

Democratization of Government Websites: Indicators and Comparing Perceptions of Citizens and Public Officials in Taiwan

Jing Shiang¹, Naiyi Hsiao² and Jin Lo²

¹Tunghai University, Taichung, Taiwan

²National Chengchi University, Taipei, Taiwan

jshiang@thu.edu.tw

nhsiao@nccu.edu.tw

94256504@nccu.edu.tw

Abstract: What roles should government websites play in a democratic system? How should government websites democratize themselves? What contents and functions should a government website have in order to serve citizens in a democratic way? Various studies and research evaluated and ranked government websites. Although these studies partly answered the above-mentioned questions, they used evaluative indicators whose formation mostly did not take into consideration of the perceptions of citizens and/or public officials. A critical question thus remained unsolved. That is, how do public officials (as designers of the web pages) think of these above-mentioned questions, and, more importantly, how do citizens (as users of the web pages) perceive on these questions? Do the two groups (citizens and public officials) agree or disagree with each other? If so, how and why?. To clarify the puzzles, the authors first reviewed relevant literature and compiled a list of democratic web functions and contents used in previous studies. Secondly, the authors conducted large scale online surveys of public officials and citizens to collect and compare their opinions on the desirability, necessity and feasibility of website items. Thirdly, the authors interviewed practitioners and experts in groups to identify reasons behind any dissimilarities between the views of public officials and citizens.

The indicators are approved by citizens and public officials as democratizing contents or functions in a government website. Specifically from a democratizing point of view, website content and function indicators approved by citizens and public officials are found to be significantly different from those used in general evaluations of public websites conducted by previous research. Furthermore, although citizens and public officials agree with each other on the desirability, necessity and feasibility of most of the democratizing indicators, there are indeed still some items that are deemed as highly desirable by citizens but not so necessary or feasible by public servants. The disagreeing contents or functions are in the constructs of "Agency Profile" and "Open Government" and the disagreement possibly comes from more workload burden and additional technical and institutional requirements on the public officials and agencies.

Keywords: e-Democracy; government website; citizen perception; web site evaluation; web site ranking

1. Introduction

Almost at the same time electronic commerce (e-commerce) emerged from private enterprises in the 1990s, many countries worldwide started their digital or electronic government (e-government) programs utilizing the capacity of Information and Communications Technologies (ICTs or ICT) to better serve their citizens. In addition to the communication infrastructure such as bandwidth, building up the websites for different levels of public agencies and governments was one of the first tasks adopted by all countries. Since then, various academic and practice work have proposed guidelines for designing government websites and also evaluated their quality (e.g., OECD 2003; UN 2004; West 2006a). These guidelines have mostly examined privacy and usability for government websites and hence contributed to browsing experiences of the citizens who have accessed to government information and services on the Internet.

Arguments on ICT utilization for enhancing democratic participation have been proposed in the early stages of Internet development in the 1990s. For those with capability, ICT can reduce costs for access to government information and service delivery which has served as the conventional reason for sufficient participation in public affairs by the general citizens (Kakabadse et al. 2003). It was also argued that ICT has an enabling role for democracy that may (1) provide channels and content for government information, (2) encourage public deliberation between governments and

The 7th European Conference on e-Government

citizens, as well as among citizens, and (3) invite participation concerning government decisions on public policies (Tsagarousianou 1999).

Compared with the previous arguments for utilizing ICT for democracy, nevertheless, the administrative functions of government websites appeared more popular and straightforward – and the parallel is e-commerce of private businesses for transaction processing with their customers. This may explain why international assessments of government websites have relatively more focused on their usability. However, while usability is critical for all websites, its indicators have yet to fully suit for government functions covering both administrative and democratic purposes. Particularly, as shown in the following literature review, most indicators for evaluating government websites pay relatively more attention to citizens' common business transaction requirements when they browse government websites to request general information or administrative services such as tax-filing.

As an efficient and effective channel of communication, governmental websites should serve to enhance the realization of democratic values. Governmental websites can play as the front-end contact with the citizens for democracy as the way they play for providing administrative services. The current study, therefore, attempts to explore what contents and functions governmental websites should have to fulfill their democratizing purposes, especially from the citizens' and public officials' points of view. The following section reviews the current evaluative indicators for government websites. By explicating the research questions, the authors propose vivid democratic functions which may be adopted in government websites.

2. e-Government contents and assessment

In the meanwhile, various studies have systemically evaluated governmental websites. Indicators that these evaluations apply will undoubtedly highlight the relative significance of various parts of an official website, and also provide guidelines for governments to further website cantons. Reviewing the application and achievement of indicators of government websites in the world can help us to set up the exclusive indicators to evaluate democratization of public websites of a country. For this purpose, this section reviews some of the significant studies, including E-Government Survey by Brown University, Digital Governance in Municipalities Worldwide, and Global e-Government Readiness Survey by the United Nations.

2.1 e-Government surveys by Brown University

Since 2001, e-Government Survey of Brown University has devoted continuous efforts in assessing public websites of various countries' central governments (West 2006a, b). The research team investigates presence of various features of information availability, service delivery, and public access to governmental websites to assess the development and ability of e-government in various countries. In its 2006 Global E-Government survey and American State and Federal E-Government survey, Brown University's indicators for evaluation have several dimensions including online publications, online database, audio clips, video clips, non-native languages or foreign language translation, commercial advertising, premium fees, user payments or fees, disability access, privacy policy, security features, presence of online services, number of different services, digital signatures, credit card payments, email address, comment forms, automatic email updates, website personalization, personal digital assistant (PDA) accessibility, and readability level of the website (West 2006a, b).

Brown University's framework of assessment is to report what can be seen in a government website, neglecting the meaning embedded in a feature. It's framework relatively overweighs managerial and administrative functions of government websites on the whole. The only indicator that can be correlated with democratizing is online information, with public outreach.

2.2 Digital governance in municipalities worldwide

Compared to the focus on central government websites of the nations, New Jersey University's Marc Holzer and Korean Sungkyunkwan University's Seang-Tae Kim developed a different set of indicators to evaluate municipal government websites around the world (Holzer & Kim 2005) . An

even more meaningful feature is that Holzer & Kim's evaluation of municipal websites is more conscious about their democratic functions. Holzer & Kim considered whether municipal government websites promote direct democracy or not.

Holzer & Kim adopted Moon's (2002) framework for categorizing e-government models based on the following components: information dissemination, two-way communication, services, integration, and political participation. In addition, they added one more component, security, in their evaluation. In sum, their E-Governance Performance Index for evaluating city and municipal official websites consists of five components: Security and Privacy, Usability, Content, Services, and Citizen Participation.

In Holzer & Kim's Citizen Participation component, the indicators are: Comments or feedback, Newsletter, Online bulletin board or chat capabilities, Online discussion forum on policy issues, Scheduled e-meetings for discussion, Online survey/polls, Synchronous video, Citizen satisfaction survey, Online decision-making, and Performance measures, standards, or benchmarks. Compared with Brown University's study, Holzer & Kim are more concerned with democratic functions of government official websites. However, the democracy-oriented indicators seem not to be comprehensive enough to fully demonstrate such potential of government websites

2.3 UN global e-Government readiness survey

For the United Nations, one of the aims of e-government is to provide "empowerment of the people through access to information and participation in public policy decision-making (United Nations 2005: 14)." Presenting the state of e-government readiness of its member states, United Nations' Global e-Government Readiness Survey applies a composite index that is comprised of the Web Measure index, the Telecommunication Infrastructure index and the Human Capital index (UNDESA; United Nations 2003, 2004, 2005). The Web Measure index defines five stages of e-government: (1) Emerging Presence: including basic information of the static function of government website and service; (2) Enhanced Presence: including basic one-way information content or service, and service functions such as downloading, inquiry, electronic newsletter, search function, and instant message, etc.; (3) Interactive Presence: including two-way information, services and mechanisms for two-way communication between government and people, such as on-line proposition, contact message, suggestion for department director and contact with the government department, etc; (4) Transactional Presence: including totally on-line electronic services, such as bill payment or trade; (5) Networked Presence: including on-line decision-making mechanisms, such as on-line opinion polls and public forums.

More importantly, United Nations' survey also includes The E-Participation Index which assesses the capacity and the willingness of the state in promoting deliberative and participatory decision-making in public policy (United Nations 2005). Specifically, E-Participation measures e-information to citizens for decision making, e-consultation for deliberative and participatory processes, and e-decision making by increasing the input of citizens in decision making.

2.4 Critique of the previous evaluations

The potential and importance of ICT and web use in enhancing democracy has been reaffirmed, and concrete suggestions made. For example, OECD (Organization for Economic Cooperation and Development) explicitly suggested that countries should fully utilize ICT to enhance citizen participation and deepen democratization (OECD 2003). Three mechanisms for constructing digital democracy have been suggested (OECD 2003): (1) Electronic information disclosure: Public websites should offer relevant public information such as public policy, plan, finance, regulation, etc.; (2) Electronic consultation: Government's websites should encourage people to participate to discuss public policy topic immediately and offer the audio-visual file of the public meeting online, such mechanism as chatrooms, website's public forum, E-mail form, network grouping, etc.; (3) Electronic participation: The government should include people's suggestions in the decision formulation process, and offer an channel to obtain feedback on specific public issues.

While previous e-government and/or public website evaluations were educational and served their purposes, they were not developed from a normative framework of indicators that are focusing on

certain purposes and values that can be used to guide the construction public websites. Furthermore, the studies lack reasonable foundation for the indicators they used. Especially, they applied evaluation indicators that were chosen purely by the researchers based on whatever can be seen or thought of on the Internet. This paper argues that, to be sufficiently practical and feasible, and to be truly citizen-oriented democratic, any democratizing contents and functions in a government website must be affirmed so by both public officials and citizens. Such affirmed contents and functions then can serve as guidance for public agencies for constructing their websites and as indicators for website evaluations.

3. Purpose and research questions

While some may doubt the democratizing potentials of ICT, more commentators hold positive views. However, no solid agreement as how to realize such potentials has been made. What roles should government websites play in a democratic system? How should government websites democratize themselves? What functions and components should a government website have in order to serve citizens in a democratic way? Various studies and research evaluated and ranked government websites. Although these studies partly answered the above-mentioned questions, but they used evaluative indicators that mostly did not take into consideration of the views of normal citizens. A critical question thus remained unsolved. That is, how do public officials (as designers of the web pages) think of these above-mentioned questions, and, more importantly, how do citizens (as users of the web pages) perceive on the same set of questions? Do the two groups (citizens and public officials) agree or disagree with each other? If so, how and why?

This research thus aims for several purposes. In sum, it endeavors to summarize previous studies and to lay out indicators of web contents and functions that are deemed to be contributive to democracy. Practically, it then presents this inventory of indicators to public officials and regular citizens to obtain their views about these indicators' desirability, feasibility and necessities. Theoretically, it compares the views of the two groups to determine the degree of agreement on the indicators between public officials and citizens.

This research answers its research questions in the context of Taiwan, an East Asian democratic country. The electronic government in Taiwan has seen considerable development since 1990s. Recently, the achievements of Taiwan's e-government have obtained a lot of affirmation in worldwide assessments. In Brown University's Global electronic government assessment, Taiwan has ranked the first in 198 countries around the world in 2002, 2004, 2005. Last year (2006), Taiwan also ranked the second. Furthermore, in the World Economic Forum's World e-Government Usage and Network Readiness assessment, Taiwan also comes out at the top over the years. Undoubtedly, construction of this government's websites is the primary task in its electronic government policy. Taiwan's authorities especially pay close attention to public websites, which can be demonstrated in the achievement of international websites assessments. Theses all show the concrete effects of the electronic government in Taiwan.

4. Methods

Based on the previous review for the current literature evaluating the government websites, a mixed-method approach was designed for resolving the research questions. The research team firstly proposed a set of preliminary indicators for the functions and contents of a democratic website. These indicators include those with information dissemination (e.g., agency mission statements, budgets), citizen interaction (e.g., online complaints handling, online forum), and decision making (e.g., online voting). To confirm and verify the democratic applicability of the pre-set indicators, the authors then conducted two large scale online surveys of public officials and citizens on the Internet. In addition, focus group interviews with practitioners and experts were also implemented to gain further insights of the indicators. The following sections elaborate on the surveys and the focus group interviews.

4.1 The online survey of the Netizens

The participants of the first online survey were recruited from two channels. Firstly, we collaborated with an online survey company INSIGHTEXPLOeR (www.insightxplorer.com) in

Taiwan and sampled from its web-based panel consisted of 120,000 Internet users. Totally 1,335 invitation emails were sent and 730 responses were received. The sponsor of the second channel contributing to the online citizen survey was Taiwan's e-government web portal (www.gov.tw). The authors posted invitation on the portal and recruited totally 497 responses from its members. Thus, totally 1,227 valid responses from the citizens who have access to the Internet (the netizens) consist of the valid sample for our first online survey via two channels above in July 2006.

The questionnaire items firstly covered the demographics questions such as each respondent's gender, age, education, income, and frequency of Internet use. Then the respondents were asked to evaluate the desirability of the government websites in terms of their contents and functions by indicators.

4.2 The online survey of public officials

Concerning the second online survey from the public officials in charge of managing websites of their agencies, the authors sent letters to 557 administrative agencies in the central and local governments in Taiwan as they were found to regularly maintain their websites. The letter introduced the current research project and invited one of the agency officials to visit the questionnaire website. In September 2006, totally 368 valid online responses were collected.

The questionnaire items in the survey, first of all, attempt to elicit the public officials' perspectives on the necessity and feasibility to provide the democratic website functions as described above. The responses from the agencies will then be compared with those obtained from the citizens in the subsequent sections of this paper.

4.3 Focus group interviews

In addition to the previous online surveys, practitioners of public agencies in the central and local government levels, as well as the scholars in the field of e-government and e-society in Taiwan, were invited and participated in three rounds of focus-group interviews. The interview participants were firstly exposed with the indicators for democratic mechanism on government websites, and then asked to provide comments which may include their desirability, feasibility, and modification suggestions.

5. Findings

5.1 Democratic contents and functions in a government website

Based on literature review and revision from the two-staged focus group interviews, this research has constructed indicators of democratizing content and function indicators in government websites. The indicators are in four major constructs, as illustrated in Table 1. "Agency Profile" construct includes 7 indicators. They provide basic agency data information and serve as foundation of interactivities between a governmental agency and citizens. "Open Government" construct includes 14 indicators of information items and 5 indicators of communication functions. "Interactivity/Consultation" construct includes 6 indicators that emphasize functions of two-way interactions. Lastly, "Policy Making" construct includes 2 indicators of functions in which citizens can participate in public affairs directly and with results that have legal effects.

5.2 Different perceptions towards the indicators

This research then surveyed citizens and public officials to obtain their views towards the desirability, necessity and feasibility of these indicators. How much do the citizens desire each of the indicators in a government website to serve them rightly? How necessary do public employees deem these functions and contents to be in a website of a democratic government? How feasible do public servants think it is to have these functions and contents in their agency websites? Do the two groups agree with each other? If not, what are the disagreements?

This research ranked the results of the surveys of the two groups. The ranking of the indicators in their desirability by citizens and feasibility and necessity by public officials is displayed in Table 2.

The 7th European Conference on e-Government

The results show that, most of the indicators are approved by the two groups as democratizing contents or functions in a government website, as they receive consent from more than 50 percent of the respondents. In the construct of "Agency Profile," citizens and public officials highly agree with each other, in terms of the desirability, necessity and feasibility of most of the indicators. What they have different priorities are e-mail addresses and phone numbers. While citizens quite regard the two items as desirable in a government website, public servants ranked them low in terms of feasibility and even lower in necessity. In focus group interviews, public employs expressed concerns that publication of e-mail addressed and phone numbers may bring them more workload and unexpected interruptions.

Table 1: Democratization indicators for government websites

Construct of Indicators	Indicators
Agency Profile	Address
	Service Hours
	Organizational Chart
	Telephone Numbers
	Fax Numbers
	E-Mail Addresses
	Agency Location and Map
Open Government	Governance Visions
	Tasks / Functions
	Policy White Papers
	Documents Related to Policies or Tasks
	Update of Policies or Tasks
	Budgets
	Final Accounts
	Personnel Allocation
	Minutes of Meetings
	Laws or Regulations Related to Policies or Tasks
	Statistical Database
	Publications and Reports (Value-Added Information Based on Statistics)
	Full-text Search Function
	FAQ / Q&A
	Background Documentation for Policies and Regulations in Decision-making Process
	Current Status of Policies and Regulations in Decision-making Process
	Electronic Newsletter Subscription
Multi-Media Documents	
Customization of Information/Web Pages	
Interactivity/ Consultation	Forms for Opinions
	E-Mail Addresses for Complaints
	Guestbook / Public Discussion Forum
	Online Poll / Survey
	MSN or Chat Room
	Video Conferencing or Live Broadcast
Policy Making	Online Issue Referendum
	Online Election of Public Posts / E-Voting

Table 2: Priorities of the Indicators by citizens and public officials*

Desirability by the Citizens	Feasibility by the Public Officials	Necessity by the Public Officials
<i>Agency Profile</i>		
Service Hours	Service Hours	Address
Agency Location and Map	Agency Location and Map	Agency Location and Map
Address	Fax Numbers	Service Hours
Telephone Numbers	Address	Organizational Chart

Desirability by the Citizens	Feasibility by the Public Officials	Necessity by the Public Officials
E-Mail Addresses	Telephone Numbers	Fax Numbers
Organizational Chart	E-Mail Addresses	Telephone Numbers
Fax Numbers	Organizational Chart	E-Mail Addresses
<i>Open Government</i>		
FAQ/Q&A	Tasks/Functions / Personnel Allocation	Laws or Regulations Related to Policies or Tasks
Full-Text Search Function	Governance Visions / Policy White Papers	Update of Policies or Tasks
Update of Policies or Tasks	Laws or Regulations Related to Policies or Tasks	FAQ/Q&A
Laws or Regulations Related to Policies or Tasks	FAQ/Q&A	Governance Visions / Policy White Papers
Electronic Newsletter Subscription	Update of Policies or Tasks	Full-Text Search Function
Multi-Media Documents	Full-Text Search Function	Tasks/Functions / Personnel Allocation
Statistical Database	Publications and Reports (Value-added information Based on Statistics)	Publications and Reports (Value-added information Based on Statistics)
Customization of Information/Web Pages	Electronic Newsletter Subscription	Statistical Database
Governance Visions / Policy White Papers	Statistical Database	Current Status of Policies and Regulations in Decision-making Process
Current Status of Policies and Regulations in Decision-making Process	Current Status of Policies and Regulations in Decision-making Process	Electronic Newsletter Subscription
Publications and Reports (Value-added information Based on Statistics)	Budgets / Final Accounts	Budgets / Final Accounts
Background Documentation for Policies and Regulations in Decision-making Process	Customization of Information/Web Pages	Background Documentation for Policies and Regulations in Decision-making Process
Tasks/Functions / Personnel Allocation	Minutes of Meetings	Customization of Information/Web Pages
Budgets / Final Accounts	Background Documentation for Policies and Regulations in Decision-making Process	Minutes of Meetings
Minutes of Meetings	Multi-Media Documents / Multi-Media Recording of Meetings	Multi-Media Documents / Multi-Media Recording of Meetings
<i>Interactivity / Consultation</i>		
Online Poll / Survey	Forms for Opinions / E-Mail Addresses for Complaints	Forms for Opinions / E-Mail Addresses for Complaints
Guestbook / Public Discussion Forum	Online Poll / Survey	Online Poll / Survey
Forms for Opinions / E-Mail Addresses for Complaints	Guestbook / Public Discussion Forum	Guestbook / Public Discussion Forum
Video Conferencing or Live Broadcast	MSN or Chat Room	Video Conferencing or Live Broadcast
MSN or Chat Room	Video Conferencing or Live Broadcast	MSN or Chat Room
<i>Policy Making</i>		
Online Issue Referendum	Online Issue Referendum	Online Issue Referendum
Online Election of Public Posts / E-Voting	Online Election of Public Posts / E-Voting	Online Election of Public Posts / E-Voting

The 7th European Conference on e-Government

*Indicators are displayed in each category from the top down according to each indicator's rate of approval by survey respondents. The higher the approval rate, the topper it is located in the column.

Within the "Open Government" construct, the most desirable indicators rated by citizens are FAQ/Q&A, Full-Text Search Function, Update of Policies or Tasks, Laws or Regulations Related to Policies or Tasks, and Electronic Newsletter Subscription. Public officials regard the following as the most necessary contents or functions: Laws or Regulations Related to Policies or Tasks, Update of Policies or Tasks, FAQ/Q&A, Governance Visions / Policy White Papers, and Full-Text Search Function. However, the most feasible indicators chosen by the public officials include Tasks/Functions/Personnel Allocation, Governance Visions/Policy White Papers, Laws or Regulations Related to Policies or Tasks, FAQ/Q&A, and Update of Policies or Tasks. In general, FAQ/Q&A, Update of Policies or Tasks, and Laws or Regulations Related to Policies or Tasks receive approximately the same emphasis from both the two groups. However, while citizens rank Electronic Newsletter Subscription and Multi-Media Documents relatively high in desirability, the two indicators position relatively low in necessity and feasibility by public officials. It seems that, citizens want to be periodically informed by public agencies through e-newsletters and to watch and hear recordings of public activities, but public employees are more conservative in this regard due to the informational workload related to e-newsletters and the additional technical and institutional requirements related to putting multi-media documents or video meeting recordings online.

Among the 5 indicators of the "Interactivity/Consultation" construct, Online Poll / Survey, Guestbook / Public Discussion Forum, and Forms for Opinions / E-Mail Addresses for Complaints are all rated most desirable, feasible and necessary by both citizens and public officials. MSN or Chat Room and Video Conferencing or Live Broadcast are both ranked low, demonstrating high degree of consensus on the indicators of this construct.

Lastly, within the construct of "Policy Making," there are two indicators: Issue Referendum and Election of Public Posts / E-Voting. For these two indicator, perspectives of desirability, feasibility and necessity by citizens and public officials show same ranking order. Consensus exists between the two groups.

6. Conclusion

ICTs and web technologies have been used to improve government service delivery, and to enhance democracy by promoting citizen participation. However, while most of existing studies have focused on the general features of public websites, few research has paid sufficient attention to the democratizing contents and functions in government websites. In order that government websites may be used to promote democratic values, specific contents and functions must be identified and confirmed before public agencies can apply accordingly.

From current literature, this research put together a list of indicators of contents and functions that are contributive to the realization of democratic values. According to their effects, these indicators are also categorized into four groups: "Agency Profile", "Open Government", "Interactivity/Consultation" and "Policy Making" constructs. Through focus group interviews and large scale online surveys, these indicators are affirmed by regular citizens and public officials, and ranked by their desirability, necessity and feasibility.

The indicators are approved by citizens and public officials as democratizing contents or functions in a government website. Citizens and public officials have high degree of consensus in the "Interactivity/Consultation" construct and in the construct of "Policy Making". However, in the construct of "Agency Profile," citizens ranked agency e-mail addresses and phone numbers in a government website as highly desirable, but public servants ranked them low in both feasibility and necessity. Furthermore, within the "Open Government" construct, citizens ranked Electronic Newsletter Subscription and Multi-Media Documents relatively high in their desirability, but the two indicators were positioned relatively low in necessity and feasibility by public officials.

In conclusion, specifically from a democratizing point of view, website content and function indicators approved by citizens and public officials are significantly different from those used in general evaluations of public websites conducted by previous research. However, although citizens and public officials agree with each other on the desirability, necessity and feasibility of most of the democratizing indicators, there are indeed still some items that are deemed as highly desirable by citizens but not so necessary or feasible by public servants.

With the results of this research, certain implications can be made. Firstly, evaluations of government websites may be furthered by focusing on significant perspectives related to basic purposes and tasks of the government. Secondly, in assessing public websites, citizens' and public officials' views about what are desirable, necessary and feasible in a public website should be taken into consideration and differentially weighted. Thirdly, in constructing government websites, public officials should seriously identify and take into consideration citizens' perceptions and opinions on what they desire to accomplish within a public website. Lastly, an ideal e-government may be perfect, but it usually demands more workload, technical capacity and institutional changes from public officials and agencies. Where to strike a balance among preferences of citizens, public officials and researchers/evaluators in building a democratic website merits further discussion and research.

References

- Catinat, M. and Vedel, T. (2000). "Public Policy for Digital Democracy." In *Digital Democracy: Issues of Theory and Practice*, edited by Kenneth L. Hacker and Jan van Dick, Thousand Oaks, CA: SAGE: 184-208.
- Holzer, M., & Kim, S.T. (2005). *Digital Governance in Municipalities Worldwide (2005) ~ A Longitudinal Assessment of Municipal Websites Throughout the World*. [online] <http://www.andromeda.rutgers.edu/~egovinst/Website/PDFs/100%20City%20Report%202005%20-%20Final.pdf>
- Kakabadse A., N. Kakabadse & A. Kouzmin (2003). "Reinventing the Democratic Governance Project through Information Technology: A Growing Agenda for Debate," *Public Administration Review*, 63(1): 44-60.
- Moon, M. Jae. (2002) "The evolution of E-government among municipalities: Rhetoric or reality?" *Public Administration Review* 62(4): 424-433.
- OECD (2003). *Promise and Problems of E-Democracy: Challenges of Online Citizen Engagement*, Paris.
- The E-Governance Institute/ National Center for Public Productivity, Rutgers, the State University of New Jersey – Newark and The Global e-Policy e-Government Institute, Sungkyunkwan University (2003) *Digital Governance in Municipalities Worldwide - An Assessment of Municipal Web Sites throughout the World*, [online], <http://www.andromeda.rutgers.edu/~egovinst/Website/summary.htm>
- Tsagarousianou, R. (1999). "Electronic democracy: Rhetoric and reality." *Communications: The European Journal of Communication Research*, 24(2): 189-208.
- United Nations (2003). *World Public Sector Report 2003 : E-Government at the Crossroads*.
- United Nations (2004). *UN Global E-Government Readiness Report 2004: Towards Access for Opportunity*, [online], <http://unpan1.un.org/intradoc/groups/public/documents/UN/UNPAN019207.pdf>
- United Nations (2005a). *Symposium on the Application of Information and Communication Technologies (ICTs) in the Audit of E-Government: A Strategy for Efficiency, Transparency and Accountability*.
- United Nations (2005b). *UN Global E-government Readiness Report 2005: From E-government to E-inclusion*, [online], <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021888.pdf>
- West, Darrell M. (2006a) *Global E-Government, 2006*, [online], <http://www.insidepolitics.org/egovt06int.pdf>
- West, Darrell M. (2006b) *State and Federal E-Government in the United States, 2006*, [online], <http://www.insidepolitics.org/egovt06us.pdf>

ECEG 2007
7th European Conference
on e-Government
Haagse Hogeschool, Den Haag,
The Netherlands
21-22 June 2007

Edited by

Dr Dan Remenyi
Trinity College Dublin, Ireland

Copyright The Authors, 2007. All Rights Reserved.

No reproduction, copy or transmission may be made without written permission from the individual authors.

Papers have been double-blind peer reviewed before final submission to the conference. Initially, paper abstracts were read and selected by the conference panel for submission as possible papers for the conference.

Many thanks to the reviewers who helped ensure the quality of the full papers.

ISBN: 978-1-905305-45-2 Cd

Published by Academic Conferences Limited
Reading
UK
44-118-972-4148
info@academic-conferences.org

ECEG 2007

Contents

Paper Title	Author(s)	Proceedings Page
Preface		v
Biographies of Conference Chairs, Programme Chair, Keynote Speaker and Mini-track Chairs		vii
Biographies of contributing authors		ix
Government-to-Citizens Relationship: Evaluating the Quality of Information on Saudi Ministries' Websites	Abdulmohsen Abanumy ¹ and Pam Mayhew ² ¹ King Fahed Security College, Riyadh, Saudi Arabia ² University of East Anglia, Norwich, UK	1-8
Government of Sudan e-Government Initiative: Challenges and Opportunities	Mazin Abusin Government of Sudan, Khartoum, Sudan	9-14
An Intelligent Integrated e-Government Framework: The Case of Jordan	Ghazi Alkhatib ¹ , Emad Bataineh ² , Haider Fraihat ³ and Zakaria Maamar ² ¹ Applied Science University, Amman, Jordan ² Zayed University, Dubai, UAE ³ National Information Technology Center, Amman, Jordan	15-22
Model for Mobile and Ubiquitous e-Government	Ljupco Antovski and Marjan Gusev University Ss. Cyril and Methodius, Skopje, Macedonia	23-30
Turkish Local e-Governments: A Longitudinal Study	Aykut Arslan Marmara University, Istanbul, Turkey	31-42
e-Democracy in Australia: The Challenge of Evolving a Successful Model	Jenny Backhouse School of Information Technology and Electrical Engineering, Canberra, Australia	43-52
Trust and the Taxman: A Study of the Irish Revenue's Website Service Quality	Frank Bannister ¹ and Regina Connolly ² ¹ Trinity College, Dublin, Ireland ² Dublin City University, Ireland	52-62
Validation and Verification Issues in e-Voting	Orhan Cetinkaya and Deniz Cetinkaya ¹ Middle East Technical University, Ankara, Turkey	63-70
The Role of Strategic Leadership in Driving Transformative e-Government: A Comparative Analysis of the Arab States in the Middle East	Akemi Takeoka Chatfield and Omar Al Hujran University of Wollongong, Australia	71-80
Small Communities: e-Vote Diffusion	Flavio Corradini, Eleonora Paganelli and Alberto Polzonetti University of Camerino, Italy	81-90

Paper Title	Author(s)	Proceedings Page
Business Rules and their use in an e-Government scenario	Flavio Corradini, Giorgia Meschini, Alberto Polzonetti and Oliviero Riganelli University of Camerino, Italy	91-100
Long Term Digital Archiving - Outsourcing or Doing it	Mitja Dečman University of Ljubljana, Slovenia	101-110
e-Government and Patterns of Innovation in the Public Sector	Martin De Saulles University of Brighton, UK	111-116
A Semiotic Analysis of Spanish Local e-Government Websites	José Esteves Instituto de Empresa Business School, Madrid, Spain	117-122
Belgif: Governmental Collaboration and Infrastructural Standards in Belgium	Alea Fairchild and Bruno de Vuyst Vesalius College, Vrije Universiteit Brussel	123-130
Evaluation of Web Service Composition Methods from a Multi-Actor Perspective	Ralph Feenstra, Marijn Janssen, and Rene Wagenaar Delft University of Technology, The Netherlands	131-142
Evaluation and Distribution of e-Government Services	Raoul Freeman California State University Dominguez Hills, CA, USA	143-148
Mypage and Borger.dk - A Case Study of two Government Service Web Portals	Karin Furuli ¹ and Sigrun Kongsrud ² ¹ Sogn og Fjordane University College, Sogndal, Norway ² Norway.no, Leikanger, Norway	149-160
An e-Government Application for Integrated, Multi-Level Management of Large Scale Resources of the Greek Primary and Secondary Education	John Garofalakis ^{1,2} , Andreas Koskeris ¹ and Agoritsa Vopi ¹ ¹ Research Academic Computer Technology Institute Greece ² University of Patras, Patras, Greece	161-170
Media-Savvy Professionals: Intranets and Reinventing Government	Mary Griffiths University of Adelaide, Australia	171-180
An Architecture Employing Emerging Technologies for Knowledge Capture in Government Planning and Decision Systems	Kenneth Griggs and Rosemary Wild California Polytechnic State University, San Luis Obispo, CA, USA	181-188
Attaining Social Value From Electronic Government	Michael Grimsley ¹ and Anthony Meehan ² ¹ Sheffield Hallam University, UK ² Department of Computing, The Open University, UK	189-200
Back-Office Implementation of e-Government - A Learning Process	Kerstin Grundén University West, Trollhättan, Sweden	201-208
The Transition to e-Government for Local Governments: A Conceptual Framework on Issues in Ict Implementation	Hajah Rugayah Hj Hashim, Rosmimah Mohd Roslin and Adnan Jamaludin University Technology Mara, Malaysia	209-218

Paper Title	Author(s)	Proceedings Page
The Results of a Scenario Building and Road Mapping Workshop for e-Government in 2020	Marijn Janssen, Anneke Huizer, Patrick van der Duin and René Wagenaar Delft University of Technology, the Netherlands	219-228
A new Model for Document Management in e-Government Systems Based on Hierarchical Process Folders	Raphael Kunis, Gudula Runger and Michael Schwind Chemnitz University of Technology, Germany	229-240
Distribution-Collaboration Networks (DCN): A Systems-Based Model for Developing Collaborative e-Government Services	Konstadinos Kutsikos University of the Aegean Business School, Chios, Greece	241-250
e-Governance In Rural India: An Empirical Study	Ram Lal ¹ and Abid Haleem ² ¹ Computer Services Centre, Indian Institute of Technology, Delhi, India ² Jamia Millia Islamia, India	251-258
Case Management for Establishing Breast Cancer Centres	Nadine Lindermann and Carlo Simon University of Koblenz, Germany	259-268
e-Voting: Same Pilots, Same Problems, Different Agendas	Mark Liptrott Edge Hill University, Ormskirk, UK	269-278
From Conception to Demise: Implications for Users of Information Systems in Changing a Parastatal in KwaZulu-Natal, South Africa	Sam Lubbe ¹ , Shawren Singh ¹ and Guthrie Hall ² ¹ School of Computing, UNISA, South Africa ² School of IS&T, UKZN, South Africa	279-290
Using Habermas's Theory of Communicative Action to Analyse ICT-enabled e-Participation in Korea	Hyeon-Suk Lyu The University of Manchester, UK	291-300
Creating Democratic Value in the Public Sphere Through e-Participation: Where is this Value?	Paul McCusker ¹ , David O'Donnell ² and Honor Fagan ³ ¹ Letterkenny Institute of Technology, Ireland ² Intellectual Capital Research Institute of Ireland, Ireland ³ National University of Ireland Maynooth, Ireland	301-308
Digitization and Political Accountability in the Netherlands and the USA: Convergence or Reproduction of Differences?	Albert Meijer Utrecht School of Governance, The Netherlands	309-320
e-Government as a Decision Support System to Improve Public Services Provision	Mario Mezzanzanica and Mirko Cesarini University of Milan Bicocca, Italy	321-328
Public Manager, Baudrillard and the Virtual Cow: Can simulation games influence citizen's attitude and behaviour vis-à-vis online public debate?	Helene Michel ¹ and Dominique Kreziak ² ¹ IREGE-Chambery Business School, France ² IREGE- University of Savoie, France	329-336

Paper Title	Author(s)	Proceedings Page
Electoral Ergonomic Guidelines to Solve the Interference of new Technologies and the Dangers of their Broader use in Computerised Voting	Gabriel Michel ¹ , Walter Cybis de Abreu ² and Éric Brangier ¹ ¹ Université Paul Verlaine, ² Universidade Federal de Santa Catarina, Florianópolis, Brazil	337-348
Service Delivery- Simplifying tax Administration for Individuals and Business	Pat Molan Collector Generals Division, Revenue Commissioners, Limerick, Ireland	349-358
e-Business Models for use in e-Government for Developing Countries	Seyed Amin Mousavi, Elias Pimenidis and Hamid Jahankahni University of East London, UK	359-366
e-Participation in Israeli Local Governments: A Comparative Analysis	David Nachmias and Ayelet Rotem Interdisciplinary Centre, Herzeliya, Israel	367-374
An Analysis of e-Identity Organisational and Technological Solutions Within a Single European Information Space	Libor Neumann and Pavel Sekanina ANECT a.s Vídeňská, Czech Republic	375-384
Strengths and Weaknesses of the European Interoperability Framework Related to the Real Application of ICT in e-Government	Libor Neumann and Pavel Sekanina ANECT a.s Vídeňská, Czech Republic	385-394
e-Government Applications and its Effects on Public Service in Turkey	Yucel Ogurlu Istanbul Commerce University, Turkey	395-404
Process Modelling Towards e-Government – Visualisation of Process-Like Legal Regulations	Sebastian Olbrich ¹ and Carlo Simon ² ¹ Phillips University of Marburg ² University of Koblenz, Germany	405-414
e-Government and the Joining-up of the Greek Public Sector	Dimitra Petrakaki, Niall Hayes and Lucas Introna Lancaster University Management School, UK	415-424
e-Mail in the Public Sector: Identifying and Managing the Risks	Gert van der Pijl ¹ and Judith van Grimbergen ² ¹ Erasmus University, Rotterdam, The Netherlands ² Interpolis, The Netherlands	425-436
The use of ICT in e-Service Delivery and Effective Governance in South Africa	Moipone Florence Qhokane-Goliath University of the Free State-South Africa	437-442
10 Years of Confrontation Between French Internet Users and their Successive Governments	Olivier Ricou EPITA Research and Development Laboratory, Le Kremlin Bicêtre, France	443-450
Fair e-Government Strategies for Digital Illiterate Population	Olga Lopez Ríos and Miguel Lechuga Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico	451-458

Paper Title	Author(s)	Proceedings Page
Proposing a high-level Requirements Mapping Framework for Testing Implementation Compatibility in e-Government Projects	Ioannis Savvas ¹ , Elias Pimenidis ² and Alexander Sideridis ¹ ¹ Agricultural University of Athens, Greece ² University of East London, UK	459-468
The Management of Citizen Identity in Electronic Government	Soroush Sedaghat ¹ , Josef Pieprzyk ² and Philip Seltsikas ³ ¹ NSW Government, Sydney, Australia ² Macquarie University, Sydney, Australia ³ The University of Sydney, Australia	469-480
Strategic e-Government Planning: Lessons from Direct Applications of Standard SISP Methodologies	Eric See-To ¹ and Priscus Kiwango ² ¹ Lancaster University Management School, UK ² President's Office, Public Service Management, Tanzania	481-490
Democratization of Government Websites: Indicators and Comparing Perceptions of Citizens and Public Officials in Taiwan	Jing Shiang ¹ , Naiyi Hsiao ² and Jin Lo ² ¹ Tunghai University, Taichung, Taiwan ² National Chengchi University, Taipei, Taiwan	491-500
Towards a Hypothetical e-Government Solution: A South African Perspective	Shawren Singh ¹ , Sam Lubbe ¹ , Goonasagree Naidoo ² , and Rembrandt Klopper ³ ¹ UNISA, Pretoria, South Africa ² University Cape Town, South Africa; ³ UKZN, Durban, South Africa	501-510
Transport Direct - Project Lauren	Shane Snow Department for Transport, London, UK	511-518
Irish Parties in Cyberspace: An Analysis of Political Parties' Websites and Online Campaigning in the Context of the 2007 General Elections	Maria Laura Sudulich Department of Political Science, Trinity College Dublin, Ireland	519-528
Review and Contrast of the French and German Approaches to e-Democracy	Sandra Vergnolle, Nadia Amin and Helene Pritchard University of Westminster, UK	529-538

Preface

These proceedings represent the work of presenters at the 7th European Conference on e-Government (ECEG 2007).

The Conference is hosted this year by De Haagse Hogeschool, Den Haag, The Netherlands. The Conference Chair is Paul Nixon and the Programme Chair is Rajash Rawal – both from the Haagse Hogeschool.

The opening keynote address is given by Brian Loader from the University of York in the UK on the topic of *The Interpretive Flexibility of e-Government*.

The main purpose of the Conference is for individuals concerned with current research findings and business experiences from the wider community which is involved in e-Government to come together to share knowledge with peers interested in the same area of study.

A key aim of the conference is about sharing ideas and meeting the people who hold them. The range of papers will ensure an interesting two days. To further enhance the conference experience there is a Knowledge Café on Thursday afternoon.

With an initial submission of 102 abstracts, after the double blind, peer review process there are 64 papers published in these Conference Proceedings. These papers represent research from Australia, Belgium, Brazil, Czech Republic, France, Germany, Greece, India, Ireland, Israel, Italy, Jordan, Macedonia, Malaysia, Mexico, Netherlands, Nigeria, Norway, South Africa, Spain, Sudan, Sweden, Taiwan, Turkey, UK and USA.

I hope that you have an enjoyable conference.

Dr Dan Remenyi
Programme Chair
dan.remenyi@tcd.ie
June 2007