites found by country

Each country could have had a total of 20 sites evaluated for this study – one site from each combination created by the four audiences and five site types (see Figure 4.1). While attempts were made following the method detailed above to identify one of each of the sites for each country, certain sites by audience and/or type were not located using the search method. While such sites may possibly exist and might have been identified by other means, within the context of this study, no country had all 20 sites identified. Australia had the most sites evaluated, 17. Canada had 14 sites, and the United States had 13 sites. Eleven British sites were found, along with four South African sites and three sites from the Philippines.

Figure 4.1 – Sites Found by Country, Percentage of Total Possible Sites
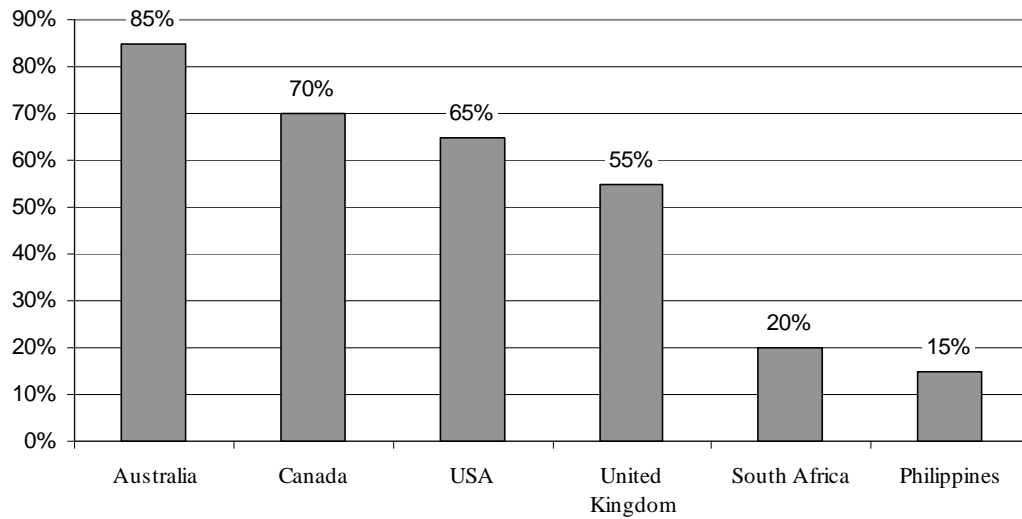
4.2. Audiences

4.2.1. Sites by Audience

The sites were fairly evenly distributed among audiences. Sixteen sites each were evaluated for ethnic and cultural minorities and seniors. Fifteen sites for women and for people with disabilities were evaluated. See Figure 4.2.

Figure 4.2 – Sites Found By Audience, Percentage of Total Possible Sites
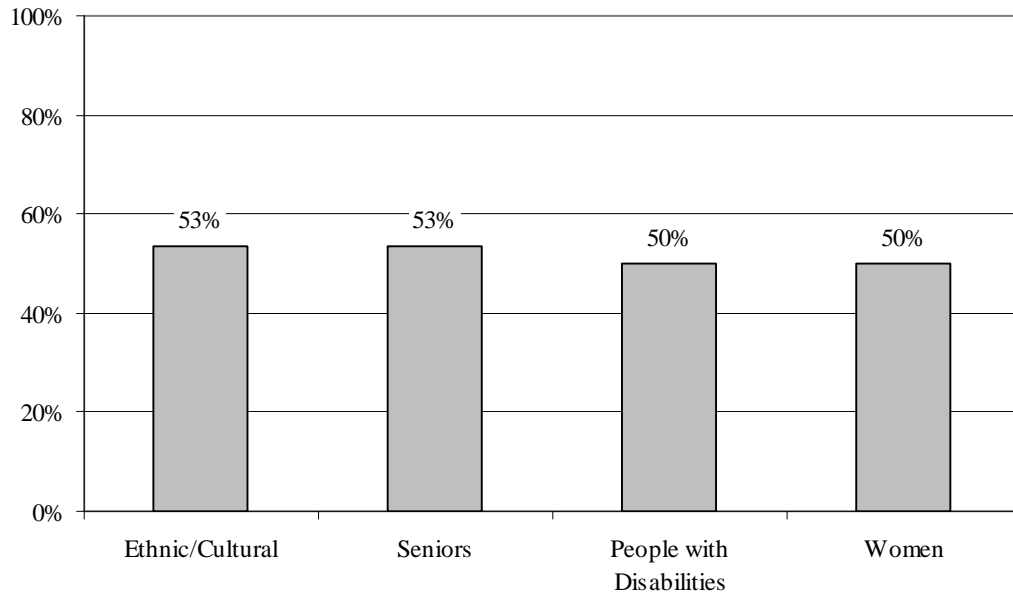
4.2.2. Audiences by Country

Australia, Canada, the United Kingdom, and the United States had sites for all four of the audiences studied. The Philippines and South Africa each had sites for three of the audiences. The study did not identify site for seniors in the Philippines or a site for ethnic or cultural minorities in South Africa. Within a country, however, the number of site types found for each audience varied little. Canada was the only country with much variation, with five site types found for ethnic and cultural minorities and only two site types for women. See Figure 4.3.

Figure 4.3 – Audience by Country

	AUS	CAN	PHI	SA	UK	USA
■ Ethnic/Cultural	4	5	1		3	3
◨ People with Disabilities	4	3	1	1	3	3
▨ Seniors	4	4		1	3	4
◪ Women	5	2	1	2	2	3
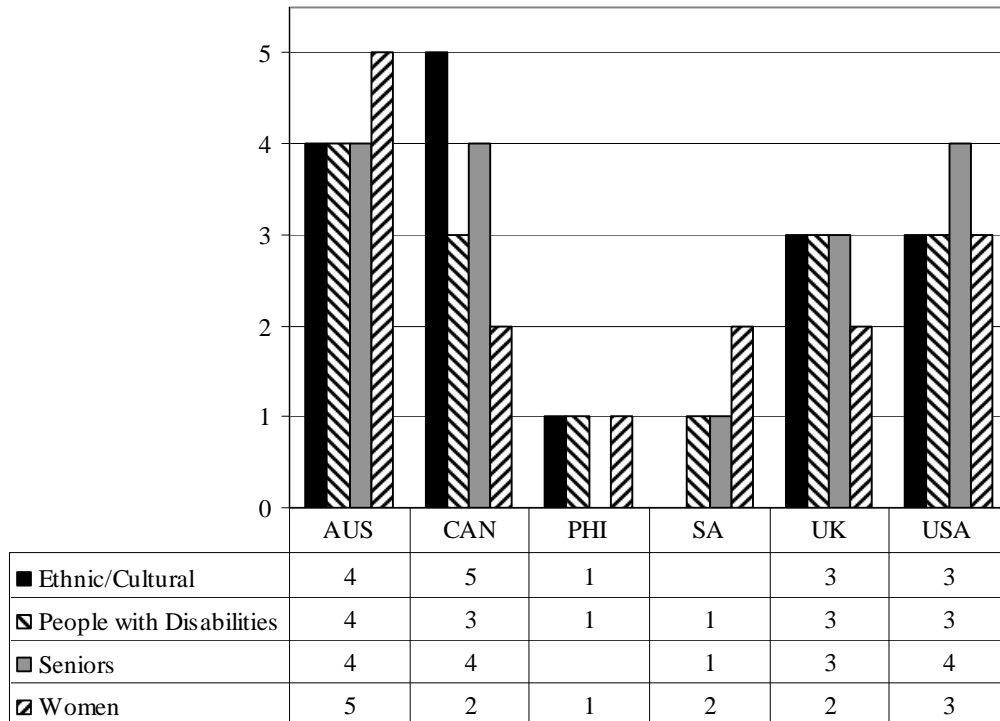
4.3. Site Types

4.3.1. Sites by Site Type

An equal number (17) of agency/department sites and subsections were evaluated. There were 12 national portal sections, nine single issue sites, and seven portal sites, as illustrated in Figure 4.4.

Figure 4.4 – Sites Found By Type, as a Percentage of Total Possible Sites
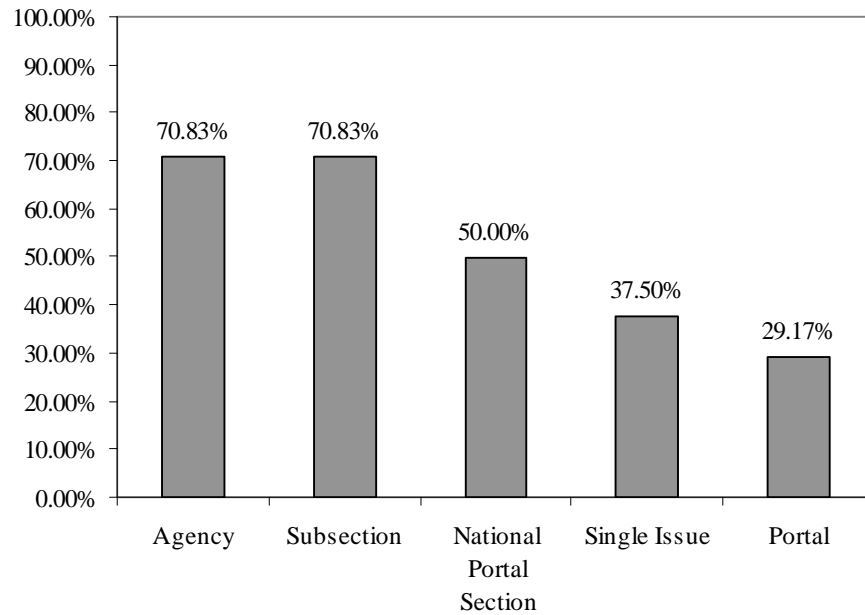
Figure 4.5 shows the distribution of sites assessed in this study, by site type.

Figure 4.5 – Distribution of Site Types
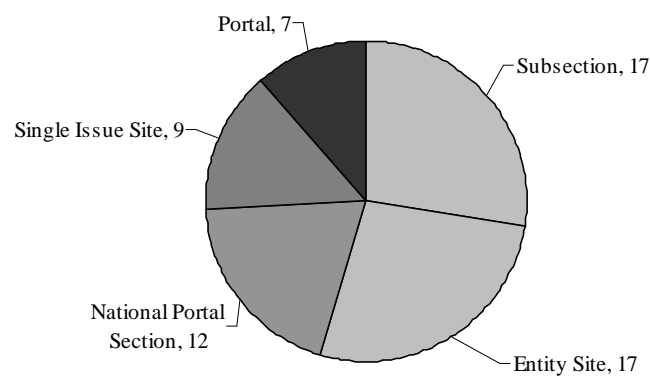
4.3.2. Site Types by Country

Using this method, Australia, Canada, and the United States had sites in all five site type categories, as illustrated in Figure 4.6. The United Kingdom had sites of all types, except for portals. South Africa had at least one representative site for each of the agency, national portal section, and subsection categories. The Philippines only had agency sites.

Within the sites identified, the site types that served the most audiences varied by country. The United States had single issue sites and subsection sites for all four audiences. The United Kingdom had agency sites and subsections for all four audiences. Canada had one more subsection (four) than agency sites, national portal sections, portals (three each) but only one single issue site. Australia had all possible national portal sections and subsections, and three each of agency sites, portals, and single issue sites. South Africa had no portals or single issue sites; only two audiences were represented with national portal sections, and only one audience each with an agency site and subsection.

Figure 4.6 – Site Type by Country

	AUS	CAN	PHI	SA	UK	USA
■ Agency	3	3	3	1	4	3
◩ National Portal Section	4	3		2	2	1
▣ Portal	3	3				1
▨ Single Issue	3	1			1	4
▢ Subsection	4	4		1	4	4
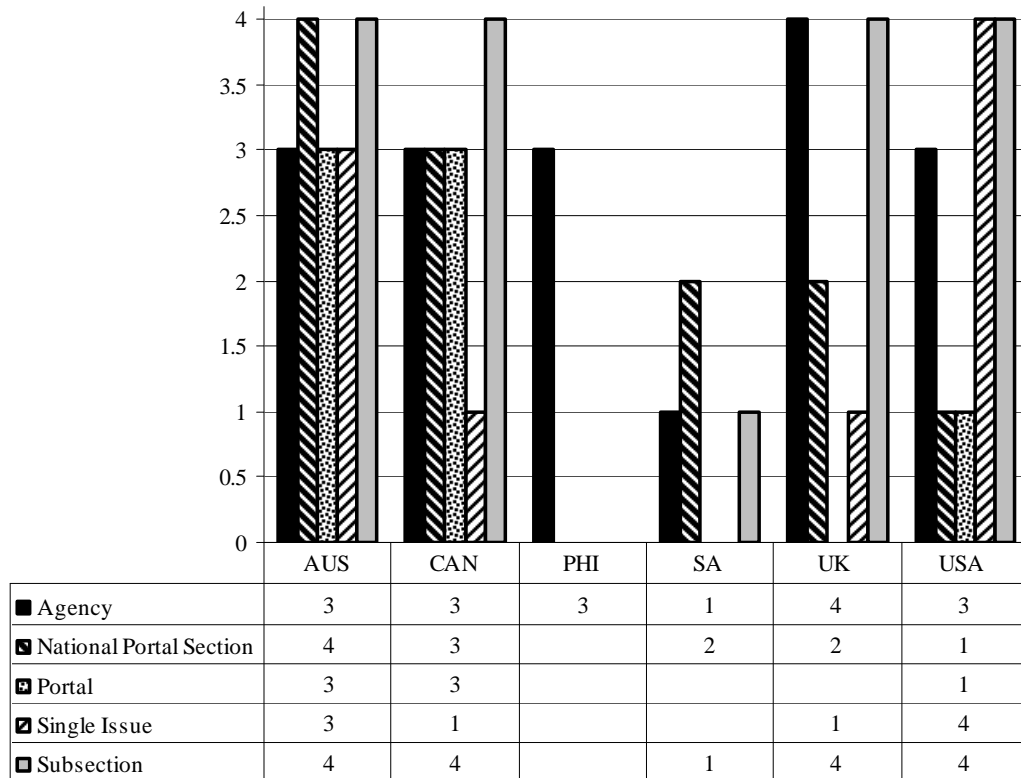
4.3.3. Site Types by Audience

Agency sites were the most common site types for women and ethnic and cultural minorities among the sites identified. National portal sections were most common for seniors, and along with subsections were the most common site types for people with disabilities. Single issue sites were among the least common for every audience. Over all, subsections were the most consistently represented, with four or five representatives for each audience.

Two patterns emerged from this sample set. The first, a pattern of site types from most to least common, of agency sites, subsections, single issue sites, portals,

38

and national portal section, occurs for the ethnic and cultural minority sites as well as for sites for women. The second, again of most to least common, of national portal sections, subsections, agency sites, and equal numbers of portals and single issue sites, occurs in sites for seniors and people with disabilities. See Figure 4.7.

Figure 4.7 – Site Type by Audience

	Ethnic and Cultural Minorities	People with Disabilities	Seniors	Women
■ Agency	5	3	3	6
⊠ National Portal Section	2	4	5	1
▤ Portal	2	2	2	1
▨ Single Issue	3	2	2	2
▦ Subsection	4	4	4	5
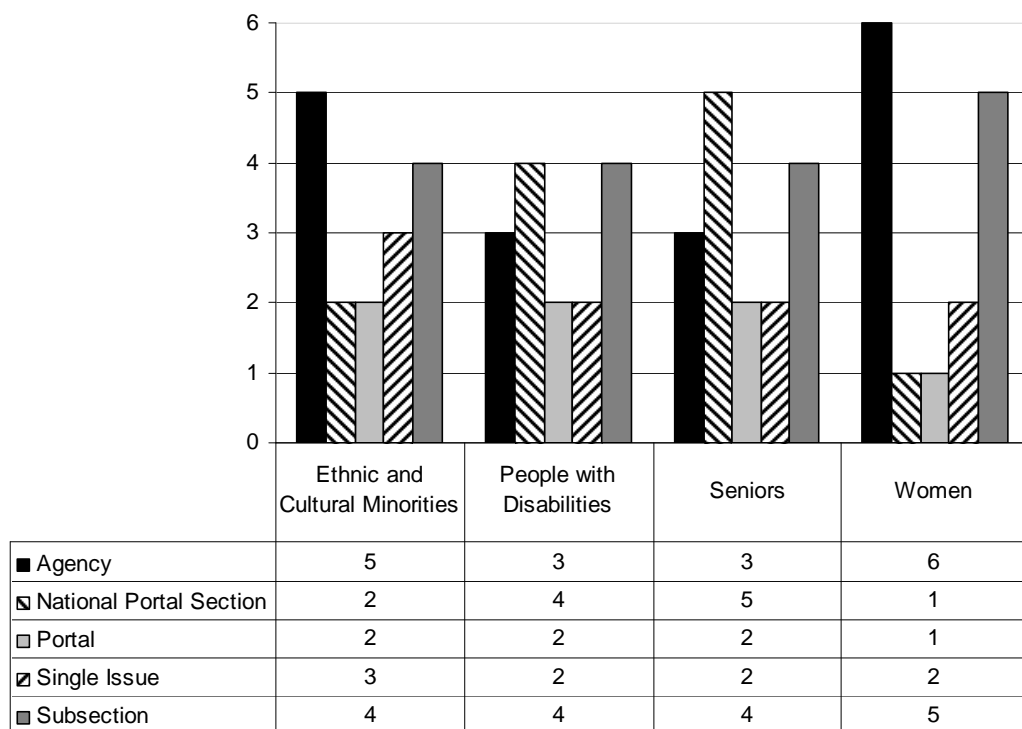
4.4 Site Size

4.4.1. Sites by Site Size

Of the 63 sites evaluated, 29 had multiple sections, 21 had multiple pages, and 12 had only one page, as illustrated by Figure 4.8.

39

Figure 4.8 – Site Size
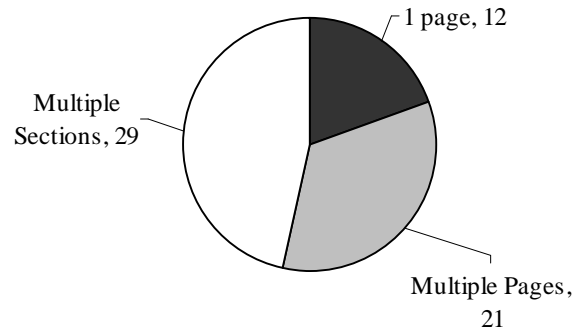
4.4.2. Site Size by Country

Australia, the United States, and Canada have more multiple-section sites than either multiple-page or single-page sites. The United Kingdom had an equal number of multiple-section and multiple-page sites, with just one single-page site. The Philippines had two multiple-section sites and one multiple-page site, with no single-page site found. South Africa had smaller sites – three multiple-page sites and one single-page site. See Table 4.1.

Table 4.1 – Site Size by Country

Site Size	AUS	CAN	PHI	SA	UK	USA
One Page	4	4	0	1	1	2
Multiple Pages	5	3	1	3	5	4
Mult. Sections	8	7	2	0	5	7

4.4.3. Site Size by Audience

In general, more multiple-section sites were evaluated for each audience (see Table 4.2), with the exception of sites for people with disabilities, where the same number (six) of multiple-page and multiple-section sites were found. For each other audience, the fewest sites were single-issue sites, with the exception of sites for women, which had an equal number (four) of single-page and multiple-page sites. The largest variation was among sites for ethnic and cultural minorities, which had only two single-page sites but nine multiple-section sites.

Table 4.2 – Site Size by Audience

Content Type	Ethnic/Cultural	People with Disabilities	Seniors	Women
Single Page	2	3	3	4
Multiple Pages	5	6	6	4
Multiple Sections	9	6	7	7

4.4.4. Site Size by Site Type.

Single issue sites tended to be the largest; all of them had multiple sections (see Table 4.3). Subsections were the smallest: 47% of them had only one page, and the remaining sites had multiple pages. Agency sites were primarily multiple-section sites (70%) and the rest (29%) were multiple-page sites. National portal sections were the most varied in size, with 45% of them having multiple pages, 36% having just one page, and 18% having multiple sections.

Table 4.3 – Site Size by Site Type

Site Type	One Page	Multiple Pages	Multiple Sections
Agency	0%	29.41%	70.59%
National Portal Section	36.36%	45.45%	18.18%
Portal	0%	14.29%	85.71%

Single Issue	0%	0%	100%
Subsection	47.06%	52.94%	0%

4.5. Topics

4.5.1. Sites by Topic

Health was the most common topic among the evaluated sites, followed by site/agency information. Legal, lifestyle, career, and information for professionals were also common. Information for subgroups, housing, and education were on the fewest sites. See Table 4.4 and Figure 4.9.

Table 4.4 – Topics

Topics	Number of Sites	Percentage of Sites
Career	30	47.62%
Education	21	33.33%
Financial	25	39.68%
Health	49	77.78%
Housing	18	28.57%
Legal	35	55.56%
Lifestyle	35	55.56%
Other Gov't	28	44.44%
Professional	29	46.03%
Site/Agency	45	71.43%
Subgroup	15	23.81%

Figure 4.9 – Topics
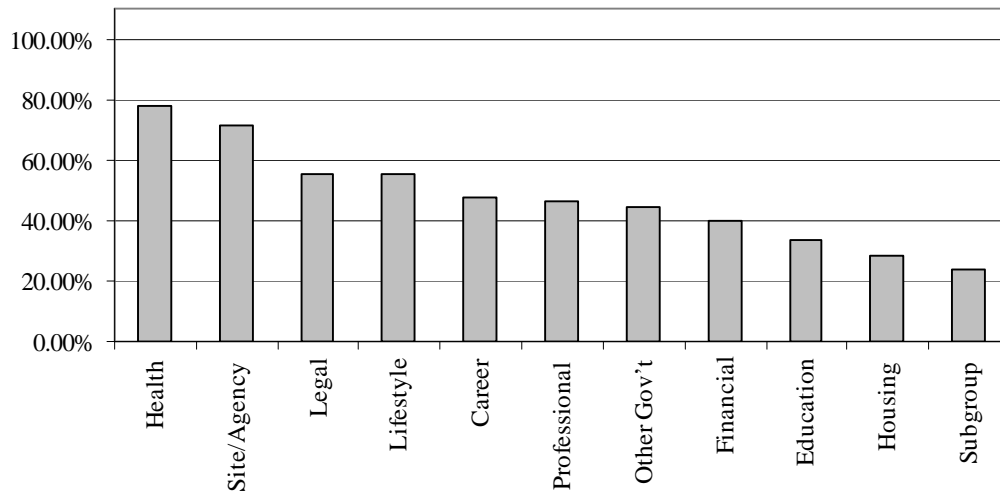
4.5.2. Topics by Country

On Australian sites, information on the topics of health and safety, other
government entities, site/agency, career, legal, and lifestyle were found on over 50%
of sites. Canadian sites housed the greatest variety of topics, with all topics appearing
on over 50% of sites. In the Philippines, legal and lifestyle information, along with
other government entities and site/agency information were present on each site,
followed by health and safety information, which was on two of the three sites.
Health information and site information were present on half of the South African
sites. Among United Kingdom sites, health information was present on 72% of sites,
followed by legal, lifestyle, and site/agency information, and information for
professionals. The United States had more specialized sites, with few topics
appearing on more than half the sites, although 84% had information about the

43

owning agency or site. Health information was on 69% of the US sites, and

information for professionals was on 84% of the US sites.

Of all countries, Canada had the highest percentage of sites with seven topics:

career, education, financial, health, and housing information, as well as information

for professionals and subgroups. Aside from the Philippines and South Africa, which

both had very few sample sites, the United States had many of the lowest percentages

by topic, including career, financial, health, housing and legal information. See Table

4.5.

Table 4.5 – Topics by Country

Topics	AUS	CAN	PHI	SA	UK	USA
Career	58.82%	71.43%	33.33%	0%	45.45%	30.77%
Education	23.53%	64.29%	33.33%	0%	36.36%	23.08%
Financial	35.29%	71.43%	0%	25%	36.36%	30.77%
Health	82.35%	100%	66.67%	50%	72.73%	69.23%
Housing	5.88%	64.29%	0%	0%	36.36%	30.77%
Legal	58.82%	71.43%	100%	25%	63.64%	30.77%
Lifestyle	58.82%	71.43%	100%	0%	63.64%	38.46%
Other Gov't	76.47%	64.29%	100%	0%	9.09%	15.38%
Professional	41.18%	57.14%	33.33%	0%	54.55%	53.85%
Site/Agency	70.59%	71.43%	100%	50%	63.64%	84.62%
Subgroup	11.76%	57.14%	0%	0%	27.27%	15.38%

4.5.3. Topics by Audience

Health and safety information was present on the most sites for seniors and

women (14 sites each), and was the second-most represented topic for ethnic and

cultural minorities, after site/agency information (see Table 4.6). For people with

disabilities, health and safety, lifestyle, and site/agency information were present on

the most sites.

Career information was on the most sites for ethnic and cultural minorities and

people with disabilities. Education was on the most sites for ethnic and cultural

44

minorities. Financial information was on the most sites for ethnic and cultural minorities, and seniors. Health and safety was on the most sites for women. Housing was on the most sites for seniors. Legal information was on the most sites for people with disabilities. Information for professionals was on the most sites for people with disabilities and seniors.

Table 4.6 – Topics by Audience

Topic	Ethnic/Cultural	People with Disabilities	Seniors	Women
Career	9	9	7	5
Education	9	4	5	3
Financial	8	6	8	3
Health	10	11	14	14
Housing	5	4	8	1
Legal	8	11	9	9
Lifestyle	8	11	9	7
Other Gov't	6	9	5	8
Professional	6	9	9	5
Site/Agency	13	11	9	12
Subgroup	4	4	3	4

4.5.4. Topics by Site Type

The most common topics represented on agency sites were agency information (100%) and health and safety (82%). The most common topics for national portal sections were health and safety (91%), career (75%), and legal (75%). All portals had career information, legal information, and information about other government divisions. All single issue sites had agency information and most (88%) had information about health and safety. Subsections had the most varied content, with 58% providing health information, 47% providing site/agency information, and 41% providing lifestyle information.

By topic, career information, education, housing information, information about other government entities, and information for professionals were all most

common on portals and least common on subsections. Financial, lifestyle and legal

information were all most common on portals and least common on single-issue sites.

Health information was most common on national portal sections (91%) and least

common on subsections (58%).   Site/agency information was most common on

agency sites, portals, and single issue sites (100% each) and least common on

national portal sections (33%). Information for subgroups was most common on

portals (85%) and least common on national portal sections (8%). See Table 4.7.

Table 4.7 – Topics by Site Type

Topic	Agency	National Portal	Portal	Single Issue	Subsection
Career	58.82%	75%	100%	22.22%	11.76%
Education	35.29%	58.33%	71.43%	22.22%	5.88%
Financial	29.41%	75%	100%	11.11%	17.65%
Health	82.35%	91.67%	85.71%	88.89%	58.82%
Housing	29.41%	50%	71.43%	11.11%	5.88%
Legal	58.82%	75%	100%	33.33%	35.29%
Lifestyle	64.71%	66.67%	85.71%	33.33%	41.18%
Other Gov't	47.06%	41.67%	100%	33.33%	29.41%
Professional	35.29%	66.67%	71.43%	55.56%	29.41%
Site/Agency	100%	33.33%	100%	100%	47.06%
Subgroup	11.76%	8.33%	85.71%	11.11%	29.41%

4.5.5. Topics by Site Size

Most topics did not vary much by site size: most high and low scores were

within 30% of each other. The topics showing greater variation were career (a low of

28% on multiple-page sites and a high of 68% on multiple-section sites), education

(8% on single-page sites to 51% on multiple-section sites), housing (8% on single

page sites to 41% on multiple-section sites) and site/agency information (16% on

single page sites to 96% on multiple-section sites. See Table 4.8.

Table 4.8 – Topics by Site Size

Topic	One Page	Multiple Pages	Multiple Sections
Career	33.33%	28.57%	68.97%
Education	8.33%	23.81%	51.72%
Financial	25%	38.10%	48.28%
Health and Safety	83.33%	61.90%	89.66%
Housing	8.33%	23.81%	41.38%
Legal	50%	42.86%	68.97%
Lifestyle	41.67%	47.62%	68.97%
Other Government Info	50%	33.33%	51.72%
Professional	50%	28.57%	58.62%
Site/Agency Info	16.67%	71.43%	96.55%
Subgroup	33.33%	14.29%	27.59%

4.6. Content Categories and Content Types

4.6.1. Sites by Content Categories

Almost all sites (96%) contained educational content. Resources were included on 74% of sites and information about government services was available on 61% of sites. See Table 4.9 and Figure 4.10.

Table 4.9 – Content Categories

Category	Number of Sites	Percentage of Sites
Educational	60	96.77%
Resources	46	74.19%
Service Information	38	61.29%

47

Figure 4.10 – Content Categories
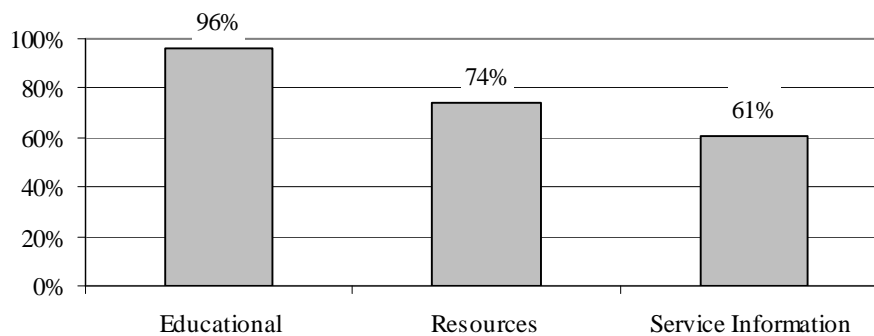
4.6.2. Sites by Content Types

General informational content was on the most sites (93%), followed distantly
by information about programs and services, contact information, and news and
research (61% each), tools (40%), feedback and knowledge sharing (24%), online
services and entertainment resources (19% each), and email/RSS products (4%). See
Table 4.10.

Table 4.10 – Content Types

Content Type	Number of Sites	Percent of Sites
News and Research	34	61.29%
General Informational	58	93.55%
Programs & Services	38	61.29%
Contact	38	61.29%
Email/RSS	3	4.84%
Entertainment	12	19.35%
Feedback/Sharing	15	24.19%
Online Services	12	19.35%
Tools	25	40.32%

4.6.3. Content Categories by Country

The three content categories were represented differently by the countries.

Canada and the United States had all three categories represented on 70% or more of

their sites. Australia had educational content on all its sites, and resources on 82% of

sites, but information about government services on less than half. The Philippines

had educational content and resources on all its sites, but information about

government services on only two of the three sites. Educational content was on all

British sites, but government service information and resources were found on just

over half of the British sites. South Africa had educational content on 75% of its

sites, resources on half, and information on government services on 25%. See Figure

4.11.

Figure 4.11 – Content Categories by Country

	Australia	Canada	Philippines	South Africa	United Kingdom	USA
■ Educational	100.00%	92.86%	100.00%	75.00%	100.00%	100.00%
□ Gov't Programs and Services	82.35%	71.43%	100.00%	50.00%	54.55%	84.62%
■ Resources	47.06%	78.57%	66.67%	25.00%	54.55%	76.92%
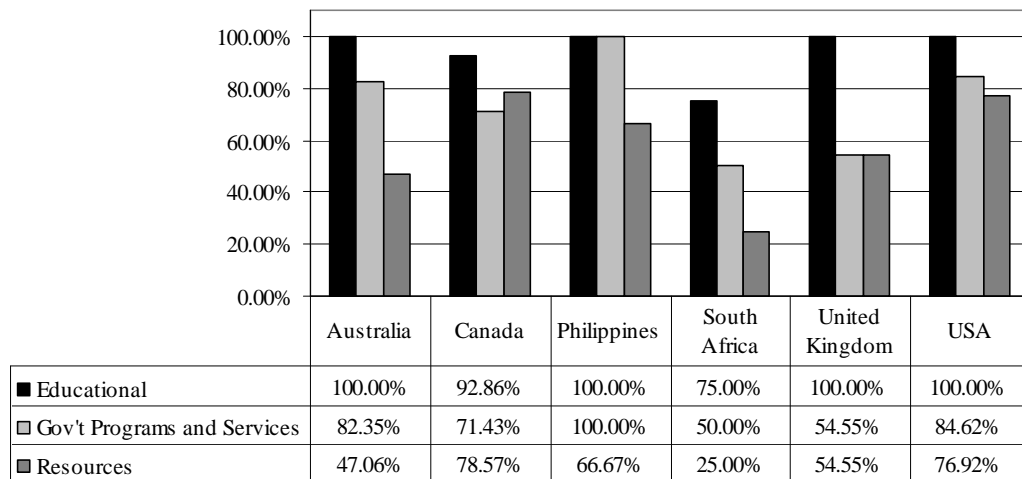
4.6.4. Content Types by Country

Informational content was the most consistently represented content type,

appearing on 75% or more of each country's sites. News and Research was well

represented in some countries (the Philippines, the United Kingdom, and the United

States), but less so in others (Australia and South Africa). Email and RSS products

49

were present in fewer than 10% of each country's sites. Contact information was

provided by a majority of sites in each country except the Philippines and South

Africa. "Entertainment" items were found in around a quarter of sites from Australia,

South Africa, and the United States, and to some extent in the United Kingdom and

Canada. Feedback and knowledge sharing resources were found on more Canadian

sites (42.86%) than any other country's sites. See Table 4.11.

Table 4.11 – Content Types by Country

Content Type	AUS	CAN	PHI	SA	UK	USA
News and Research	35.29%	57.14%	100%	0%	72.73%%	71.43%
General Informational	94.12%	92.86%	100%	75%	100%	92.86%
Programs & Services	47.06%	78.57%	66.67%	25%	54.55%	78.57%
Contact	64.71%	57.14%	33.33%	50%	54.55%	78.57%
Email/RSS	5.88%	7.14%	0%	0%	9.09%	7.145%
Entertainment	23.53%	14.29%	0%	25%	9.09%	28.57%
Feedback/Sharing	23.53%	42.86%	0%	0%	18.18%	28.57%
Online Services	23.53%	28.57%	0%	0%	18.18%	14.29%
Tools	41.18%	35.71%	66.67%	50%	36.36%	42.86%

4.6.5. Content Category by Audience

Educational information was present on the most sites (see Figure 4.12),

100% of sites for women and people with disabilities and 93% of sites for seniors and

ethnic and cultural minorities. Resources were next most common on sites for people

with disabilities (86%) and women (80%). There were an equal number of sites for

seniors with resources and information about services (68%), and the two categories

were also close for ethnic and cultural minority sites (62% for resources and 68% for

information about services). Notably fewer sites for women had information about

government services – only 40%.

Figure 4.12 – Content Category by Audience

	Ethnic and Cultural Minorities	People with Disabilities	Seniors	Women
■ Educational	93.75%	100.00%	93.75%	100.00%
□ Resources	62.50%	86.67%	68.75%	80.00%
■ Service info	68.75%	66.67%	68.75%	40.00%
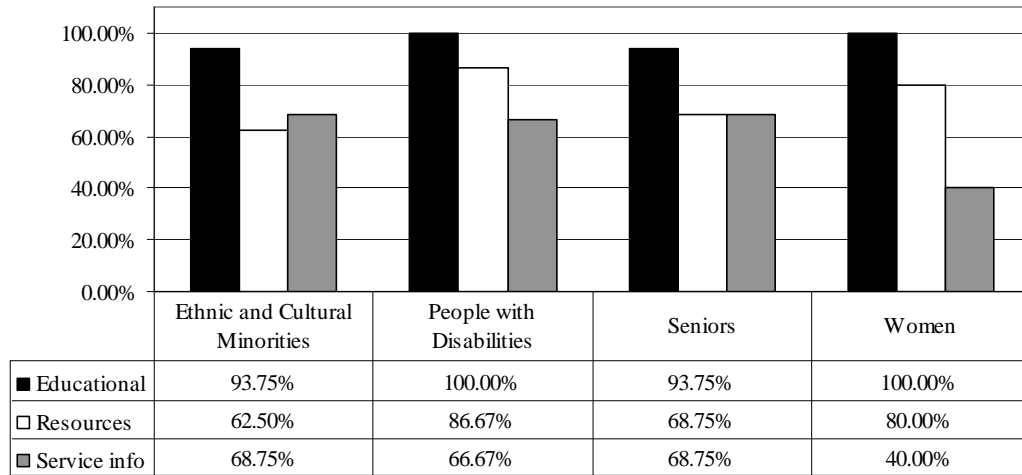
4.6.6. Content Type by Audience

There was wide variation in content types, as shown in Table 4.12. News and research was most common on sites for ethnic and cultural minorities (75%) and least common on sites for people with disabilities. General informational content was on over 80% of sites for all audiences, but was on all sites for women and for people with disabilities. Information about programs and services was on around two-thirds of most audiences' sites, but only on 40% of sites for women. The presence of contact information ranged from 50% to 73% of all sites, lowest for seniors and highest for women. Email and RSS products were not very common; there were no such offerings on sites for people with disabilities or women, and they were only on 6% of sites for ethnic and cultural minorities, and 12% of sites for seniors. Entertaining content was also highest for seniors (31%). Feedback and knowledge sharing resources were on 31% of sites for ethnic and cultural minorities, 26% of sites for women, 25% of sites for seniors, and only 13% of sites for people with

51

disabilities. Online services were available on about a quarter of sites for people with disabilities and seniors, 18% of sites for ethnic and cultural minorities, and only 6% of sites for women. Finally, tools were present on 53% of sites for people with disabilities, followed by 43% of sites for seniors, 37% of sites for ethnic and cultural minorities, and 26% of sites for women. See Figure 4.13 for a comparison of selected results.

Table 4.12 – Content Type by Audience

Content Type	Ethnic/Cultural	People with Disabilities	Seniors	Women
News and Research	75%	33.33%	50%	60%
General Informational	81.25%	100%	93.75%	100%
Programs & Services	68.75%	66.67%	68.75%	40%
Contact	56.25%	66.67%	50%	73.33%
Email/RSS	6.25	0%	12.50%	0%
Entertainment	18.75%	13.33%	31.25%	13.33%
Feedback/Sharing	31.25%	13.33%	25%	26.67%
Online Services	18.75%	26.67%	25%	6.67%
Tools	37.50%	53.33%	43.75%	26.67%

Figure 4.13 – Content Type by Audience, Selected Results

52
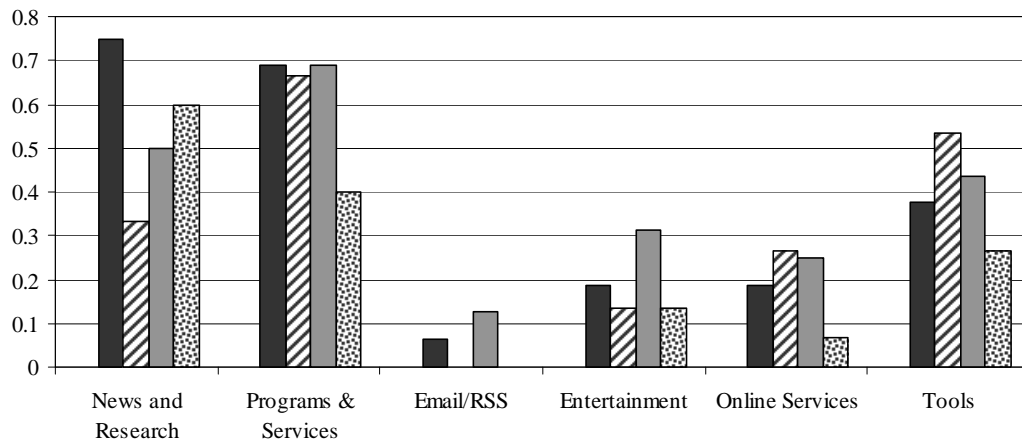
4.6.7. Content Category by Site Type

Educational information was on all sites of every type except for national

portal sections, of which 83% had educational information, and single issue sites,

90% of which had educational information. Resources were on all portals and most

agency sites (94%) and single issue sites (90%), and two-thirds of national portal

sections, but only 35% of subsections. Information about services was on 70% of

agency sites, 71% of portals, 66% of national portal sections, 58% of subsections, and

30% of single issue sites (see Figure 4.14).

Figure 4.14 – Content Categories by Site Type

	Agency/Department Site	National Portal Section	Portal	Single Issue Site	Subsection
■ Educational	100.00%	83.33%	100.00%	90.00%	100.00%
□ Resources	94.12%	66.67%	100.00%	90.00%	35.29%
■ Service info	70.59%	66.67%	71.43%	30.00%	58.82%
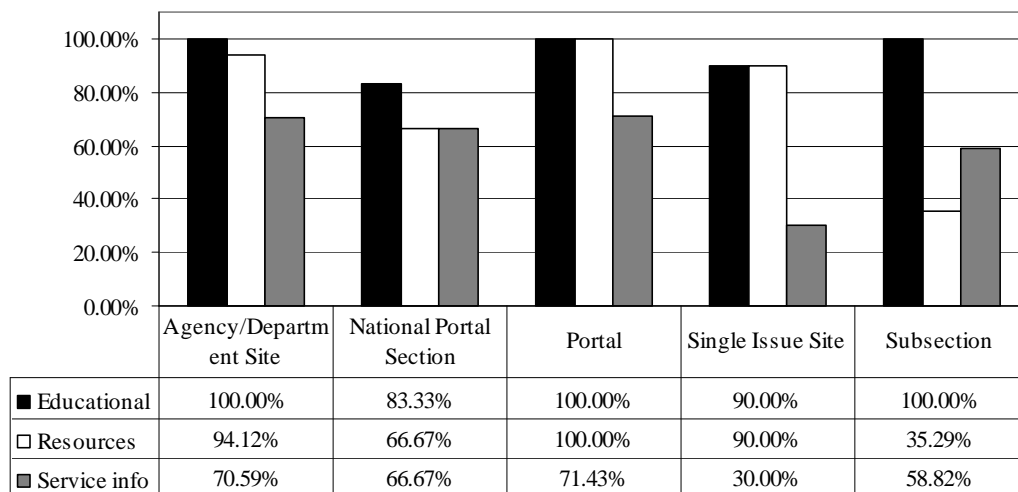
4.6.8. Content Type by Site Type

As show in Table 4.13, contact information was present on all portals and

single issue sites, as well as 82% of agency sites, but was present on only one-third or

less of national portal sections and subsections. Email and RSS products were

provided most on portals (28%) and to some extent on agency/department sites (5%)

but no single issue sites or subsections. Entertaining products were most common on

portals (42%), followed by single issue sites (33%), agency/department sites (23%)

and national portal sections (16%). Feedback, networking, and knowledge sharing

applications were present on 55% of single issue sites and on slightly more portal

sites (57%), but only 29% of agency/department sites and 5% of subsections.

Information about government programs and services was present on around two-

thirds of portals, agency/department sites, and national portal sections, but on fewer

subsections (58%) and single issue sites (33%). General informational content was

found on all agency/department sites and single issue sites, as well as most

subsections (94%), portals (85%), and national portal sections (83%). News and

research was available on most agency/department sites (94%) and many portals

(71%) and single issue sites (55%), but fewer subsections (47%) and no national

portal sections. Online government services were available on or linked to from half

of national portal sections, 28% of portals, 17% of agency department sites, 11% of

single issue sites, and no subsections. Finally, tools were presented on 64% of

agency/department sites, 58% of national portal sections, 42% of portals, 33% of

single issue sites, and only 5% of subsections.

Table 4.13 – Content Type by Site Type

Content Type	Agency	National Portal	Portal	Single Issue	Subsection
News and Research	94.12%	0%	71.43%	55.56%	47.06%
General Informational	100%	83.33%	85.71%	100%	94.12%
Programs & Services	70.59%	66.67%	71.43%	33.33%	58.82%
Contact	82.35%	33.33%	100%	100%	23.53%
Email/RSS	5.88%	0%	28.57%	0%	0%
Entertainment	23.53%	16.67%	42.86%	33.33%	0%
Feedback/Sharing	29.41%	0%	57.4%	55.56%	5.88%
Online Services	17.55%	50%	28.57%	11.11%	0%
Tools	64.71%	58.33%	42.86%	33.33%	5.88%

4.6.9. Content Category by Site Size

The smallest sites, those with just one page, all had educational content, but only half had information about services and programs, and one-third had resources. 90% of sites with multiple pages had educational content, two-thirds had information about services and programs, and 61% had resources. All of the largest sites had educational content and resources, but only 62% had information about services and programs. The only pattern here is that resources are more common on larger sites (see Table 4.14).

Table 4.14 – Content Categories by Site Size

Site Size	Educational	Resources	Services and Programs
One Page	100%	33.33%	50%
Multiple Pages	90.48%	61.90%	66.67%
Multiple Sections	100%	100%	62.07%

4.6.10. Content Type by Site Size

Informational content was found on the most sites of all sizes. Contact information, news and research, and tools were more likely to be included on larger sites. See Table 4.15.

Table 4.15 – Content Types by Site Size

Content Type	One Page	Multiple Pages	Multiple Sections
News and Research	33.33%	42.86%	72.41%
General Informational	100%	80.95%	100%
Programs & Services	50%	66.67%	62.07%
Contact	8.33%	42.86%	96.55%
Email/RSS	0%	0%	10.34%
Entertainment	8.33%	4.76%	34.48%
Feedback/Sharing	8.33%	4.76%	44.83%
Online Services	8.33%	19.05%	24.14%
Tools	8.33%	38.10%	55.17%

4.6.11. Content Category by Topic

Almost universally, all topics were represented most by content types in the Educational category, followed by the information about government services category. Notable variations include Site/Agency information, which was most common in the "Resource" category (doubtless due to the presence of contact information), and information for professionals, which was more common in "Resources" than in "Information about Services." See Table 4.16.

Table 4.16 – Content Category by Topic

Topic	Educational	Resources	Service Info
Career	40.32%	19.35%	22.58%
Education	30.65%	12.90%	12.90%
Financial	29.03%	16.13%	24.19%
Health and Safety	74.19%	22.58%	33.87%
Legal	50%	12.90%	16.13%
Lifestyle	46.77%	22.58%	27.42%
Other Gov't Info	38.71%	11.29%	3.23%
Professional	38.71%	19.35%	11.29%
Site/Agency Info	59.68%	62.90%	17.74%
Subgroup	22.58%	3.23%	3.23%

4.6.12. Content Type by Topic

There were substantial differences between the content types and topics of content on the sites, as shown in Table 4.17. News and research information was most commonly about the site or agency itself (40% of sites), followed distantly by health (22%) and lifestyle (12.9%). General information content was most frequently about health (74%), followed by legal and site/agency information (each on 50% of sites). Information about government programs and services was more varied, but was most commonly related to health (33%), then lifestyle (27%) and finances (24%).

56

Tools were most popular for information for professionals (14%), followed by career, lifestyle, and finances (12.9% each). Contact information was overwhelmingly related to the site or agency (54%) followed distantly by health and other government information (9.68% each). Email and entertainment products were rare in all categories. Feedback and knowledge sharing tools were not common either, but were most frequently related to the site or agency (19%). Online services were mostly related to finances (9.68%), followed by career (8.06%) and then health and information for professionals (4.84% each).

Table 4.17 – Content Type by Topic

Topic	News	Info	Prog.	Tools	Contact	Email	Ent.	Feed.	Online Svc
Career	8.06%	38.71%	22.58%	12.90%	6.45%	1.61%	0%	4.84%	8.06%
Education	8.06%	30.65%	12.90%	9.68%	4.84%	1.61%	1.61%	1.61%	1.61%
Financial	4.84%	29.03%	24.19%	12.90%	3.23%	1.61%	0%	1.61%	9.68%
Health	22.58%	74.19%	33.87%	9.68%	9.68%	1.61%	3.23%	4.84%	4.84%
Housing	3.23%	24.19%	11.29%	8.06%	1.61%	1.61%	0%	1.61%	1.61%
Legal	4.84%	50%	16.14%	11.29%	1.61%	1.61%	0%	1.61%	1.61%
Lifestyle	12.9%	40.32%	27.42%	12.9%	6.45%	1.61%	8.06%	1.61%	1.61%
Other Gov't	0%	38.71%	3.23%	1.61%	9.68%	0%	0%	0%	0%
Professional	6.45%	38.71%	11.29%	14.52%	4.84%	1.61%	0%	1.61%	4.84%
Site/Agency	40.32%	50%	17.74%	3.23%	59.68%	3.23%	12.9%	19.35%	1.61%
Subgroup	8.06%	14.52%	3.23%	0%	0%	1.61%	0%	3.23%	1.61%

4.7. Data Types

4.7.1. Sites by Data Type

Most sites had both external links and site content. Links to other sections of a site were only possible on national portal sections and subsections (19 sites in total) and therefore were on fewer sites, as shown in Table 4.18.

Table 4.18 – Data Types

Data Type	Number of Sites	Percent of Sites

Site Content	52	83.87%
External Link	54	87.10%
Other Site Section	12	19.35%

4.7.2. Data Type by Country

External links were found on all Canadian sites, and most Australian (94%)
and American (92%) sites (see Figure 4.15). Two-thirds of the Filipino sites
contained external links, as did one quarter of South African sites. Links to other
sections of the sites were less common, since they were only possible on national
portal sections and site subsections. Nonetheless, they were present on a full 42% of
Canadian sites, 27% of British sites, and 25% of South African sites, but they were
absent on most American and Australian sites. At least three-quarters of the sites
from all countries had their own site content – all of the British and Filipino sites, as
well as 92% of Canadian sites and 84% of American sites.

Figure 4.15 – Data Type by Country

	Australia	Canada	Philippines	South Africa	United Kingdom	USA
■ External Link	94.12%	100.00%	66.67%	25.00%	63.64%	92.31%
□ Other site section	5.88%	42.86%	0.00%	25.00%	27.27%	7.69%
■ Site Content	76.47%	92.86%	100.00%	75.00%	100.00%	84.62%
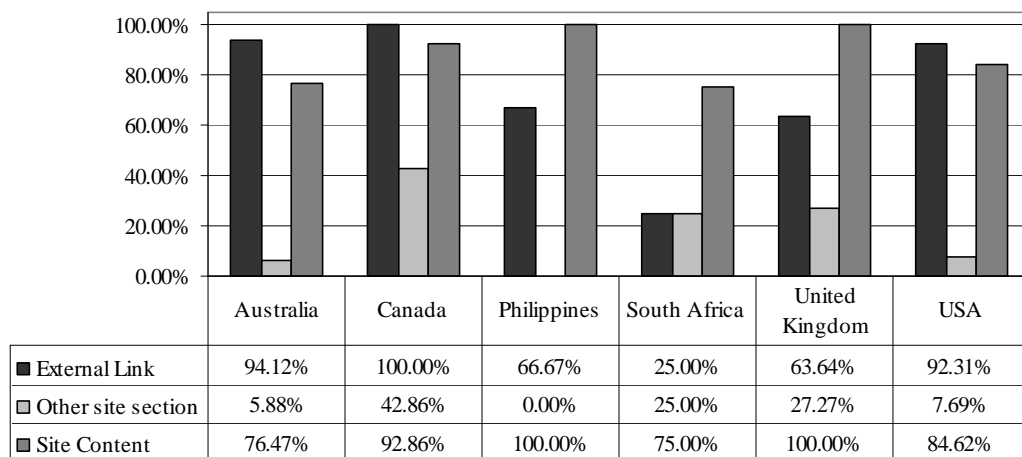
4.7.3. Data Type by Audience

There was little variation in data types used for each audience, as depicted in
Table 4.19. External links and site content were present on a nearly equal number of
sites for each audience, with fewer links to other site sections. Interestingly, there was
a spike in the number of links to other site sections for people with disabilities (40%)
and to some extent seniors (25%).

Table 4.19 – Data Type by Audience

Audience	External Link	Other Site Section	Site Content
Ethnic & Cultural	93.75%	6.25%	87.50%
People with Disabilities	86.67%	40%	93.33%
Seniors	81.25%	25%	75%
Women	73.33%	6.67%	93.33%

4.7.4. Data Type by Site Type

Links to other site sections were only possible on national portal sections and
on subsections of sites; for these two site types, there were five and seven sites with
such links respectively (see Figure 4.16). Every site type had as many or more sites
with their own content as external links to content, with the exception of national
portal sections; unsurprisingly, more of those sites had external links than site content
or links to other sections of the national portal. All of the portal sites and all of the
single issue sites had both site content and external links.

Figure 4.16 – Data Types by Site Type

	Agency	National Portal Section	Portal	Single Issue Site	Subsection
■ External Link	70.59%	91.67%	100.00%	100.00%	76.47%
▨ Other site section	0.00%	41.67%	0.00%	0.00%	41.18%
▢ Site Content	100.00%	41.67%	100.00%	100.00%	94.12%
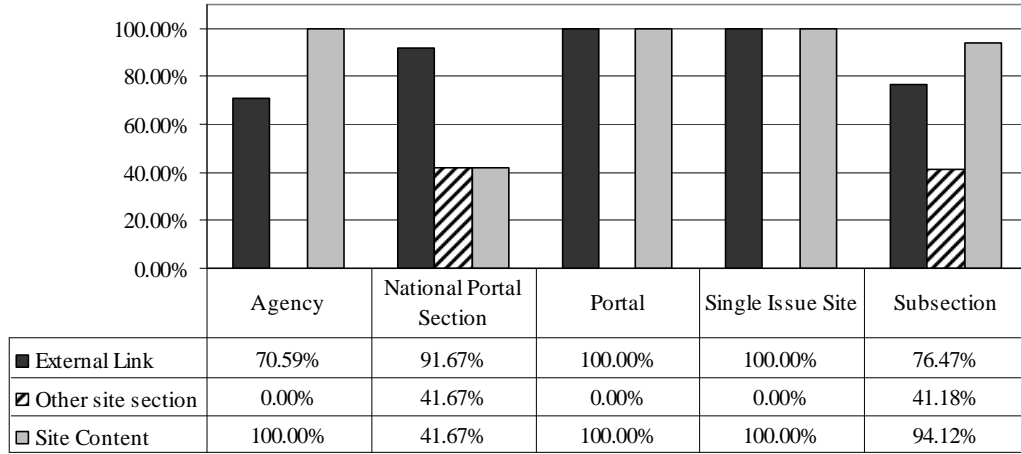
4.7.5. Data Type by Site Size

External links and site content were used on more multiple-section sites than on any other size site. External links were found on only two-thirds of multiple-paged sites, but on 83% of single-page sites. Site content was found on only 58% of single-page sites, compared with 85% and 100% of multiple-page and multiple-section sites. See Table 4.20.

Table 4.20 – Data Type by Site Size

Site Size	Site Content	External Links	Other Site Sections
One Page	58.33%	83.33%	41.67%
Multiple Pages	85.71%	66.67%	23.81%
Multiple Sections	100%	96.55%	6.9%

4.7.6. Data Type by Topic

There was little variation among the data types by topic, as illustrated in Table 4.21. Generally, external links and site content in each topic were on an equivalent

60

number of sites. The sole exception was for agency information, which was by far

more common as site content.

Table 4.21 – Data type by Topic

Topics	Site Content	External Link	Link to Other Site Section
Career	18	23	3
Education	13	18	4
Financial	15	18	4
Health	35	34	6
Housing	10	16	3
Legal	22	22	3
Lifestyle	25	24	4
Other Gov't	10	22	0
Professional	17	20	3
Site/Agency	44	6	2
Subgroup	7	10	4

4.7.7. Data Type by Content Type

There was much variation among data types and content types, as shown in

Table 4.22. Site content was present on the most sites in the form of informational

content, contact information, and news and research. External links were present on

the most sites in the form of informational content and information about government

programs and services. For most content types, site content was more common than

external links. A notable exception occurs with online services; 3% of sites had

online services as site content, but 16% linked to them externally.

Table 4.22 – Data Type by Content Type

Content Type	Site Content	External Links	Other Site Sections
News and Research	51.62%	16.13%	1.61%
General Informational	80.65%	67.74%	12.90%
Programs & Services	46.77%	35.48%	4.84%
Contact	61.29%	4.84%	1.61%
Email/RSS	4.84%	0%	0%
Entertainment	16.13%	3.23%	0%
Feedback/Sharing	24.19%	0%	0%
Online Services	3.23%	16.13%	4.84%
Tools	32.26%	16.13%	1.61%

The analysis resulted in some predictable and some unexpected data. The next chapter will discuss some of the patterns and results seen for each country and audience, as well as some of the topics and content types.

CHAPTER 5: ANALYSIS

5.1. Overview

This chapter will first look at the trends in the data, noting which countries have the most sites for which special populations of those identified in the study, what site types are most popular with each country, and what topics are presented to which audiences.

5.2. Countries

5.2.1. Australia

Australia's effective government, relatively older population and 20% reported disability rate, along with a relatively small percentage of non-white citizens seemed to predict a well-developed e-government network, with more attention paid to the needs of seniors and people with disabilities than to ethnic or cultural minorities.

Australia's e-government system is particularly well-developed, and contrary to expectations all four audiences are exceptionally well-represented. Australia had the most sites included in this study, with sites from 17 of 20 possible audience/site type combinations, three more than Canada. There were four or five Australian sites for each of the four audiences. Although outside the scope of this study, it was interesting to note that Australia had site sections for some populations rarely addressed by government websites – there was a national portal section for men, for

instance, and a section (albeit an empty section) on Women.gov.au for lesbian and bisexual women.

The only Australia sites that were not found were a single issue site for ethnic and cultural minorities, a portal for people with disabilities, and an entity site for seniors. It is not fair to imply that Australia does not have an agency or department that deals with seniors' issues. The federal Australian department that deals with seniors' issues is the Department of Health and Ageing; because it encompasses all health-related issues and not just elder health, it cannot be properly classified as an agency created specifically to serve seniors.

Australia has a sophisticated network of portals. On the national portal, Australia.gov.au, selecting the "Info For" tab, accessible from any page, leads you to a selection of 15 audience-specific pages, including all four audiences studied here, as well as other audiences as diverse as "Australians Traveling" and students. These "Info For" pages are simple, annotated lists of around seven to 14 links to other federal Australian sites. The linked pages are frequently part of larger sites, so in addition to the names of the sites or descriptive phrases, the "Info For" pages also show the domain name that hosts each site. (In contrast, the only US national portal section, for seniors, provides only a categorized list a links with no description and usually no way to tell where the links lead, other than hovering over the link and interpreting the URL that appears in the status bar of the browser – something no site should ask of its users, especially when they are elderly.) In the case of the women, seniors, and indigenous peoples national portal sections, the pages link to audience-

specific portals. These portals have many external links, much like the national portal

sections, but provide far more context and added value.

Australia's topic coverage did not vary significantly from the other countries.

In comparison, relatively few Australian sites had content that fell under the content

category of "resources." As for content types, Australian sites were quite diverse –

many had general information content and contact information, but all other content

types were present on less than 50% of the sites that were evaluated. In general,

Australian sites seemed to avoid duplication of content coverage quite well, which

probably resulted in the relatively low percentage of sites with each topic.

5.2.2. Canada

The statistics collected on Canada, including the country's high Government

Effectiveness rating, linguistically and ethnically diverse population, and highest

median age seemed to predict a well-developed set of e-government services with

much attention given to seniors and ethnic minorities. This prediction was born out;

Canada had 14 of the possible 20 audience/site type combinations, including all five

possible site types for ethnic and cultural minorities, and lacking on one site type (a

single issue site) for seniors.

The other five combinations that were not found were an entity site for people

with disabilities, a national portal section and a portal for women, and single issue

sites for women, seniors, and people with disabilities. Like the United Kingdom,

Canada had only one single issue site (for ethnic and cultural minorities) compared to

the three Australian single issue sites and the five American sites. Canada had a relatively large number of subsections.

All Canadian sites are in both French and English. Although the country's main website is Canada.gc.ca, ServiceCanada.gc.ca is the portal to government information and services for Canadian citizens and visitors. Service Canada prominently displays a section called "Programs and Services For You" with link sto special sections of the portal for several audiences, including aboriginal peoples, seniors and people with disabilities, along with other groups like service delivery partners and veterans. Information for women seems to be mostly included in the "Families and children" section. The three sections for our audiences all provide listings of government programs and services in ten categories: education and training, employment, health, housing, income assistance, legal assistance, personal documents, savings plans, special events, starting a business, and travel. Each section links to individual pages about each government program and service, including information on how to access the service, such as eligibility information, contact information, or application information. These pages are sometimes part of the same subdirectory and audience section, but are sometimes hosted on other, non-audience specific areas of the site, which can lead to navigation confusion.

Like most of the other countries, the most represented topic was health and safety. The other most popular topics were career, financial, legal, lifestyle, and site/agency information. Canada had a higher percentage of sites with career, education, financial, health, housing, and subgroup information than any other country. In fact, all topics were present in some form on over 50% of all Canadian

sites. This is in sharp contrast to Australia, where most topics were on less than half of the sites. In general, the results show that Canadian sites were more comprehensive than other countries' sites.

5.2.3. The Philippines

The statistics collected on the Philippines seemed to predict that the country would not have a well-developed e-government network but might have more emphasis on ethnic or cultural minorities than on seniors. In fact, the Philippines had the fewest sites in the study, with only three audience/site type combinations found. The sites were entity sites, one for ethnic minorities, one for people with disabilities, and one for women. There were no sites for seniors. This is not surprising since the Philippines had the youngest median age of all six sites, and have an ethnically and linguistically diverse population.

The most common topics covered by the three sites were legal, lifestyle, other government, and site/agency information. There was no information about housing or finances, or for subgroups. Educational content and information about services was on all three sites, and resources were provided on two of the three sites. For content types, news and general information were on all sites, followed by information about services, and then contact information.

It makes sense that a country's first e-government efforts would tend to mirror the organizational structure of the government; thus it is unsurprising that all three of the Philippines sites were entity sites and were not more complicated, frequently interdepartmental projects like portals or single-issue sites.

5.2.3. South Africa

The statistics gathered on South Africa suggested that South Africa might have a moderately extensive e-government network with attention paid to ethnic diversity but less to seniors and people with disabilities. In reality, no sites about ethnic diversity were found in this study. South Africa only had sites from four of the 20 possible site type/audience combinations. There were two sites for women – an entity site and a subsection – and two national portal sections, one for people with disabilities and one for seniors. The national portal section for seniors, however, was completely empty at the time of evaluation. South Africa had no portals and no single issue sites in this study. The sites contained mostly educational information, and half had information about services, but only one site actually had resources. Three of the sites had general informational content; contact information and tools were on two of the sites.

As an illustration of the limitations of having a single person manually search for relevant sites, after the study was completed a South African agency site dealing with issues of ethnicity was found by a member of the thesis committee. The site, the Truth and Reconciliation Commission Website, would have been eligible for the study, although the commission is no longer operational. The site was probably not identified earlier because the most of the search terms used to find sites (such as race, discrimination, and minority) are not used on the site.

5.2.4. The United Kingdom

The statistics gathered on the United Kingdom indicated that the country would probably have a well developed e-government network, with plentiful resources for seniors as well as ethnic and cultural minorities and people with disabilities.

The UK had the third fewest sites, but with 11 sites, the country still had significantly more than South Africa. There were three British sites for each audience, except for women's sites, of which there were only two. There were entity sites and subsections for all four audiences, but no portals at all.

The nine sites the United Kingdom did not have were national portal sections for women and ethnic and cultural minorities, single issue sites for women, seniors, and people with disabilities, and all four possible portals.

All sites had educational information, but just over half had resources and information about services. This was an unusual distribution compared to the other five countries. . Along with the Philippines, the United Kingdom had the highest proportion of sites with site content (as opposed to external links and links to other site sections).

The complete lack of British portals may be related to the fact that the United Kingdom's national portal, Directgov, is exceptionally content-heavy and has sections (including sections for seniors and people with disabilities) that serve as de facto portal sites.

5.2.5. The United States

The statistics collected about the United States indicated that the country would have a well-developed e-government system with many resources for ethnic minorities, seniors, and people with disabilities. In fact, the United States had the third highest number of sites, at 13, just one fewer than Canada but four fewer than Australia. The United States had subsections and single issue sites for all audiences, entity sites for all audiences but one (there was none found for people with disabilities), and one portal (for people with disabilities) and one national portal section (for seniors). Having single issue sites for all four audiences was highly unusual – even Australia only had single issue sites for three, Canada and the United Kingdom had one each, and the Philippines and South Africa had none.

Probably because of the large number of single issue sites and subsections, the topics present on the sites varied; the only topics present on more than half of the US sites were site/agency information, health information, and information for professionals. The topics on the fewest sites were other government information and information for subgroups. For content categories, all the sites had educational information and over three-quarters had resources and information about services. For content types, general informational content was the highest, followed by information about services and contact information, then news and research. The least common content types were email/RSS products and online services.

The results for the United States demonstrate a long (for e-government) tradition of single-issue sites in the United States, from Drought.Gov to Nutrition.Gov to ClinicalTrials.Gov. The sites are not cohesively connected to each other, the way

they are in Australia and Canada, and seem to lack an overreaching e-government

strategy as demonstrated by the United Kingdom.

5.3. Audiences

There was not much variation in the number of sites found for each audience:

there were 15 or 16 sites for each population group. All the audiences had more sites

with content in the educational information content category, followed either by

resources and then service information, or an almost equal number of both. The

largest gap was in sites for women, where only 40% had information about services,

compared with 80% of sites having resources.

5.3.1. Ethnic and Cultural Minorities

The majority of sites for ethnic and cultural minorities were entity sites,

followed by subsections. There were only two national portal sections and two

portals, out of the possible five each. These sites tended to be larger than the sites for

other audiences. The two most common topics were predictably site/agency

information and health; the next two were career and education. The least common

topics were housing and information for subgroups. General informational content,

news, and information on services were the top content types; the least common type

was email/RSS products.

5.3.2. Seniors

Seniors were mostly represented by national portal sections (five out of the six countries had them) as well as several subsections. There were only two portals and two single issue sites for seniors. Health was by far the most popular topic, followed by legal, lifestyle, professional, and site/agency information. Sites for seniors also had more email/RSS products than did sites for any other group.

5.3.3. Women

All six countries had entity sites for women, and five had subsections. There were far fewer national portal sections, portals, and single issue sites. Again, health was the most common topic, followed by site/agency information and legal information. The least common topic was housing, followed by educational and financial information.

5.4. Topics and Content Types

Health information is clearly the most popular topic for special population e-government sites. The results may be somewhat skewed because the single issue of so many single-issue sites – five out of nine – was, in fact, health.

The least common topic was information for subgroups; this is expected, given that such content was usually tagged with two topics (an article on WomensHealth.gov about elderly women's health would be categorized both as "health" and "subgroup"). After information for subgroups, information about housing was least common. Health, legal, lifestyle, and site/agency information were

72

the only topics to be on as many or more sites as site content rather than external links.

Out of the content types, general informational content was the most common, followed by news and research, information a bout services, and contact information. The least common content type was email and RSS products.

The most common content type for every topic was general informational content, almost always followed with information about programs and services, and tools. Some content types were used more heavily in some topic areas than others, however. Online services were found most often in the areas of finances and career, and aside from feedback directly to the site owner, feedback and knowledge sharing tools were most common for career and health topics. Tools relating to professionals or caregivers were on more sites than tools on any other topic, followed by career, financial, and lifestyle.

5.5. Summary

Even with the limited results of this initial study, the different e-government strategies of the six countries were clearly visible. It was also clear that sites for each audience have different characteristics, although there were also some consistencies (such as the emphasis on health information). The effectiveness and limitations of the framework used will be discussed in chapter six.

CHAPTER 6: CONCLUSION

6.1. The Developed Countries

Australia, Canada, the United Kingdom, and the United States each have well developed services for special populations, but the each have different techniques and strategies of achieving this. The United Kingdom is the most centralized of the countries investigated, concentrating their content for special populations on their national portal DirectGov and in subsections of larger sites. The United States has the most sprawling, least centralized e-government network, with efforts focusing on agency sites and single-issue sites. Canada and Australia took more moderate approaches, both having a well-connected system of varying site types.

6.2. The Developing Countries

South Africa and the Philippines have less developed e-government networks, but both countries, particularly the Philippines, already show awareness of the need to address certain segments of the population directly, South Africa through its nascent national portal sections and the Philippines through councils dedicated to particular groups of citizens.

6.3. Audiences

Overall, the four audiences examined in this study were equally well-represented, with occasionally skewed results that may be related to the demographics and economic status of the country in question.

6.4. Limitations of This Study

Because this study was designed to test the framework, the method was the focus of the study rather than the results. The main goal was to introduce a new way to think about and evaluate e-government sites designed for special populations. In order to use the framework to make any truly meaningful conclusions or recommendations about the individual sites, further research will have to be conducted with more sites, more evaluators, and more clearly articulated assessment criteria.

By far, the largest limitation of this study was the sample size. However, even with only 62 evaluated sites, the framework was demonstrated to be sound and usable for future studies. Although the framework was designed with sites for special populations in mind, it can be just as easily adapted for use with any e-government website.

Another limitation was the binary nature of the assessment, either the presence or absence of sites and content. Future modifications of this framework might include expanding the possible site sizes beyond just single page, multiple sections, and multiple pages; refining the content types to better filter out "boilerplate" site content; creating more quantitative definitions of the five site types; and evaluating the presence of content on a site by volume, not just presence or absence.

6.5. The Research Gap, and Future Direction

This study begins to fill two gaps in e-government research, including the lack of attention given to the actual content and information presented on government

75

websites, and the lack of data on services for special populations. With further research using the framework proposed here, it will be possible to begin collecting data on these issues – data that can be used to longitudinally study the evolution of government websites for all populations.

Beyond that, an additional major question for future research is whether these sites are actually effective. That is, does a site focusing on women's health or on minority-owned businesses have a greater or more positive effect than a site on general health or on all small businesses? This important question of social justice and equality cannot be adequately answered until the state of existing sites for special populations – as well as the nature of sites that do not target a specific group of people – are more thoroughly understood.

APPENDICES

Appendix A – List of Sites

Australia

Australian Institute of Aboriginal and Straight Is
   Ethnic and Cultural Minorities   Multiple Sections
  http://www.aiatsis.gov.au/
Indigenous People
   Ethnic and Cultural Minorities   1 page
  http://australia.gov.au/Indigenous_Peoples
Indigenous Portal
   Ethnic and Cultural Minorities   Multiple Pages
  http://indigenous.gov.au
Indigenous Sport Program
   Ethnic and Cultural Minorities   Multiple Pages
  http://www.ausport.gov.au/isp
CRS Australia
   People with Disabilities   Multiple Sections
  http://www.crsaustralia.gov.au
Disability Sport
   People with Disabilities   Multiple Pages
  http://www.ausport.gov.au/dsu
JobAccess
   People with Disabilities   Multiple Sections
  http://www.jobaccess.gov.au
People with Disabilities (AU)
   People with Disabilities   1 page
  http://australia.gov.au/People_with_Disabilities
Aged Care Australia
   Seniors   Multiple Sections
  http://www.agedcareaustralia.gov.au
Retirement Menu
   Seniors   Multiple Pages
  http://www.ato.gov.au/individuals/default.asp?menu=3382
Seniors (AU)
   Seniors   1 page
  http://australia.gov.au/seniors
Seniors.gov.au
   Seniors   Multiple Sections
  http://seniors.gov.au/
Office for Women
   Women   Multiple Sections
  http://www.ofw.facs.gov.au/

Violence Against Women: Australia Says No
Women   Multiple Sections
http://www.australiasaysno.gov.au
Women (AU)
Women   1 page
http://australia.gov.au/Women
Women and Sport
Women   Multiple Pages
http://www.ausport.gov.au/women/
Women.gov.au
Women   Multiple Sections
http://women.gov.au

Canada

Aboriginal Canada Portal
Ethnic and Cultural Minorities   Multiple Sections
http://www.aboriginalcanada.gc.ca/
Indian and Northern Affairs Canada
Ethnic and Cultural Minorities   Multiple Sections
http://www.ainc-inac.gc.ca/index-eng.asp
Integration-net.ca
Ethnic and Cultural Minorities   Multiple Sections
http://integration-net.ca/
Just For You: Inuit and First Nations
Ethnic and Cultural Minorities   1 page
http://www.hc-sc.gc.ca/jfy-spv/fni-pa_e.html
Services for Aboriginal Peoples
Ethnic and Cultural Minorities   Multiple Pages
http://www.servicecanada.gc.ca/en/audiences/aboriginal/index.sh
Just For You: People with Disabilities
People with Disabilities   1 page
http://www.hc-sc.gc.ca/jfy-spv/dis-inca_e.html
People With Disabilities (CA)
People with Disabilities   Multiple Pages
http://www.servicecanada.gc.ca/en/audiences/disabilities/index.sh
People with Disabilities Online
People with Disabilities   Multiple Sections
http://www.pwd-online.ca/
Division of Aging and Seniors
Seniors   Multiple Sections
http://www.hc-sc.gc.ca/seniors-
Just For You: Seniors
Seniors   1 page
http://www.hc-sc.gc.ca/jfy-spv/seniors-aines_e.html
Seniors (CA)
Seniors   Multiple Pages

http://www.servicecanada.gc.ca/en/audiences/seniors/index.shtml

Seniors Canada On-Line
Seniors   Multiple Sections
http://seniors.gc.ca

Just For You: Women
Women   1 page
http://www.hc-sc.gc.ca/jfy-spv/women-femmes_e.html

Status of Women Canada
Women   Multiple Sections
http://www.swc-cfc.gc.ca

Philippines

National Commission on Indigenous Peoples
Ethnic and Cultural Minorities   Multiple Sections
http://www.ncip.gov.ph

National Council for the Welfare of Disabled Perso
People with Disabilities   Multiple Pages
http://www.ncwdp.gov.ph/

National Commission on the Role of Filipino Women
Women   Multiple Sections
http://www.ncrfw.gov.ph/

South Africa

Living with a Disability
People with Disabilities   Multiple Pages
http://www.services.gov.za/en-za/LivingWithADisability.htm

Retirement and Old Age
Seniors   Multiple Pages
http://www.services.gov.za/en-ZA/Retirementandoldage.htm

Know Your Rights – Women's Rights
Women   1 page
http://www.concourt.gov.za/text/right/know/women.html

Maternal, Child & Women's Health and Nutrition
Women   Multiple Pages
http://www.doh.gov.za/department/clus_maternal.html

United Kingdom

Commission for Racial Equality
Ethnic and Cultural Minorities   Multiple Sections
http://www.cre.gov.uk/

Ethnic Minority Achievement
Ethnic and Cultural Minorities   Multiple Pages
http://www.standards.dfes.gov.uk/ethnicminorities/

MinorityHealth
Ethnic and Cultural Minorities   Multiple Sections
http://www.minorityhealth.gov.uk/

Disabled People
   People with Disabilities   Multiple Sections
   http://www.direct.gov/uk/en/DisabledPeople/
Disabled People and Carers
   People with Disabilities   Multiple Pages
   http://www.dwp.gov.uk/lifeevent/discare/
Office for Disability Issues
   People with Disabilities   Multiple Pages
   http://www.officefordisability.gov.uk/
Older People's Services
   Seniors   Multiple Pages
   http://www.dh.gov.uk/en/Policyandguidance/Healthandsocialcare
Over 50's
   Seniors   Multiple Sections
   http://www.direct.gov.uk/en/Over50s/index.htm
Royal Commission on Long Term Care for the Elderly
   Seniors   Multiple Pages
   http://www.royal-commission-elderly.gov.uk/
Female Prisoners
   Women   1 page
   http://www.hmprisonservice.gov.uk/adviceandsupport/prison_life
Women and Equality Unit
   Women   Multiple Sections
   http://www.womenandequalityunit.gov.uk/

USA

Asian American Health
   Ethnic and Cultural Minorities   Multiple Sections
   http://asianamericanhealth.nlm.nih.gov/
Minority Business Development Agency
   Ethnic and Cultural Minorities   Multiple Sections
   http://www.mbda.gov/
Peace Corps: People of Color
   Ethnic and Cultural Minorities   Multiple Pages
   http://www.peacecorps.gov/index.cfm?shell=learn.whovol.peopl
Accessibility - Equal Access to Transportation
   People with Disabilities   1 page
   http://www.dot.gov/citizen_services/disability/disability.html
Disability Preparedness
   People with Disabilities   Multiple Sections
   http://www.disabilitypreparedness.gov
DisabilityInfo.gov
   People with Disabilities   Multiple Sections
   http://www.disabilityinfo.gov
Administration on Aging
   Seniors   Multiple Sections

http://www.aoa.gov

Aging
  Seniors   1 page
  http://hhs.gov/aging/

NIH Senior Health.gov
  Seniors   Multiple Sections
  http://nihseniorhealth.gov/

Senior Citizens Resources
  Seniors   Multiple Pages
  http://www.usa.gov/Topics/Seniors.shtml

Center for Women Veterans
  Women   Multiple Pages
  http://www1.va.gov/womenvet/

Girl Power!
  Women   Multiple Sections
  http://girlpower.gov

Office on Women's Health
  Women   Multiple Pages
  http://4women.gov/owh

Appendix B – Queries

The following queries were run in Microsoft Access to capture the data for

analysis in Chapter 5. These queries are the instructions used to filter and sort the

data used to create each table and figure in Chapter 5. The queries allow data stored

in the database's many different tables to be brought together and analyzed in various

ways as appropriate.

Sites by Country Query
SELECT SiteTable.SiteName, CountryTable.Country FROM CountryTable INNER JOIN SiteTable
ON CountryTable.CountryID = SiteTable.SiteCountry;

Sites by Audience Query
SELECT SiteTable.SiteName, AudienceTable.Audience FROM AudienceTable INNER JOIN
SiteTable ON AudienceTable.AudienceID=SiteTable.SiteAudience;

Audience by Country Query
SELECT SiteTable.SiteName, CountryTable.Country, AudienceTable.Audience FROM
AudienceTable INNER JOIN (CountryTable INNER JOIN SiteTable ON CountryTable.CountryID =
SiteTable.SiteCountry) ON AudienceTable.AudienceID = SiteTable.SiteAudience;

Site Types Query
SELECT SiteTable.SiteName, SiteType.SiteType FROM SiteType INNER JOIN SiteTable ON
SiteType.SiteTypeID=SiteTable.SiteType;

Site Types by Country Query
SELECT SiteTable.SiteName, CountryTable.Country, SiteType.SiteType FROM SiteType INNER
JOIN (CountryTable INNER JOIN SiteTable ON CountryTable.CountryID = SiteTable.SiteCountry)
ON SiteType.SiteTypeID = SiteTable.SiteType;

Site Types by Audience Query
SELECT SiteTable.SiteName, SiteType.SiteType, AudienceTable.Audience FROM AudienceTable
INNER JOIN (SiteType INNER JOIN SiteTable ON SiteType.SiteTypeID = SiteTable.SiteType) ON
AudienceTable.AudienceID = SiteTable.SiteAudience;

Site Size Query
SELECT SiteTable.SiteName, SizeTable.SizeSite FROM SizeTable INNER JOIN SiteTable ON
SizeTable.SizeID = SiteTable.SiteSize;

Site Size by Audience
SELECT SiteTable.SiteName, CountryTable.Country, SizeTable.SizeSite FROM CountryTable
INNER JOIN (SizeTable INNER JOIN SiteTable ON SizeTable.SizeID = SiteTable.SiteSize) ON
CountryTable.CountryID = SiteTable.SiteCountry;

Site Size by Audience Query

SELECT SiteTable.SiteName, AudienceTable.Audience, SizeTable.SizeSite FROM AudienceTable INNER JOIN (SizeTable INNER JOIN SiteTable ON SizeTable.SizeID = SiteTable.SiteSize) ON AudienceTable.AudienceID = SiteTable.SiteAudience;

Site Size by Site Type Query
SELECT SiteTable.SiteName, SiteType.SiteType, SizeTable.SizeSite FROM SizeTable INNER JOIN ((SiteType INNER JOIN SiteTable ON SiteType.SiteTypeID = SiteTable.SiteType) INNER JOIN (DataTypeTable INNER JOIN SiteSubjectContentInfoTable ON DataTypeTable.DataTypeID = SiteSubjectContentInfoTable.InfoType) ON SiteTable.SiteID = SiteSubjectContentInfoTable.SiteID) ON SizeTable.SizeID = SiteTable.SiteSize GROUP BY SiteTable.SiteName, SiteType.SiteType, SizeTable.SizeSite;

Subjects Query
SELECT SiteTable.SiteName, SubjectTable.Subject FROM SubjectTable INNER JOIN (SiteTable INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID=SiteSubjectContentInfoTable.SiteID) ON SubjectTable.SubjectID=SiteSubjectContentInfoTable.SubjectID GROUP BY SiteTable.SiteName, SubjectTable.Subject;

Subjects by Country Query
SELECT SiteTable.SiteName, CountryTable.Country, SubjectTable.Subject FROM SubjectTable INNER JOIN ((CountryTable INNER JOIN SiteTable ON CountryTable.CountryID=SiteTable.SiteCountry) INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID=SiteSubjectContentInfoTable.SiteID) ON SubjectTable.SubjectID=SiteSubjectContentInfoTable.SubjectID GROUP BY SiteTable.SiteName, CountryTable.Country, SubjectTable.Subject;

Subjects by Audience Query
SELECT SiteTable.SiteName, SubjectTable.Subject, AudienceTable.Audience FROM AudienceTable INNER JOIN (SubjectTable INNER JOIN (SiteTable INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID = SiteSubjectContentInfoTable.SiteID) ON SubjectTable.SubjectID = SiteSubjectContentInfoTable.SubjectID) ON AudienceTable.AudienceID = SiteTable.SiteAudience GROUP BY SiteTable.SiteName, SubjectTable.Subject, AudienceTable.Audience;

Subjects by Site Type Query
SELECT SiteTable.SiteName, SiteType.SiteType, SubjectTable.Subject FROM SubjectTable INNER JOIN ((SiteType INNER JOIN SiteTable ON SiteType.SiteTypeID=SiteTable.SiteType) INNER JOIN (DataTypeTable INNER JOIN SiteSubjectContentInfoTable ON DataTypeTable.DataTypeID=SiteSubjectContentInfoTable.InfoType) ON SiteTable.SiteID=SiteSubjectContentInfoTable.SiteID) ON SubjectTable.SubjectID=SiteSubjectContentInfoTable.SubjectID GROUP BY SiteTable.SiteName, SiteType.SiteType, SubjectTable.Subject;

Subjects by Site Size Query
SELECT SiteTable.SiteName, SubjectTable.Subject, SizeTable.SizeSite FROM SizeTable INNER JOIN (SubjectTable INNER JOIN (SiteTable INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID = SiteSubjectContentInfoTable.SiteID) ON SubjectTable.SubjectID = SiteSubjectContentInfoTable.SubjectID) ON SizeTable.SizeID = SiteTable.SiteSize GROUP BY SiteTable.SiteName, SubjectTable.Subject, SizeTable.SizeSite;

Content Categories Query
SELECT SiteTable.SiteName, ContentCategoryTable.ContentCategory FROM (ContentCategoryTable INNER JOIN ContentTypeTable ON ContentCategoryTable.ContentCategoryID = ContentTypeTable.ContentCategory) INNER JOIN (SiteTable INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID = SiteSubjectContentInfoTable.SiteID) ON ContentTypeTable.ContentTypeID =

SiteSubjectContentInfoTable.ContentID GROUP BY SiteTable.SiteName,
ContentCategoryTable.ContentCategory;

Content Types Query

SELECT SiteTable.SiteName, ContentTypeTable.ContentType FROM ContentTypeTable INNER
JOIN (SiteTable INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID =
SiteSubjectContentInfoTable.SiteID) ON ContentTypeTable.ContentTypeID =
SiteSubjectContentInfoTable.ContentID GROUP BY SiteTable.SiteName,
ContentTypeTable.ContentType;

Content Categories by Country Query

SELECT SiteTable.SiteName, ContentCategoryTable.ContentCategory, CountryTable.Country FROM
CountryTable INNER JOIN ((ContentCategoryTable INNER JOIN ContentTypeTable ON
ContentCategoryTable.ContentCategoryID = ContentTypeTable.ContentCategory) INNER JOIN
(SiteTable INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID =
SiteSubjectContentInfoTable.SiteID) ON ContentTypeTable.ContentTypeID =
SiteSubjectContentInfoTable.ContentID) ON CountryTable.CountryID = SiteTable.SiteCountry
GROUP BY SiteTable.SiteName, ContentCategoryTable.ContentCategory, CountryTable.Country;

Content Types by Country Query

SELECT SiteTable.SiteName, CountryTable.Country, ContentTypeTable.ContentType FROM
ContentTypeTable INNER JOIN (CountryTable INNER JOIN (SiteTable INNER JOIN
(DataTypeTable INNER JOIN SiteSubjectContentInfoTable ON DataTypeTable.DataTypeID =
SiteSubjectContentInfoTable.InfoType) ON SiteTable.SiteID = SiteSubjectContentInfoTable.SiteID)
ON CountryTable.CountryID = SiteTable.SiteCountry) ON ContentTypeTable.ContentTypeID =
SiteSubjectContentInfoTable.ContentID GROUP BY SiteTable.SiteName, CountryTable.Country,
ContentTypeTable.ContentType;

Content Category by Audience Query

SELECT SiteTable.SiteName, AudienceTable.Audience, ContentCategoryTable.ContentCategory
FROM ContentCategoryTable INNER JOIN (ContentTypeTable INNER JOIN ((AudienceTable
INNER JOIN SiteTable ON AudienceTable.AudienceID = SiteTable.SiteAudience) INNER JOIN
SiteSubjectContentInfoTable ON SiteTable.SiteID = SiteSubjectContentInfoTable.SiteID) ON
ContentTypeTable.ContentTypeID = SiteSubjectContentInfoTable.ContentID) ON
ContentCategoryTable.ContentCategoryID = ContentTypeTable.ContentCategory GROUP BY
SiteTable.SiteName, AudienceTable.Audience, ContentCategoryTable.ContentCategory;

Content Type by Audience Query

SELECT SiteTable.SiteName, AudienceTable.Audience, ContentTypeTable.ContentType FROM
(AudienceTable INNER JOIN SiteTable ON AudienceTable.AudienceID=SiteTable.SiteAudience)
INNER JOIN (ContentTypeTable INNER JOIN SiteSubjectContentInfoTable ON
ContentTypeTable.ContentTypeID=SiteSubjectContentInfoTable.ContentID) ON
SiteTable.SiteID=SiteSubjectContentInfoTable.SiteID GROUP BY SiteTable.SiteName,
AudienceTable.Audience, ContentTypeTable.ContentType;

Content Categories by Site Type Query

SELECT SiteTable.SiteName, SiteType.SiteType, ContentCategoryTable.ContentCategory FROM ContentCategoryTable INNER JOIN (ContentTypeTable INNER JOIN ((SiteType INNER JOIN SiteTable ON SiteType.SiteTypeID = SiteTable.SiteType) INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID = SiteSubjectContentInfoTable.SiteID) ON ContentTypeTable.ContentTypeID = SiteSubjectContentInfoTable.ContentID) ON ContentCategoryTable.ContentCategoryID = ContentTypeTable.ContentCategory GROUP BY SiteTable.SiteName, SiteType.SiteType, ContentCategoryTable.ContentCategory;

Content Type by Site Type Query

SELECT SiteTable.SiteName, SiteType.SiteType, ContentTypeTable.ContentType FROM ContentTypeTable INNER JOIN ((SiteType INNER JOIN SiteTable ON SiteType.SiteTypeID=SiteTable.SiteType) INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID=SiteSubjectContentInfoTable.SiteID) ON ContentTypeTable.ContentTypeID=SiteSubjectContentInfoTable.ContentID GROUP BY SiteTable.SiteName, SiteType.SiteType, ContentTypeTable.ContentType;

Content Category by Site Size Query

SELECT SiteTable.SiteName, SizeTable.SizeSite, ContentCategoryTable.ContentCategory FROM ContentCategoryTable INNER JOIN (ContentTypeTable INNER JOIN (SizeTable INNER JOIN (SiteTable INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID=SiteSubjectContentInfoTable.SiteID) ON SizeTable.SizeID=SiteTable.SiteSize) ON ContentTypeTable.ContentTypeID=SiteSubjectContentInfoTable.ContentID) ON ContentCategoryTable.ContentCategoryID=ContentTypeTable.ContentCategory GROUP BY SiteTable.SiteName, SizeTable.SizeSite, ContentCategoryTable.ContentCategory;

Content Type by Site Size Query

SELECT SiteTable.SiteName, SizeTable.SizeSite, ContentTypeTable.ContentType FROM ContentTypeTable INNER JOIN (SizeTable INNER JOIN (SiteTable INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID = SiteSubjectContentInfoTable.SiteID) ON SizeTable.SizeID = SiteTable.SiteSize) ON ContentTypeTable.ContentTypeID = SiteSubjectContentInfoTable.ContentID GROUP BY SiteTable.SiteName, SizeTable.SizeSite, ContentTypeTable.ContentType;

Content Category by Subject

SELECT SiteTable.SiteName, ContentCategoryTable.ContentCategory, SubjectTable.Subject FROM SubjectTable INNER JOIN (ContentCategoryTable INNER JOIN (ContentTypeTable INNER JOIN (SiteTable INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID = SiteSubjectContentInfoTable.SiteID) ON ContentTypeTable.ContentTypeID = SiteSubjectContentInfoTable.ContentID) ON ContentCategoryTable.ContentCategoryID = ContentTypeTable.ContentCategory) ON SubjectTable.SubjectID = SiteSubjectContentInfoTable.SubjectID GROUP BY SiteTable.SiteName, ContentCategoryTable.ContentCategory, SubjectTable.Subject;

Content Type by Subject

SELECT SiteTable.SiteName, ContentTypeTable.ContentType, SubjectTable.Subject FROM SubjectTable INNER JOIN (SiteTable INNER JOIN (ContentTypeTable INNER JOIN SiteSubjectContentInfoTable ON ContentTypeTable.ContentTypeID = SiteSubjectContentInfoTable.ContentID) ON SiteTable.SiteID = SiteSubjectContentInfoTable.SiteID) ON SubjectTable.SubjectID = SiteSubjectContentInfoTable.SubjectID GROUP BY SiteTable.SiteName, ContentTypeTable.ContentType, SubjectTable.Subject;

Data Types Query

SELECT SiteTable.SiteName, DataTypeTable.DataType FROM DataTypeTable INNER JOIN (SiteTable INNER JOIN SiteSubjectContentInfoTable ON SiteTable.SiteID =

SiteSubjectContentInfoTable.SiteID) ON DataTypeTable.DataTypeID =
SiteSubjectContentInfoTable.InfoType GROUP BY SiteTable.SiteName, DataTypeTable.DataType;

Data types by Country Query

SELECT SiteTable.SiteName, CountryTable.Country, DataTypeTable.DataType FROM CountryTable
INNER JOIN (SiteTable INNER JOIN (DataTypeTable INNER JOIN SiteSubjectContentInfoTable
ON DataTypeTable.DataTypeID=SiteSubjectContentInfoTable.InfoType) ON
SiteTable.SiteID=SiteSubjectContentInfoTable.SiteID) ON
CountryTable.CountryID=SiteTable.SiteCountry GROUP BY SiteTable.SiteName,
CountryTable.Country, DataTypeTable.DataType;

Data Type by Audience Query

SELECT SiteTable.SiteName, AudienceTable.Audience, DataTypeTable.DataType FROM
DataTypeTable INNER JOIN ((AudienceTable INNER JOIN SiteTable ON
AudienceTable.AudienceID=SiteTable.SiteAudience) INNER JOIN SiteSubjectContentInfoTable ON
SiteTable.SiteID=SiteSubjectContentInfoTable.SiteID) ON
DataTypeTable.DataTypeID=SiteSubjectContentInfoTable.InfoType GROUP BY
SiteTable.SiteName, AudienceTable.Audience, DataTypeTable.DataType;

Data Types by Site Type Query

SELECT SiteTable.SiteName, SiteType.SiteType, DataTypeTable.DataType FROM (SiteType
INNER JOIN SiteTable ON SiteType.SiteTypeID=SiteTable.SiteType) INNER JOIN (DataTypeTable
INNER JOIN SiteSubjectContentInfoTable ON
DataTypeTable.DataTypeID=SiteSubjectContentInfoTable.InfoType) ON
SiteTable.SiteID=SiteSubjectContentInfoTable.SiteID GROUP BY SiteTable.SiteName,
SiteType.SiteType, DataTypeTable.DataType;

Data Type by Content Type Query

SELECT SiteTable.SiteName, SizeTable.SizeSite, DataTypeTable.DataType FROM SizeTable
INNER JOIN (SiteTable INNER JOIN (DataTypeTable INNER JOIN SiteSubjectContentInfoTable
ON DataTypeTable.DataTypeID = SiteSubjectContentInfoTable.InfoType) ON SiteTable.SiteID =
SiteSubjectContentInfoTable.SiteID) ON SizeTable.SizeID = SiteTable.SiteSize GROUP BY
SiteTable.SiteName, SizeTable.SizeSite, DataTypeTable.DataType;

Data Type by Subjects Query

SELECT SiteTable.SiteName, DataTypeTable.DataType, SubjectTable.Subject FROM SubjectTable
INNER JOIN (DataTypeTable INNER JOIN (SiteTable INNER JOIN SiteSubjectContentInfoTable
ON SiteTable.SiteID=SiteSubjectContentInfoTable.SiteID) ON
DataTypeTable.DataTypeID=SiteSubjectContentInfoTable.InfoType) ON
SubjectTable.SubjectID=SiteSubjectContentInfoTable.SubjectID GROUP BY SiteTable.SiteName,
DataTypeTable.DataType, SubjectTable.Subject;

Data Type by Content Type Query

SELECT SiteTable.SiteName, ContentTypeTable.ContentType, DataTypeTable.DataType FROM
DataTypeTable INNER JOIN (ContentTypeTable INNER JOIN (SiteTable INNER JOIN
SiteSubjectContentInfoTable ON SiteTable.SiteID = SiteSubjectContentInfoTable.SiteID) ON
ContentTypeTable.ContentTypeID = SiteSubjectContentInfoTable.ContentID) ON
DataTypeTable.DataTypeID = SiteSubjectContentInfoTable.InfoType GROUP BY
SiteTable.SiteName, ContentTypeTable.ContentType, DataTypeTable.DataType;

Site Title:
Owner:
URL:
Type of Site:
Country:
Audience:
Notes:
Site Size:

	Educational information about a topic			Resources					
	News and Research	Other informational content (articles, etc.)	Information about programs and services offered by the government	Tools	Online gov't services	Enter-tainment	Feedback/ Knowledge sharing tools	Contact info	Email / RSS
Career									
Education									
Financial									
Health, Wellness, and Safety									
Housing									
Legal									
Lifestyle									
Professional									
Subgroup									
Site/agency information									
Other government information									

BIBLIOGRAPHY

Baack, D.W., & Singh, N. (2007). Culture and web communications. *Journal of Business Research, 60,* 181-188.

Berto, J. C., and Jaeger, P. T. (2006). User-centered e-government: Challenges and benefits for government Web sites. *Government Information Quarterly, 23,* 163-168.

Bertot, J. C., & Jaeger, P. T. (in press). The e-government paradox: Better customer service doesn't necessarily cost less. *Government Information Quarterly.*

Cabinet Office. (2005). *Transformational government: enabled by technology.* (Cm 6683). Retrieved November 24, 2007 from http://www.cio.gov.uk/documents/pdf/transgov/transgov-strategy.pdf.

Central Intelligence Agency. (2007a). Australia. *The World Factbook* Retrieved November 10, 2007, from https://www.cia.gov/library/publications/the-world-factbook/geos/as.html.

Central Intelligence Agency (2007b). Canada. *The World Factbook.* Retrieved November 10, 2007, from https://www.cia.gov/library/publications/the-world-factbook/geos/ca.html.

Central Intelligence Agency (2007c). Philippines. *The World Factbook.* Retrieved November 10, 2007, from https://www.cia.gov/library/publications/the-world-factbook/geos/rp.html.

Central Intelligence Agency (2007d). South Africa. *The World Factbook.* Retrieved

> November 10, 2007, from https://www.cia.gov/library/publications/the-world-
>
> factbook/geos/sf.html.

Central Intelligence Agency (2007e). United Kingdom. *The World Factbook.*

> Retrieved November 10, 2007, from
>
> https://www.cia.gov/library/publications/the-world-factbook/geos/uk.html.

Central Intelligence Agency (2007f). United States. *The World Factbook.* Retrieved

> November 10, 2007, from https://www.cia.gov/library/publications/the-world-
>
> factbook/geos/us.html.

Department of Finance and Administration, Australian Government Information

> Management Office. (2006). *Responsive government: a new service agenda.*
>
> Retrieved November 24, 2007 from
>
> http://www.agimo.gov.au/__data/assets/pdf_file/0010/51499/e-
>
> gov_strategy.pdf

Dragulanescu, N. (2002). Website quality evaluations: criteria and tools.

> *International Information and Library Review, 34,* 247-254.

Eastman, J. K. & Iyer, R. (2004). The elderly's uses and attitudes towards the

> Internet. *The Journal of Consumer Marketing, 21,* 208-220.

Ebbers, W. E., & van Dijk, J. A. G. M. (in press). Resistance and support to electronic

> government, building a model of innovation. *Government Information*
>
> *Quarterly.*

Ebbers, W. E., Pieterson, W. J., & Noordman, H. N. (in press). Electronic
government: Rethinking channel management strategies. *Government
Information Quarterly*.

Eschenfelder, K.R., Beachboard, J. C., McClure, C. R., & Wyman, S.K. (1997).
Assessing U.S. Federal Government Websites. *Government Information
Quarterly, 14,* 173-189.

Emslie, L., Bent, R. & Seaman, C. (2007). Missed opportunities? Reaching the
ethnic consumer market. *International Journal of Consumer Studies, 31,* 168-
173.

Fallows, D. (2005). *How women and men use the internet*. Pew Internet & American
Life Project. Retrieved November 24, 2007 from
http://www.pewinternet.org/pdfs/PIP_Women_and_Men_online.pdf.

Fox, S. & Madden, M. (2005). *Generations online. (*Data memo.) Pew Internet &
American Life Project. Retrieved November 24, 2007 from
http://www.pewinternet.org/pdfs/PIP_Generations_Memo.pdf.

Halchin, L. E. (2004). Electronic government: Government capability and terrorist
resource. *Government Information Quarterly, 21,* 406-419.

Hernon, P. (1998). Government on the web: A comparison between the United States
and New Zealand. *Government Information Quarterly, 15,* 419-443.

Ho, J. (1997). Evaluating the World Wide Web: A global study of commercial sites.
Journal of Computer-Mediated Communication, 3 (1). Retrieved November
18, 2007 from http://jcmc.indiana.edu/vol3/issue1/ho.html.

Jaeger, P. T. (2005). Deliberative democracy and the conceptual foundations of

electronic government. *Government Information Quarterly, 22*(4), 702-719.

Jaeger, P. T. (2006). Assessing Section 508 compliance on federal e-government

Web sites: A multi-method, user-centered evaluation of accessibility for

persons with disabilities. *Government Information Quarterly, 23,* 169-190.

Jaeger, P. T. (2007). Information policy, information access, and democratic

participation: The national and international implications of the Bush

administration's information politics. *Government Information Quarterly, 24*,

840-859.

Jaeger, P. T. (in press). User-centered policy evaluations of Section 508 of the

Rehabilitation Act: Evaluating e-government websites for accessibility.

Journal of Disability Policy Studies.

Jaeger, P. T., & Bowman, C. A. (2005). *Understanding disability: Inclusion, access,

diversity, & civil rights*. Westport, CT: Praeger.

Kaufmann, D., Kraay, A., Mastruzzi M. (2007a). *Governance Matters VI:

Governance Indicators for 1996-2006* (World Bank Policy Research Working

Paper No. 4280). Retrieved November 10, 2007, from

http://ssrn.com/abstract=999979.

Kaufmann, D., Kraay, A., Mastruzzi, M. (2007b). *Governance Matters 2007:

Worldwide Governance Indicators, 1996-2006.* Retrieved November 10,

2007, from http://info.worldbank.org/governance/wgi2007/.

Kaylor, C., Deshazo, R., Eck, D. V. (2001). Gauging e-government: A report on

implementing services among American cities. *Government Information*

Quarterly, 18, 293-307.

Lazar, J., Beere, P., Greenridge, K., & Nagappa, Y. (2003). Web accessibility in the

mid-Atlantic United States: A study of 50 homepages. *Universal Access in the*

Information Society, 2, 331-341.

Lazar, J., Dudley-Sponaugle, A., & Greenidge, K-D. (2004). Improving web

accessibility: A study of webmaster perceptions. *Computers in Human*

Behavior, 20, 269-288.

Lenhart, A., Horrigan, J., Rainie, L., Allen, K., Boyce, A., Madden, M., & O'Grady,

E. (2003). *The ever-shifting internet population: a new look at Internet access*

and the digital divide. Pew Internet & American Life Project. Retrieved

November 24, 2007, from

http://www.pewinternet.org/pdfs/PIP_Shifting_Net_Pop_Report.pdf.

Mahler, J., & Regan, P. M. (2006). Crafting the message: controlling content on

agency Web sites. *Government Information Quarterly, 24,* 505-521.

Mont, D. (2007). *Measuring Disability Prevalence* (SP Discussion Paper NO. 0706).

Retrieved November 10, 2007, from

http://siteresources.worldbank.org/DISABILITY/Resources/Data/MontPreval

ence.pdf.

Moss, G. A., Gunn, R., & Kubacki, K. (2007). Successes and failures of the mirroring

principle: the case of angling and beauty websites. *International Journal of*

Consumer Studies, 31 (3), 248-257.

Shi, Y. (2006). The accessibility of Chinese local government Web sites: An

exploratory study. *Government Information Quarterly, 24,* 377-403.

Singh, A. K., & Sahu, R. (in press).Integrating Internet, telephones, and call centers

for delivering better quality e-governance to all citizens. *Government*

Information Quarterly.

Torres, L, Pina, V., & Acerete, B. (2005). E-government developments on delivering

public services among EU cities. *Government Information Quarterly, 22,*

217-238.

Von Hellens, L., and Nielsen, S. (2001). Australian Women in IT. *Communications*

from the ACM,44(7), 46-52.

U. S. Office of Management and Budget. (2007). Presidential initiatives: internal

efficiency & effectiveness. In *E-gov: powering America's future with*

technology. Retrieved November 24, 2007, from

http://www.whitehouse.gov/omb/egov/c-4-internal.html.

Weijters, B., & Gueens, M. (2006). Evaluation of age-related labels by senior

citizens. *Psychology and Marketing, 23 (9),* 783-798/

Yildiz, M. (2007). E-government research: Reviewing the literature, limitations, and

ways forward. *Government Information Quarterly, 24,* 646-665.

Zhou, X. (2004). E-government in China: a content analysis of national and

provincial websites. *Journal of Computer Mediated Communication, 9 (4).*

Retrieved November 24, 2007, from

http://jcmc.indiana.edu/vol9/issue4/zhou.html.