

# EMPOWERING CITIZENS' VOICES IN THE ERA OF E-GOVERNMENT: IMPLICATIONS FROM SOUTH KOREAN CASES

Joon Hyoung LIM

*School of Public Administration, Korea University-Campus at Sejong, Chung-Nam Yeonki-Gun  
Jochiwon 208, Republic of Korea  
jedailim@yahoo.com*

## Abstract

The rise of the Internet sparked an intense debate on the democratic potential of information and communication technologies (ICTs). This research illustrates how web technologies enable ordinary citizens to articulate their interests in policy processes and enhance the organizational intelligence of local governments. The two South Korean cities introduced in this article adopted internet applications that allowed citizens to contact public officials or city mayors directly, resulting in dramatic increases in online civic input into local governance. Citizens' political efficacy was encouraged both by government feedback and by the system that enabled their evaluation of the feedback. Despite the substantive contributions of the applications to local governance, formalistic responses from some public officials indicate challenges in building citizens' trust in government through the use of ICTs. To address the challenges, it is necessary to cultivate the innovative leadership of senior public managers and develop the institutional mechanisms encouraging public officials' sincere responses to citizens' online requests.

**Keywords:** E-government, Internet, Citizen Participation, Civic Engagement, Urban Governance.

## 1. INTRODUCTION

Citizens' access to the government has been a key issue in the field of public administration. A number of hurdles impede citizens' access to policy processes, such as red tape, high transaction costs, and insufficient knowledge and information (Cooper, 1979; Kellogg and Mathur, 2003). In this regard, recently emerging internet technologies have been expected to provide alternative ways for citizens to interact with public officials. A growing body of literature has focused on "e-government initiatives," which refer to the use of the Internet or web technologies to foster public service delivery and citizen participation in policy processes (Coursey and Norris, 2008; Dunleavy, et al., 2006; Norris and Moon, 2005; Robbins, et al., 2008; Thomas and Streib, 2005; Tolbert, et al., 2008; United Nations, 2008; West, 2005).

The rise of internet technologies, however, has sparked an intense debate on the democratic potential of information and communication technologies (ICTs) (Norris, 2001). Reinforcement theory argues that web technologies add to the political resources of the powerful elite or activists, strengthening their influence on policy processes (Davis, 1999; Weare, et al., 1999). By contrast, mobilization theory points out that new ICTs provide politically alienated citizens with alternative channels to represent their interests in policymaking processes (Scott, 2006; Stanley and Weare, 2004; Thomas and Streib, 2003). For instance, e-voting systems expand opportunities for citizens to make choices among policy options such that the systems empower them to be direct policy makers (Becker, 2001; Coleman and Gøtze, 2001). In addition, online forums hosted by the government help engage geographically dispersed citizens in policy debates and suggest their ideas to public officials for consideration in decision making (Shulman, et al., 2003; Stanley and Weare, 2004). However, despite their democratic potential, e-voting or online policy forums make citizens passively express their preferences regarding agendas predetermined by the government (OECD, 2003).

This research illustrates another type of web-based communication that facilitates citizen-initiated contact with government. The two South Korean cities introduced here adopted internet applications through which citizens could contact city mayors or public managers directly to make suggestions on community issues. These cases demonstrate how web technologies can enhance dialogue between citizens and the government and help public managers to better monitor the overall status of city management.

In analyzing the cases, this study focuses on environmental issues, which had a substantial impact on the quality of life in urban areas. As urban areas were exposed to higher levels of pollutants from a variety of emission sources, including industries and vehicles, residents were concerned with environmental control over hazardous toxic materials (Kellogg and Mathur, 2003).

The rest of this paper proceeds as follows. The first section presents the cases and methods, which is followed by the second section that analyzes the cases. The final section concludes with discussion on the implications of the findings.

## 2. CASES AND CONTENT ANALYSIS

Seoul (the capital) and Ulsan were selected as the cases for several reasons. First, both cities needed to address serious pollution problems. In Seoul, the epicenter of business and politics, the number of automobiles (a major source of air pollution) breached 3 million, and more than 5,000 firms emitting

pollutants were located in the city (Air Quality Control Division, 2004; Water Quality Control Division, 2004).

Ulsan also suffered from toxic pollutants released by industrial complexes concentrated in the area. As the center of heavy industries, Ulsan had many factories of national and global conglomerates, including Samsung Fine Chemical, LG electronics, and DuPont.

In addition, the two city governments have led e-government initiatives.<sup>1</sup> The official web sites of the cities adopted high-quality features for public service transactions and citizen participation. They provided online policy forums and topic-free channels through which citizens could freely and directly convey their opinions to city mayors and public managers.

A content analysis was conducted to examine the messages posted from 2001 to 2004 on electronic-bulletin board systems, called "Citizen's Agora" (*Simin Gwangzang; Ulsansi-E-Baranda*) and "Appeal to Seoul City Mayor" (*Sizang-Ege-Baranda, SEB*) in the official web sites of Ulsan and Seoul, respectively. These systems enabled the citizens to provide the cities with their opinions on community issues, and the public officials were expected to monitor the posts regularly and provide feedback.

For the content analysis, this study employed two categories: local service affairs and policy suggestions. The local service affairs refer to daily service transactions, simple questions about city management, or complaints about management failures in policy programs. Such messages do not require any changes to existing rules or the implementation of new programs and related expenditure.

Policy suggestions are classified into the macro- and micro-level types. Macro-level suggestions require new programs or projects or substantive changes to institutional rules that affect city-wide governance. These often entail relatively huge amounts of city expenditure or adjustments in overall policy orientation. In comparison, micro-level suggestions are related to managerial- and operational-level decisions that have a limited impact on a specified district within a city. They require adjustments in operational rules for addressing specific issues or relatively smaller amounts of new expenditure, with no changes to the overall policy framework.

The following cases illustrate how internet communication enables ordinary citizens to articulate their interests in local policy making processes.

---

<sup>1</sup> Seoul's e-government web site ranked the highest in the United Nations' assessment of municipal web sites across the world in 2003. Ulsan's e-government web site was selected as the best in the country by the Korean government (MOGHA, 2003).

### 3. CITIZENS' AGORA

Citizens' Agora(Agora), an internet application of the Ulsan government web site, enabled the city's residents to express their opinions directly to city officials regarding urban governance. It was designed so that the officials could acquire residents' views concerning local policies, governance reforms, and problems with public services. The residents were allowed to post messages on a real-name basis, and the officials were expected to provide timely feedback. The residents could choose to make their messages and the feedback public or private.

Between July 2001 and June 2004, a total of 5,220 messages were posted (Ulsan Metropolitan Government, 2004). Among these, 326 addressed environmental issues, accounting for 6.24 % of all messages. Based on their names, most posters were ordinary citizens (there was one civic group).

The most popular issues were waste disposal and green park management. As shown in Figure 1, the two issues accounted for 40% of all messages, and much attention was paid to the illegal disposal of garbage in residential neighborhoods.

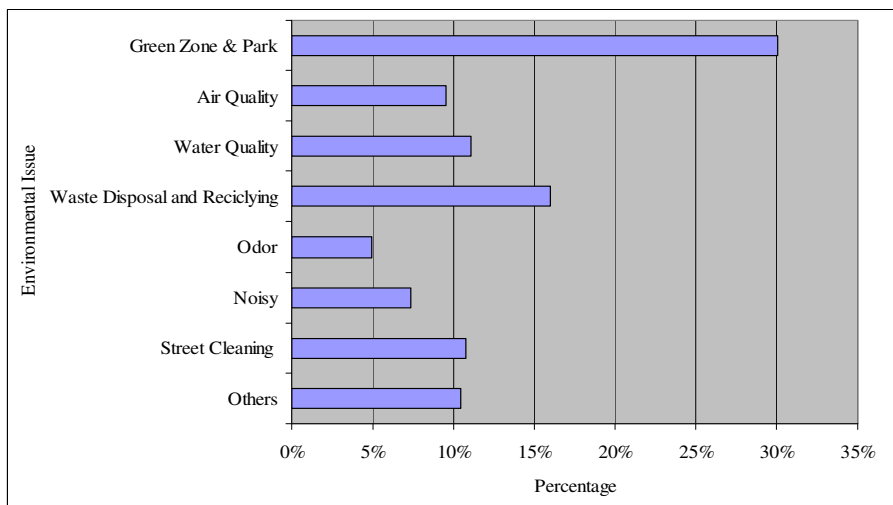


FIGURE 1 - ONLINE CIVIC INPUT BY ENVIRONMENTAL ISSUES IN ULSAN

In terms of message content, most (75%) were about daily local service affairs rather than policy suggestions, including reports on illegal polluters and complaints on personal inconveniences arising from environmental pollution. For example, a citizen asked the government to address noxious odors coming from factories in the neighborhood. Another requested the government to stop the loud noise made by a construction company at night. Others complained of the poor quality of their tap water and the seriousness of worsening air pollution in the city.

Policy suggestions accounted for 25% of all messages. Most were related to managerial- and operational-level decisions. For example, some residents suggested installing garbage collection baskets in streets, planting roadside trees in a certain district, and permitting pet dogs in neighborhood parks.

For the macro-level decisions, many of the suggestions were about building public parks in the city. The residents were greatly interested in making sustainable urban environments by creating a number of green spaces in the city. Another proposal suggested the adoption of a new garbage disposal system based on a non-polluting trash disposer to replace the existing trash incinerator that generated large amounts of dioxins.

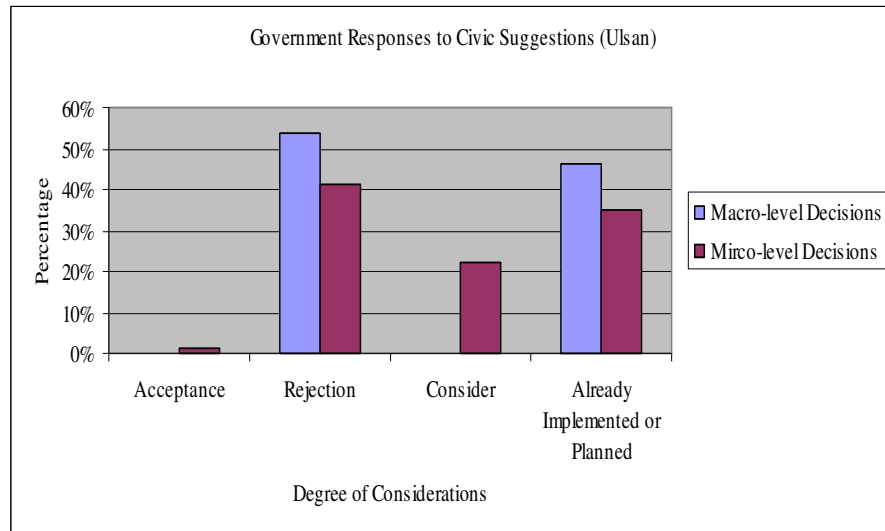


FIGURE 2 - GOVERNMENT RESPONSES TO CIVIC SUGGESTIONS IN ULSAN

The city's responses varied according to message characteristics (Figure 2). The public officials addressed most of the reported problems regarding local service affairs. For instance, with respect to the aforementioned noise problem, the officials visited the construction site to check the problem and warned the construction company against making noise at night. They then notified the citizen of the result of the measures taken by the government.

The city officials responded to policy suggestions differently. For managerial- and operational-level decisions, more than 40% of the suggestions were rejected, whereas the officials promised to consider approximately 22 % in policy planning.

The only suggestion to be immediately accepted was the planting of roadside trees in a district. In comparison, for macro-level decisions, no suggestions were accepted or considered, and the rejection rate was as high as 50%. Depending on the suggestion, the officials provided a wide variety of reasons

for the rejections, including the lack of feasibility, insufficient resources, and conflicts with existing policy directions. In addition, many suggestions (30-45%) were the same as or similar to policies already planned or implemented; the citizens were simply unaware of the policies. Each feedback contained contact information for the official in charge so that the citizens could contact them directly for follow-up inquiries.

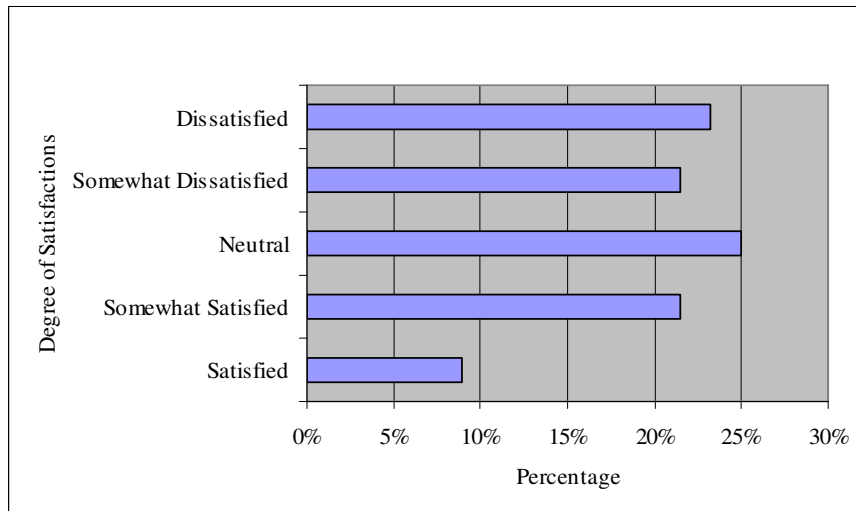


FIGURE 3 - CITIZEN SATISFACTIONS WITH GOVERNMENT FEEDBACK

One unique feature of the Agora was that it enabled the citizens to evaluate the public officials' responses to their messages on a five-point scale from strongly dissatisfied to strongly satisfied. Approximately 17% of the citizens who provided input gave their evaluations of the government feedback, which were disclosed on the web site. Among these citizens, approximately 45% were dissatisfied with the responses, whereas approximately 30% were, to some degree, satisfied. This implies that many citizens did not think that the public officials provide them with convincing feedback on their suggestions (Figure 3).

#### 4. APPEAL TO SEOUL CITY MAYOR

In 1998, Seoul city mayor Gho Geon introduced the world's first internet-based channel, "Appeal to City Mayor" (*Sizang-Ege-Baranda; SEB*), through which Seoul residents could talk directly to the city mayor about any issues regarding city governance. Since then, the SEB has been widely recognized as an exemplary endeavor encouraging healthy dialogue between local governments and citizens. In particular, the SEB was designed to obtain the views of Seoul residents regarding the city policies. The residents were allowed to provide input on a real-name basis only. In the early days, the city mayor

responded to all messages personally, detailing how the government had addressed the requests or suggestions. When mass media reported on this innovative initiative, the number of SEB messages surged to a point where the mayor could no longer process all of them. For example, the number increased from 314 in 1998 to 14,401 in 2002 (Civil Service Division, 2003). Each division of the city government has since been authorized to address relevant messages.<sup>2</sup>

From July 2001 to June 2004, 4,156 messages were disclosed on the SEB web site (Seoul Metropolitan Government, 2004). Based on the names of posters, all messages were from ordinary citizens, except on message from a civic group. Approximately 8% (N=334) addressed environmental issues. One of the most popular issues was waste disposal. In addition, although more than 45% addressed issues that were too diverse to be categorized, many were concerned with the creation or management of green spaces and parks in the city.

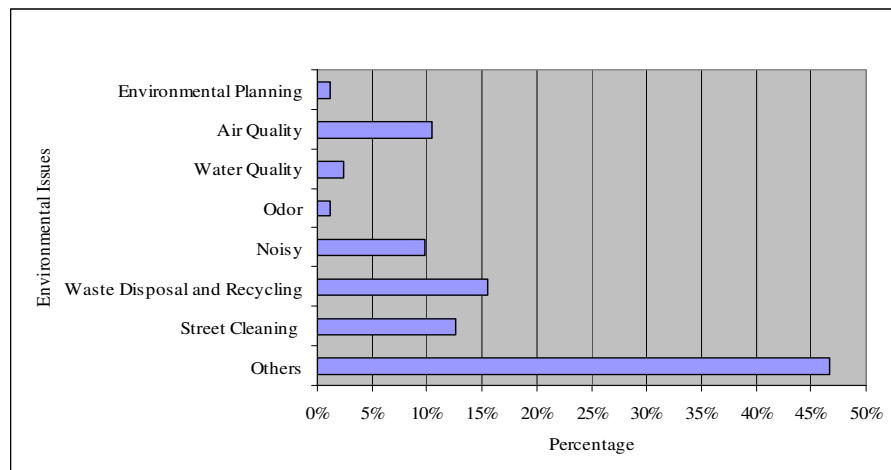


FIGURE 4 - ONLINE CIVIC INPUT BY ENVIRONMENTAL ISSUES IN SEOUL

In terms of message content (Figure 4), 57% were about local service affairs, including straightforward questions regarding pollution issues, reports on emission violations, or requests to address nuisances arising from pollution. Most were addressed by the government, and the city mayor's office notified the posters of the results.

The SEB was especially effective in addressing situations in which public officials were not responsive to citizens' requests. For example, a citizen had repeatedly requested the officials in the street cleaning division of the government to address the illegal dumping of trash around the citizen's apartment complex. When the officials did not respond to the request, the citizen made a direct appeal to the city

<sup>2</sup> This information was drawn from an interview with an official from the Information Systems Planning Bureau of the Seoul Metropolitan Government.

mayor through the SEB. The mayor then ordered the division to address the problem and follow up on similar problems. The citizen also received feedback from the mayor's office, which detailed the measure the city had taken to address the request (Seoul Metropolitan Government, 2004).

Policy suggestions accounted for 43% of all messages. Among these, managerial- and operational-level issues outnumbered macro-level decision issues by two to one. For example, some citizens requested permission to build a sound-proof wall around their apartment complex, which was adjacent to a railroad. Another suggested the installation of recycling boxes around residential areas. However, almost 30% of the micro-level suggestions were rejected. The mayor announced that he would accept only 5% of the proposals outright and that he would review another 30% during policy planning (Figure 5). An example of an accepted proposal addressed a campaign for recycling scrap metal. On February 26, 2003, a citizen proposed that the city government initiate a campaign for collecting scrap metal to cope with the lack of iron material for construction. In response, the city government held a meeting on May 3<sup>rd</sup> with the heads of street cleaning divisions from all municipalities of the city to review the proposal and create a detailed implementation plan (Seoul Metropolitan Government, 2004).

The proposals for macro-level policies were also diverse. A citizen suggested a city-wide policy to rate the level of cleanliness of streets on a monthly basis so that municipal units in the metropolitan area could be motivated to conduct its cleaning responsibilities more aggressively. Others proposed that the city government establish neighborhood parks around residential areas. The suggestions for macro-level decisions received more negative responses from the mayor than those for micro-level decisions. Approximately 45% of all messages for macro-level decisions were rejected, and no suggestion was accepted. The mayor pledged to have 15% reviewed in future policy planning processes (Figure 5).

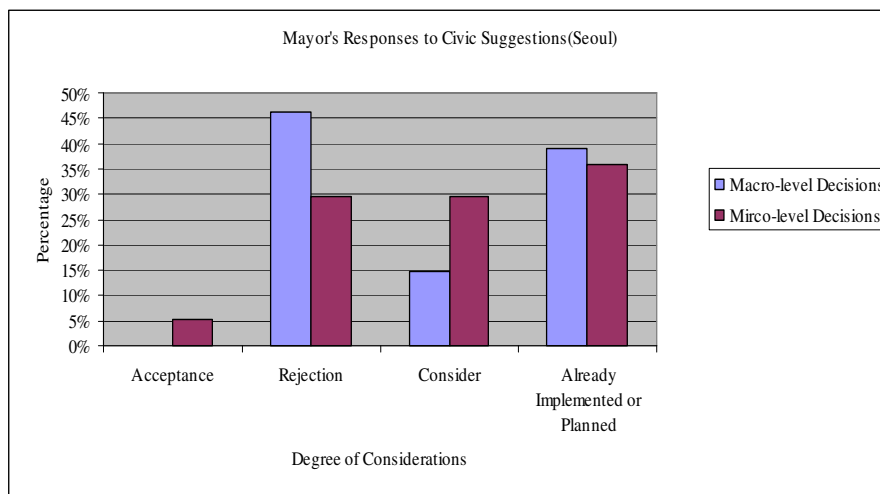


FIGURE 5 - CITY MAYOR'S RESPONSES TO CIVIC SUGGESTIONS IN SEOUL



As shown in both the Agora and SEB cases, the topic-free channels for direct communication between citizens and public managers were originally intended to solicit civic suggestions for the cities' policies or local governance reforms. However, citizens used them not only for making policy suggestions but also for appealing to the government to tackle problems in their neighborhoods. The two governments gave feedback, both positive or negative, on most requests. This indicates that the channels were, to some extent, instrumental in facilitating dialogue between individual citizens and officials in terms of city governance.

## 5. DISCUSSIONS

At the heart of democratic governance is an open policymaking system in which citizens have opportunities to articulate their ideas on community governance. The two cases considered in this study illustrate how web-based channels for direct appeals to public managers contribute to citizen participation, organizational intelligence, and the public responsiveness of local governments.

The Agora and the SEB facilitated civic engagement in public affairs by greatly reducing the transaction cost for citizens in accessing local governments. This impact is clearly demonstrated by the fact that once the SEB became known to the residents, the number of online requests spiked from 314 in 1998 to 14,401 in 2002. The traditional offline access to government requires citizens to follow complicated routines such as travelling to agencies, filling out application forms, and waiting for officials, which often discourages their willingness to access the government (Cooper, 1979; Kellogg and Mathur, 2003). The online channels reduce red tape, encouraging their access to the government (Robbins et al., 2008). The SEB enabled the citizens to bypass multiple bureaucratic layers to speak directly to the city mayor, which increased the likelihood of their requests being better addressed, particularly when the requests were ignored by lower level managers.

The channels also helped to empower the citizens to play more active roles in shaping local policy agendas. Such an effect is inconsistent with that of online policy forums for civic consultation described in previous studies (Davis, 1999; Stanley and Weare, 2004; Wilhelm, 1999). Whereas the citizens engaging in such forums were only allowed to make passive responses to agendas predetermined by the government, those participating in the Agora and the SEB were free to propose any issues that interested them. The residents of the two cities were able to directly express their opinions on any aspects of city governance to public managers, which were not mediated or reinterpreted by intermediary organizations such as mass media or interest groups.

The citizens' political efficacy was encouraged by the cities' responses and the feature that enabled the citizens' evaluation of the feedback. The two city governments provided feedback on almost all online requests, which included information on how the requests or ideas were addressed. Most of the requests concerning local service affairs were addressed by both governments; the citizens were also provided contact information for the official in charge so that they could contact them directly for follow-up inquiries. In terms of policy suggestions, although approximately 30 to 40% were rejected by both governments, approximately 20% were accepted outright or considered for further review. As illustrated by the roadside tree planting and scrap metal recycling suggestions, the governments' decision to accept some of the suggestions indicate that ordinary citizens' local knowledge and creative ideas can be incorporated as integral parts of a city's decision-making process.

Furthermore, the Agora and the SEB helped to enhance the decision intelligence and democratic responsiveness of the two governments. As Huber (1990) indicated, ICTs improve organizational intelligence by increasing the range of information sources available in a timely manner. Likewise, through the channels, the city officials could obtain timely information about the constituencies' evaluation of a wide array of policy interventions taken to address community issues. As there were no restrictions on the topics, issues, and forms of online messages, the officials were able to obtain diverse opinions from citizens who held a wide range of perspectives. In terms of environmental management issues, the posts covered an extensive range of issues, such as creating green zones and parks, enhancing water and air quality, implementing better waste disposal systems, managing odor and noise problems, and cleaning streets. The form of message content differed widely, including policy suggestions, criticisms of failures of existing programs to tackle environmental problems, requests to address increasing pollution, and reports on illegal emissions of pollutants. The results suggest that by analyzing such information, public officials can better monitor the salient issues affecting citizens and thus devise appropriate policies, identify the extent to which citizens are satisfied with local services, and determine whether various policy measures are yielding their intended effects. In both cities, for instance, the majority of online requests were about neighborhood parks and waste disposal, which should have indicated to the cities that they should focus on those issues. This implies that the policy agenda-setting process and the quality of public services can be improved by utilizing web technologies to quickly identify residents' needs and demands and integrate their creative proposals into policies (Robbins et al., 2008). To further improve organizational intelligence, local government may also adopt decision support applications that provide the capability to conduct multidimensional analyses (e.g., data mining or online analytical processing) of online messages and prioritize public services to satisfy citizens' needs and demands.

Despite their substantial contributions to local governance, the channels showed some limitations in terms of their ability to build the citizens' trust in government through the use of ICTs. Some of the responses from Ulsan's officials were less detailed and very formalistic in comparison with those from Seoul's city mayor. This might have been because professional bureaucrats, whose job security is legally protected, are less likely to be responsive to their constituents than elected officials, who need to be reelected. Such formalistic feedback erodes citizens' trust in government, undermining their willingness to communicate with public officials. According to the citizens' evaluation of the responses from the Ulsan government, approximately 45% were dissatisfied, whereas 30% were satisfied; 25% were in the middle. Citizens are psychologically empowered only when their requests are adequately addressed and the reasons provided for their rejection are specific and reasonable enough. The SEB case indicates that in helping to overcome challenges, the political leadership of top management is needed to encourage public officials' sincere responses to citizens' requests online (Ho and Ni, 2004; Lim and Tang, 2008; Prybutok et al., 2008). Such responses can be also prompted by designing institutional mechanisms that include citizens' evaluation of feedback as one of the key elements in public officials' job performance appraisals.

In addition, although the officials in both cities promised to consider some of the civic proposals in future policymaking, it is unclear whether and how the governments took subsequent measures to review the proposals. In this regard, standard operating procedures should be adopted to provide public access to information on detailed review processes and the results. Without such measures, citizens would be less motivated to engage in online communication with the government.

## 6. CONCLUSIONS

This research examined the democratic potential of web technologies in enhancing citizen-government interaction for community affairs. The Korean experiences suggest both possibilities for and challenges of web-based interactions through which citizens and the government cooperate as partners in addressing urban issues. E-government applications illustrated here engaged citizens in local governance by reducing the transaction cost for their access to the government, providing them with opportunities to make policy suggestions and streamlining the process involved in requesting for administrative measures to address neighborhood pollution issues. The analysis of the wide array of information provided by the citizens suggests that local governments can improve not only decision intelligence to locate and tackle social problems but also democratic responsiveness by designing public services customized to citizens' needs and demands.

However, a key challenge facing collaborative e-governance is how citizens' trust in government can be cultivated (Tolbert and Mossberger, 2006; Welch et al., 2005). The results indicate that to build this trust, top management's innovative leadership and institutional mechanisms are needed to encourage officials' commitment to web-based interactions with citizens.

## REFERENCES

- Air Quality Control Division. (2004). *Policy to Reduce Emissions from Auto vehicle*. Retrieved May 18, 2004, from <http://env.seoul.go.kr/file://C:%5CDocuments%20and%20Settings%5CAdministrator%5CDesktop%5CDissertation%20Final%20Draft%5CChapter1-literature%20review.doc>
- Becker, T. (2001). Rating the Impact of New Technologies on Democracy. *Communication of the ACM*, 44(1).
- Civil Service Division. (2003). *Appeal to City Mayor* (No. 51-6110000-000294-14). Seoul: Seoul Metropolitan Government.
- Coleman, S. and Gøtze, J. (2001). *Bowling Together: Online Public Engagement in Policy Deliberation*. London: Hansard Society.
- Cooper, T. L. (1979). The Hidden Price Tag. *American Journal of Public Health*, 69(4), pp. 368-374.
- Coursey, D. and Norris, D. F. (2008). Models of E-Government: Are They Correct? An Empirical Assessment. *Public Administration Review*, 68(3), pp. 523-536.
- Davis, R. (1999). *The Web of Politics: The Internet's Impact on the American Political System*. New York: Oxford University Press.
- Dunleavy, P., Margetts, H., Bastow, S. and Tinkler, J. (2006). NPM is Dead – Long-live Digital Era Governance. *Journal of Public Administration Research and Theory*, 16(3), pp. 467-494.
- Ho, A. T. and Ni, A. Y. (2004). Explaining the Adoption of E-government features: A Case Study of Iowa County Treasurers' Offices. *American Review of Public Administration*, 34(2), pp. 164-180.
- Huber, G. (1990). A Theory of the Effects of Advanced Information Technologies on Organizational Design, Intelligence, and Decision-making. *Academy of Management Review*, 15.
- Kellogg, W. A. and Mathur, A. (2003). Environmental Justice and Information Technologies: Overcoming the Information Access Paradox in Urban Communities. *Public Administration Review*, 63(5), pp. 573-585.
- Lim, J. and Tang, S. Y. (2008). Urban E-government Initiatives and Environmental Decision Performance in Korea. *Journal of Public Administration Research and Theory*, 18(1), pp. 109-138.
- OECD. (2003). Result of Evaluation of Public Agency Homepages in 2003. Retrieved May 21, 2004, from <http://www.mogaha.go.kr/warp/webapp/board/notice/view?id=371674>.
- Norris, D. F. and Moon, M. J. (2005). Advancing E-Government at the Grassroots: Tortoise or Hare? *Public Administration Review*, 65(1), pp. 64-75.
- Norris, P. (2001). *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*. Cambridge and New York: Cambridge University Press.

- Prybutok, V. R., Zhang, X. and Ryan, S. D. (2008). Evaluating leadership, IT quality, and net benefits in an e-government environment. *Information & Management*, 45, pp.143-152.
- Robbins, M. D., Simonsen, B. and Feldman, B. (2008). Citizens and Resource Allocation: Improving Decision Making with Interactive Web-Based Citizen Participation. *Public Administration Review*, 68(3), pp. 565-575.
- Scott, J. K. (2006). "E" the People: Do U.S. Municipal Government Websites Support Public Involvement? *Public Administration Review*, 66(3), pp. 341-353.
- Seoul Metropolitan Government. (2004). Appeal to City Mayor. Retrieved May 16, 2004, from <http://www.seoul.go.kr/org/mayor/mayorreq/list.html>.
- Shulman, S. W., Schlosberg, D., Zavestoski, S. and Courard-Hauri, D. (2003). Electronic Rulemaking: A Public Participation Research Agenda for the Social Sciences. *Social Science Computer Review*, 21(X), pp. 1-17.
- Stanley, W. J. and Weare, C. (2004). The Effects of Internet Use on Political Participation: Evidence From An Agency Online Discussion Forum *Administration & Society*, 36(5), pp. 503-527.
- Thomas, J. C. and Streib, G. (2003). The New Face of Government: Citizen-Initiated Contacts in the Era of E-Government. *Journal of Public Administration Research and Theory*, 13(1), pp. 83-102.
- Thomas, J. C. and Streib, G. (2005). E-democracy, E-commerce, and E-research: Examining the Electronic Ties Between Citizens and Governments. *Administration and Society*, 37(3), pp. 259-279.
- Tolbert, C. J. and Karen Mossberger. (2006). The Effects of E-government on Trust and Confidence in Government. *Public Administration Review*, 66(3), pp. 354-368.
- Tolbert, C. J., Mossberger, K. and McNeal, R. (2008). Institutions, Policy Innovation, and E-Government in the American States. *Public Administration Review*, 68(3), pp. 549-563.
- Ulsan Metropolitan Government. (2004). Citizen's Agora: Appeals To Ulsan City. Retrieved August 17, 2004, from [http://www.ulsan.go.kr/php/frameset/frameset.html?menu=5&main=/php/forum/inform/source/board\\_1st.php](http://www.ulsan.go.kr/php/frameset/frameset.html?menu=5&main=/php/forum/inform/source/board_1st.php).
- United Nations. (2008). *Global E-government Survey: From E-Government to Connected Governance*. New York: United Nations.
- Water Quality Control Division. (2004). *Policy to Protect Water Quality of Han-River*. Retrieved May 19, 2004, from <http://env.seoul.go.kr/>.
- Weare, C., Musso, J. and Hale, M. L. (1999). Electronic Democracy and the Diffusion of Municipal Web Pages in California. *Administration & Society*, 31(1), pp. 3-27.
- Welch, E. W., Hinnant, C. C. and Moon, M. J. (2005). Linking Citizens Satisfaction with E-Government and Trust in Government. *Journal of Public Administration Research and Theory*, 15(3), pp. 371-391.
- West, D. M. (2005). *Digital Government: Technology and Public Sector Performance*. Princeton: Princeton University Press.
- Wilhelm, A. G. (1999). Virtual Sounding Boards: How Deliberative is Online Political Discussion? In B. N. Hague, and Brian D. Loader (Ed.), *Digital Democracy: Discourse and Decision Making in the Information Age*. (pp. 154-178). London and New York: Routledge.