

Seoul Metropolitan Government
Policy Package

**Seoul's e-Governance
Policy Study**

***School of Public Affairs and
Administration (SPAA)
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Chapter 1

Introduction of Seoul Metropolitan Government's e-Governance Policy Study

*The Seoul Metropolitan Government (SMG) has been a leader and innovator in e-Governance and has successfully applied information technologies in public administration to achieve better public service delivery, as well as improve communication channels for citizen engagement and empowerment. Both the **United Nations e-Government Survey** by the United Nations Department of Economic and Social Affairs (DESA) and the **Digital Governance in Municipalities Worldwide** by the e-Governance Institute at the School of Public Affairs and Administration (SPAA) at Rutgers University consistently rank the Seoul Metropolitan Government (SMG) as the top municipality in e-Governance.*

Public administrators from around the world have shown interest in such policies, and the SMG has undertaken a concerted effort to collaborate with such local governments to export its exemplary cases. However, information technology policy adoption requires certain infrastructure to be in place and often presents local governments with challenges during their adoption process.

This study will provide decision makers with not only the bird's eye view of the overall background of the e-governance projects, but also with the nuts and bolts of the projects which would allow them to have a clear understanding of what to expect. This study aims to analyze SMG's major exemplary cases in the e-governance area, and validate the excellence of those cases. It provides analyses that will construct a "pathway" for policy exports, especially to those local governments that are particularly interested in adopting SMG's policy innovations.

1. INTRODUCTION

1.1. OBJECTIVES OF STUDY

As one of the most important municipal governments in Asia, the Seoul Metropolitan Government has played a key role in leading the e-Governance campaign in the region. The SMG continues to outperform its competitors, both local and international, in various international e-Governance measures (e.g., UN's *e-Government Survey*, Rutgers' *Digital Governance in Municipalities Worldwide*). Seoul consistently ranks first in measures across such areas as e-Government content, service delivery and citizen and social engagement. The SMG continues to utilize its e-governance initiatives to support and encourage other good government efforts, and has succeeded in applying e-Governance as a catalyst to greater government reforms and connecting with its broader strategic objectives, which are to create a more effective, efficient and open government for the citizenry.

The study will bridge some theoretical and practical gaps in the adoption and implementation of e-Governance. The study analyzes the three categorical exemplary cases (e.g., 1. SNS, 2. Innovative tools, 3. WeGO) of the SMG, and provides validity of excellence for each case. These three categories are further examined in seven sub-categories of SMG's digital e-governance, and the study finally focuses on the following seven exemplary cases:

1. Utilizing SNS and other social media channels to correspond to the changing needs of public service, exemplified in the four sub-categories:

- (1) Eung-Dap-So***
- (2) mVoting***
- (3) 120 Dasan Call Center***
- (4) Oasis of 10 million Imagination.***

2. Implementing new and innovative tools to deliver public services:

- (1) GIS***
- (2) ETAX System***

3. The creation of World e-Government Organization (WeGO) and utilizing WeGO as a platform to enhance international collaboration between municipalities and governments in the field of e-Governance

The paper synthesizes exemplary case studies to offer guidelines to e-Government developers all around the world. This study highlights the complex process of building an effective e-Government and emphasizes the importance of an innovative platform that relies on the

partnership of private and public sectors. Moreover, the Seoul case demonstrates that e-Government requires strong enabling leadership (i.e., the important roles of the Mayor and Chief Information Officer) under whose highly-centralized office the administration can generate a long-term master plan for the development and coordination of various efforts among numerous collaborators. This study will provide international municipalities and e-Government developers around the world with useful insights and practical managerial implications for utilizing e-Government to enhance each city's competitiveness and upgrade the quality of life for all citizens.

1.2. SELECTION OF THE EXEMPLARY CASES

Countries from all rungs of the economic development ladder could benefit from the City of Seoul's e-Government policies. The Seoul Metropolitan Government's e-governance initiatives are designed to provide better and more timely public service content to all citizens from different socioeconomic backgrounds, open diverse communication channels with its citizens to address declining public trust towards government, and engage citizens and empower communities through participation and knowledge sharing. The seven exemplary cases have been selected by the leading researchers in this field based on the essential components of responsive e-Governance for implementing innovative public administration efforts during all phases of information technology development and social growth.

The City of Seoul has been a leader and champion of e-Government and has actively utilized Information and Communication Technologies (ICTs) to offer solutions to diverse urban problems, including those in education, health and transportation. No longer can municipal governments claim to have achieved e-Governance by simply offering Internet services or wireless connections to their citizens; governments need to be able to provide highly customized and selective public services to individual citizens in a sensible and timely manner. The researchers have agreed that the City of Seoul's case study provided insights and understanding as to how the application of e-Governance has morphed from simply providing public service and infrastructures to enabling citizens and fostering new and deeper citizen involvement within the governing process. SMG's efforts to increase citizenry's participation through SNS and the Data Visualizing Project offer an opportunity from which other international municipalities with similar goals and plans can benefit. The researchers took into account the extent of information technology infrastructure of the municipalities, especially in underdeveloped and developing countries, while focusing on the practical applicability of the cases.

In the case of ETAX, the researchers have agreed that in order to achieve the goal of a transparent and trusted system of fair taxation – one of the most important requirements for good governance – the online tax payment service needs to establish a competitive and creative process, build a slim and seamless process, and provide an integrated and interfaced

process. Seoul's attempts to achieve a fair and transparent tax system struck a chord with the researchers.

Finally, in the case of WeGo, the researchers were intrigued by the City of Seoul Government's commitment to create an international platform for e-Governance among local municipalities with the mission of supporting the gathering and sharing of knowledge, information and data in order to increase the understanding of how e-governance can strengthen the fundamental partnership between public and private sectors.

1.3. ABOUT RUTGERS SPAA

The School of Public Affairs and Administration (**SPAA**) at Rutgers University-Newark is ranked 7th in Technology in the U.S. and 13th in Public Administration and Management, and is the only Public Affairs school accredited by the Network of Schools of Public Policy, Affairs, and Administration (**NASPA**) and the International Commission on Accreditation of Public Administration Education and Training Programs (**ICAPA**).

SPAA is home to the National Center for Public Performance, which includes the E-Governance Institute. It is the mission of the E-Governance Institute to explore the effects of the internet and other Information and Communication Technologies (ICTs) on productivity and performance of the public sector.

Based on this expertise, the current study analyzes SMG's e-Governance exemplary policy cases and also assesses strategies and policies for the adoption and utilization of these policy cases for the international municipalities. The main motivation of the research is to examine the SMG's innovative participatory administrative platforms and their effects on transparency, accountability and citizen-centric administration.

1.4. PARTICIPATING RESEARCHERS

- Project Manager/Principal Researcher: **Dr. Marc Holzer** (University Professor, Rutgers-SPAA).
- Researcher: **Dr. Aroon P. Manoharan** (Associate Professor, University of Massachusetts – Boston) **Dr. Jongmin Shon** (Assistant Professor, Rutgers-SPAA).
- Research Assistant: **Eunmi Choi, Minsung Kang, Sungyoon Lee, Hyuk Yang** (Graduate Students, Rutgers-SPAA)

2. INTRODUCTION: THE CITY OF SEOUL METROPOLITAN GOVERNMENT E-GOVERNANCE POLICY

Since 2003, the City of Seoul Metropolitan Government and the Republic of Korea have continuously ranked in the top spots in *The Municipal e-Governance International Survey* conducted by Rutgers University, as well as *The E-Governance Survey* by the United Nations (2003~2016). During the last 13 years, the Seoul Metropolitan Government has become what numerous international governments seek to benchmark as their vision for e-Government. The city has shown strong leadership in envisioning a long-term strategy in the development of e-Government. Based on its *Five Year Long-term Strategy*, a dedicated team of experts gathered around the municipality's IT division, whose main responsibility is to manage the city's e-Government strategy, policy, infrastructure and regulation. The Office of the Mayor acted as the liaison between various government agencies in the development of the new infrastructures, while outlining the guiding principles for sharing information and collaboration with related agencies.

The ITU (International Telecommunication Union), which is under the auspices of the United Nations, published a special report titled "Smart Cities - Seoul: a case study¹" as part of its technology watch report in February 2013. Referring to the City of Seoul as one of the world's tech-savviest cities that has retained its top ranking in the UN e-Government Survey since 2003, the report cited the Seoul Metropolitan Government's e-Government capacities along with diverse and unique digital services for its citizens.

2.1 HISTORY OF SEOUL METROPOLITAN GOVERNMENT'S E-GOVERNMENT

The City of Seoul's e-Government has been systematically developed since the 1990s in an effort to automate and computerize the various work processes of city administration. The major spur for its development was due in part to the national effort to make information technology (IT) a sustainable growth strategy for Korea. Within this context, the City of Seoul wrote into ordinance the "*Seoul Metropolitan Government Framework Ordinance on Information*²" and the "*Seoul Metropolitan Government Ordinance on Promotion Of Digital Administration*³," both in 2010, capacities to tactically manage the development and the use of IT for its city administration. This allowed for the rapid development of City of Seoul's infrastructure technology from informatization of the administrative process to expansion of services to its citizens, increased civic participation and greater e-Democracy. The City of Seoul's e-Governance went through gradual and distinct phases of development during the past two decades.

¹ The report can be accessed here: https://www.itu.int/dms_pub/itu-t/oth/23/01/T23010000190001PDFE.pdf

² <http://legal.seoul.go.kr/legal/english/front/page/law.html?pAct=lawViewandpPromNo=403>

³ <http://legal.seoul.go.kr/legal/english/front/page/law.html?pAct=lawViewandpPromNo=187>

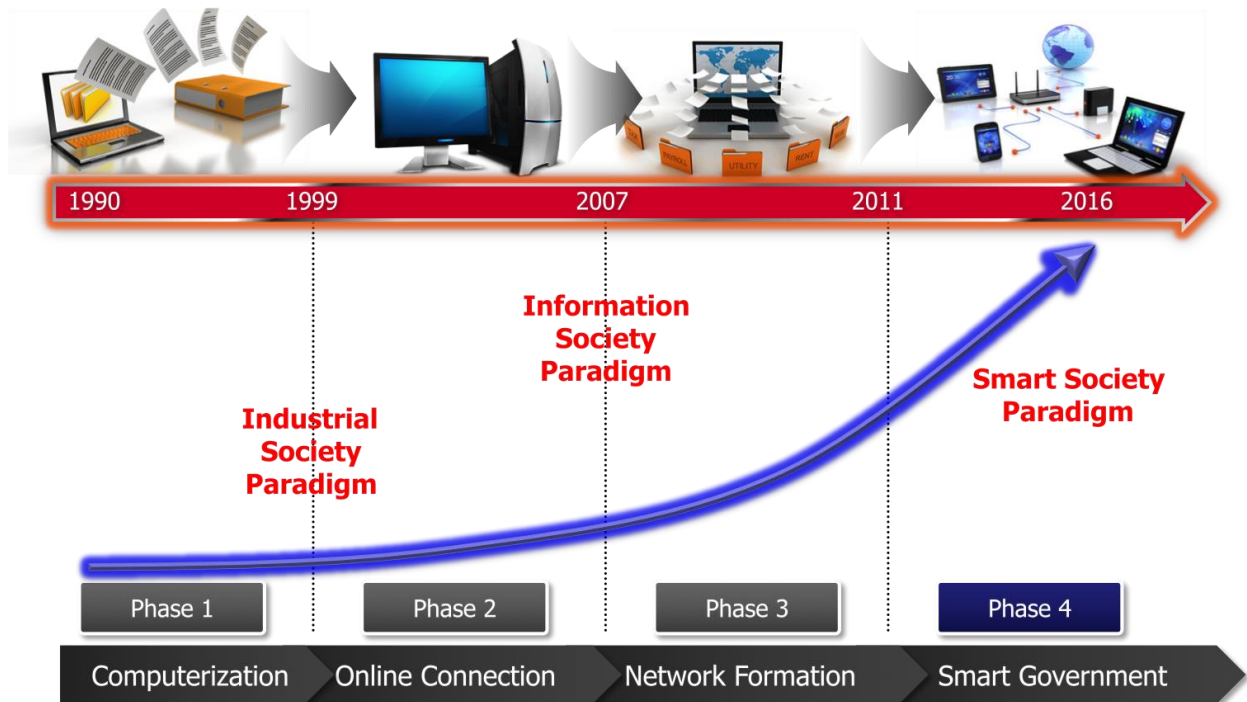


Figure 1-1. Seoul's e-Government Development Phases (adopted from Seoul e-Government 2013)

The First Phase (1990-1999):

The Computerization Phase in which the basic infrastructure for the use of information technology was established.

The Second Phase (1999-2007):

The Online Connection Phase in which the roadmaps were established and the city's administrative services and electronic information were integrated.

The Third Phase (2007-2011):

The Network Formation Phase in which the "u-Seoul" plan was implemented to adjust to a new mobile environment, which emphasized the participation and sharing of information required for the advent of Web2.0.

The Fourth Phase (2011-2015):

During the Smart Government Phase, the City of Seoul pushed ahead with the Smart Seoul 2015 plan, which was intended to integrate online and wireless infrastructure and provide customized services to the citizens by utilizing big data and open public data, thereby enabling diverse opportunities and venues for increased civic participation and open government.

The Current Phase (2016-2020):

The City of Seoul hopes to secure its leading position in the hyper-connected digital technology era and maintain the well-being of its citizens through the “Global Digital Seoul 2020 Plan.”

2.2 E-GOVERNMENT INFRASTRUCTURE

The role of Seoul Metropolitan Government is to organize information systems dealing with all city governments’ public services, to establish telecom network connecting its 32 related organizations, and to arrange an extensive e-Government promotion group headed by the chief information officer (CIO).



Figure 1-2. Seoul Metropolitan e-Government.
Source: Seoul e-Government Brochure (2016)

The Seoul Metropolitan Government has arranged a total of 614 types of information systems for IT-based highly efficient city administration which control integrated public services, including urban planning, culture, tourism, transportation, and housing.

In March 2012, the entire efforts of Seoul Metropolitan Government were directed to developing a new content management system (CMS) on which employees can post their blog-type writings and develop other websites. Therefore, the information on each site could be spread out across social networks and citizen. It is also possible to make comments through the internet.

3. SEOUL'S E-GOVERNMENT STRATEGIES

The Seoul Metropolitan Government's status as an early adopter of technology and e-Government has provided the SMG with opportunities to experiment with diverse technological innovations and garner sufficient support from the central government, which was also on its way to implementing its new vision for government operations, called "Government 3.0." It is a more people-oriented approach, which focuses on openness, sharing, communication and collaboration, as opposed to the government led approach.

The holistic Government Portal integrates all major administrative services provided by individual government institutions to facilitate more effective delivery of e-Government services. For the SMG, the two major challenges are utilizing Big Data and rapidly transitioning to mobile-centered provision of public services.

3.1. UTILIZING BIG DATA TO OFFER NEW SCIENTIFIC, INNOVATIVE ADMINISTRATIVE SERVICES

The Seoul Metropolitan Government has considered new strategies to improve data-centric and administrative innovation in public services which citizens can connect with advanced public service. The Seoul Metropolitan Government coordinates a variety of data based on e-Government functions, pursuing the slogan "*Big Data solves even the smallest grievances.*"

However, the use of Big Data does not create value on its own; it needs to be aligned with an effective incentive system to help accelerate citizen's motivation and participation, while encouraging agencies to make better use of accumulated data. The SMG's Big Data strategy aims to overcome these challenges and strike a balance between data transparency and privacy concerns.

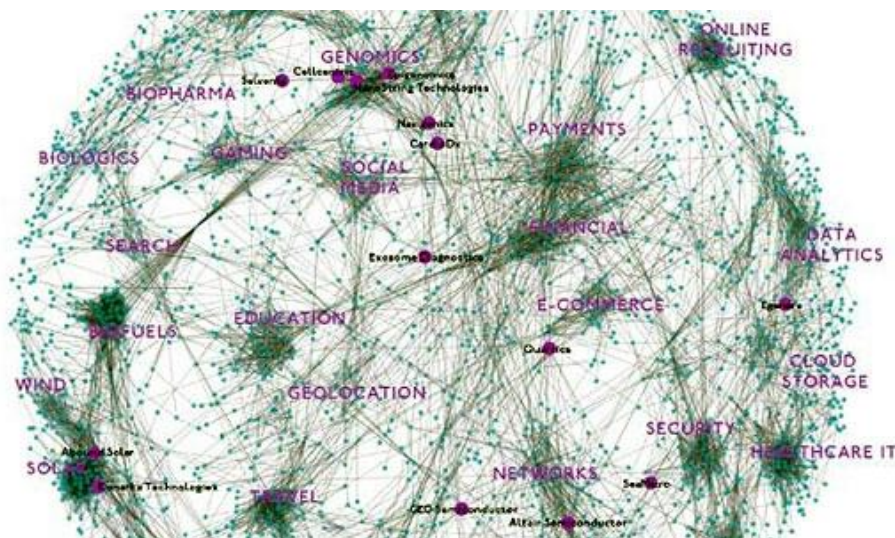


Figure 1-3. Information, Communication & Technology (ICT) and Big Data
Source: Sustainable Brands 2015 (<http://www.sustainablebrands.com/best-of-2015>)

3.2. PURSUE MOBILE-CENTERED INNOVATIONS IN CITY ADMINISTRATION

Citizens' preferred medium of communication is rapidly changing from computers to mobile devices. The Seoul Metropolitan Government is proactively promoting across-the-board, mobile-oriented administrative services to provide citizens with real-time public services anytime, anywhere on their mobile devices while increasing public service efficiency.

In November of 2013, the Seoul Metropolitan Government set up the "Mobile Master Plan" with the aim of building a mobile platform wherein everyone can share information and collaborate with anyone else to create new values. The strategies to accomplish mobile-based municipal administration in the city are as follows:

- 1. Mobile infrastructure designed for collaboration and sharing**
- 2. Mobile-based city administration led by citizens**
- 3. Mobile-based customized aggressive welfare**
- 4. Mobile-based economy pursuing balanced growth**
- 5. Mobile culture available in the palm of your hand**
- 6. A safe, smart mobile city**

The plan from the Seoul Metropolitan Government is to gradually increase a total of 39 tasks, including the entire array of administrative services such as welfare, health, safety, transportation, and environment.

4. ONGOING EFFORTS: GLOBAL DIGITAL SEOUL 2020

The past 5 years, the SMG's efforts have gradually lead toward its dream of achieving the future urban city, which is the tech-savvy and information seamless smart city. The City of Seoul aims to increase the quality of life and economic opportunities of its citizens through the digitalization of all aspects of SMG's administrative services including economy, culture, transportation, safety, welfare and environment. The Global Digital Seoul 2020 lays out the next five-year initiative which is based on citizen-led digital governance that emphasizes communication with citizens and attempts to resolve future urban problems through digital technologies.

4.1. BACKGROUND AND FUTURE DIRECTION OF GLOBAL DIGITAL SEOUL 2020

First, Information, and Communication Technology (ICT) is shifting towards digital technologies and everything is being hyper-connected in a new digital ecosystem. At the initial stage of the information-based society, the paradigm shift into digital technologies allows development of knowledge-creating industries with smart phones and other smart

mobile devices, and the SMG is in a very advantageous position to rapidly transition to this new phase.

Second, a shift from user-oriented IT strategy to citizen-led digitalization, requires new ways to deliver services its citizens. Even though the City of Seoul has a high reputation related to its role as an IT powerhouse, it is still required to completely utilize IT infrastructure and to develop a new business model for collaboration between public and private sectors for citizen-led digitalization strategies. The future of informatization in the public sector depends on public-private collaboration.

And third, from a policy perspective, one of the most important strategic goals of the City of Seoul is to become one of the top 5 competitive cities in the world. As the City of Seoul's effort, Global Digital Seoul 2020 is a new IT strategy in order to improve its global competitiveness.

The SMG's Global Digital Seoul 2020 was intended to consolidate its past e-Government development efforts and provide a new vision and directives for implementing the digitalization of administrative services. The Global Digital Seoul 2020 focuses on three elements: digital technology, people and social innovation. The City of Seoul is looking to integrate infrastructure and technology-mediated services, facilitate citizens' social learning through this infrastructure, and envision smart city governance to bring about innovation and social progress. The City of Seoul hopes to enhance citizen engagement with digitalized initiatives beyond simple delivery of services. Ultimately, the SMG's goal is to improve the quality of life for its citizens and create sustainable values for the future.

5. FUTURE OF SEOUL'S E-GOVERNMENT

It is essential that the City of Seoul integrates IT with other important areas of public interests, including job market, welfare system, and green growth. To this end, Global Digital Seoul 2020 aims to systematically link digital technologies to other operating systems of the City of Seoul.

The Seoul Metropolitan Government has continuously employed and tried to keep pace with the Central Government's grand vision for public operations, namely "Government 3.0," which places emphasis on openness, information sharing, communication and collaboration. Under this new vision, the SMG is undergoing a paradigm shift to move away from a government-led approach to a more people-oriented approach.

So far, this study has concluded that Seoul Metropolitan Government's e-Government policies and innovation initiatives have produced much of the intended results and the SMG has managed to create an ideal working framework for e-Governance, which is worthy of further study and of being an exemplary policy for export to other municipalities.

Chapter 2

Administrative e-Communication Policy with the Public

Prepared by: Dr. Marc Holzer & Minsung Kang

The Seoul Metropolitan Government (SMG) has constructed multiple joint-platforms to share various contents with the public. Portals display a wide range of information, including city news, welfare, housing, traffic and much more on a real-time basis. At the same time, SMG is building a social network service (SNS) that enables two-way communication with citizens, while engaging private Social Media Providers.

This chapter will examine the effectiveness and practicality of the SMG's administrative communication through various channels beyond the traditional ones. The four major administrative e-communication policies of the SMG will be the focus of analysis in this chapter: (1) Eung-Dap-so, (2) mVoting, (3) 120 Dasan Call Center and (4) Oasis of 10 Million Imagination.

More specifically, this chapter will explore each SMG's administrative e-Communication policies with respect of their Policy Goals, Performance & Outcomes, Policy Details and Procedures. This chapter will also review the specific cases of other international municipal governments and offer a general applicability of the SMG's e-Communication policies. Based on the comparative analyses, this chapter will then provide the essential factors to consider for the adoption and export of administrative e-Communication Policy for the better understanding of e-communication with the public.

1. POLICY BACKGROUND

The Seoul Metropolitan Government (SMG) and other private web sites, such as web portals, are being constructed as a joint-platform to share various contents with the public. The portals can now display a wide range of information, including city news, welfare, housing, traffic and much more on a real-time basis. At the same time, the SMG will build a social network that enables two-way communication with citizens, while engaging private social media providers. City news, living information, and other information can be delivered to citizens in a much easier and more precise way through the official website.

The social media and social network service (SNS) are used as a channel for direct communication with the public. This communication network of SNS can be an effective tool for citizens – the recipients of public services – to better comprehend the various policies and viewpoints of the SMG on many issues.

The ongoing communication channel, which is currently available through web sites open to citizens, can be turned into a unique social network service that can be used by citizens, without being limited by time and space. For example, the City of Seoul has a disaster prevention plan which links all relevant organizations into a tightly knit network. The city would be able to use all possible channels, including SNS, mobile devices, Smart TVs, and call centers to provide a real-time warning and response system.

In this chapter, the four major communication policies of Seoul Metropolitan Government will be introduced: (1) Eung-Dap-So, (2) mVoting, (3) 120 Dasan Call Center and (4) Oasis of 10 million Imagination.

Table 2-1. represents the changes in the SMG's administrative communication tools with its citizen. The table exhibits the efforts of the SMG to devise diverse methods to promote the Seoul citizens' direct participation regardless of the channels. As shown in the table, the SMG's administrative online channels have been diversified since the 1990s so as to improve governance.

Specifically, SMG's internet-based communications with City of Seoul citizens has evolved considerably by incorporating the traditional government's functions (i.e., hearing citizens' opinions and handling complaints) with those of broader citizen participation (i.e., receiving policy and administrative proposals and engaging citizens to participate through electronic voting).

Table 2-1. History of SMG’s Administrative Communication Policies

Periods	1999 - 2002	2003 - 2006	2006 - 2010	2011 - 2015
Master Plans	<i>Basic plan for Informatization</i>	<i>Master plan for Informatization</i>	<i>u-Seoul Masterplan</i>	<i>Smart Seoul Masterplan</i>
Key Concepts	<i>Computerization</i>	<i>Online Information</i>	<i>Networking</i>	<i>Smart Technologies</i>
Administrative Tools	e-Opinions	Comments to Mayor via Home Page	Open Website	Open and Interactive Platform Home Page
	e-Complaints		One-Click Digital Complaint System	Eung-Dap-So (Civil Complaint and Proposal Integrated System; CCPIS)
	e-Proposal		Cyber Policy Forums	Oasis of Ten Million Imagination
	e-Voting		Seoul e-Poll	mVoting
Features	Preparatory Stage	Internet Stage	+ Mobile Stage	+ SNS Stage

As societies grow more complex and are flooded with information, governments need to invent new modes of effective administrative communication. In light of the advent of social media, citizens require information about public services that are disseminated beyond traditional and outdated means of communication. However, existing communication tools do not sufficiently meet the growing needs of citizens who wish to be more aware of their communities nor provide reassurance that communication from the government is a dependable source of information. On top of that, the different and disjointedly operating communication channels created more confusion for citizens and led to problems of coordination within the government.

The government communication through social media has become vital in order to respond to these challenges and cope with the development of WEB 2.0 and Government 3.0 of Korea (GOV 3.0). In this context, the SMG has been trying to keep up with the recent development trends and has been spearheading the global leadership in e-Government. In particular, the SMG’s Social Media Usage is rated remarkably in (1) Accessibility, (2) Immediacy, (3) Consistency and Reliability and (4) Efficiency.

The primary purpose of this chapter is to examine the effectiveness and practicality of the government’s administrative communication through Social Media and Social Network Service. The four major policies of the SMG will be the object of analysis of this study; more specifically, the study aims to introduce the Seoul Metropolitan Government’s ICT-based

communication policies; then, we will address the essential factors to consider for policy export and policy adoption.

2. POLICY INTRODUCTION

2.1. EUNG-DAP-SO (CIVIL COMPLAINT AND PROPOSAL INTEGRATED SYSTEM; CCPIS)

“Eung-dap-so” is the Korean name for the system of “Civil Complaint and Proposal Integrated System (CCPIS)”. The system was first introduced to respond more quickly to citizen’s comments, troubles, and complaints. Specifically, this online system is designed to integrate and manage all-encompassing channels: 31 existing complaint and proposal sites, including the “One Click e-Applications” and various other social media centers.



Figure 2-1. Eung-Dap-So: Introduction

Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government.

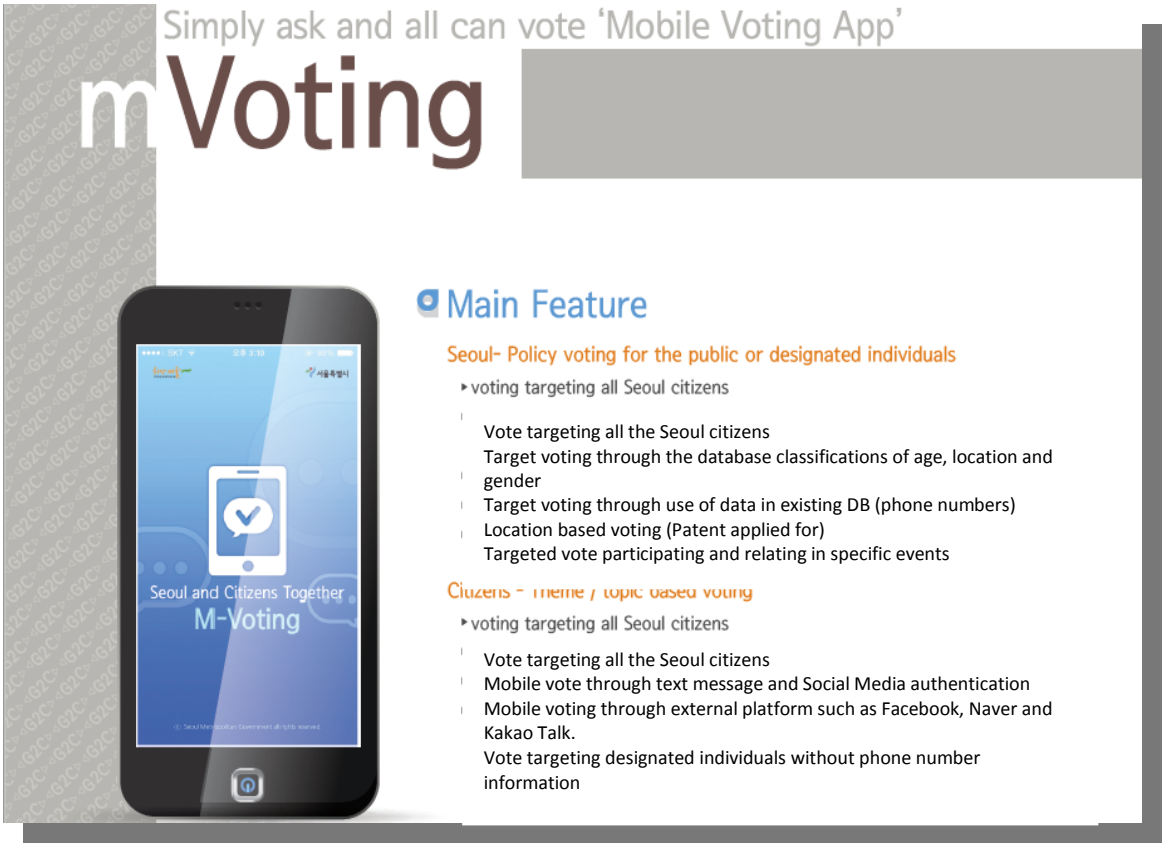
Since the SMG introduced this system, all complaints and suggestions can now be filed at Eung-Dap-So, which was created to listen to every citizen of the City of Seoul. Specifically, in an effort to process all the complaints and suggestions faster than before, it is customary that simple complaints are immediately processed by the complaint managers. Consequently, citizens of the City of Seoul can submit their opinions and suggestions to the authorities without having to worry what channel to use, who to contact, which department should

handle the complaints. Once citizens' opinions are received, the department in charge is determined through coordinated meetings.

Eung-Dap-So is a communication channel with the public. To be more precise, it is an integrated system that receives and administers civil opinions, not only from the previous traditional channels such as telephone calls and in-person visits, but also from online and social network service (SNS).

2.2. mVOTING (SIMPLY ASK AND EVERYONE CAN VOTE THROUGH SMG MOBILE VOTING APP)

mVoting is one of the e-Government services representing the SMG, which is made up of the combination of the words “mobile” and “voting.” With more than 37 million smartphone users in Korea, and approximately half of them residing in the Seoul Metropolitan area, this smartphone application has been developed to collect citizens' opinion rapidly using real-time online voting.



Simply ask and all can vote 'Mobile Voting App'

mVoting

Main Feature

- Seoul- Policy voting for the public or designated individuals**
 - ▶ voting targeting all Seoul citizens
 - Vote targeting all the Seoul citizens
 - Target voting through the database classifications of age, location and gender
 - Target voting through use of data in existing DB (phone numbers)
 - Location based voting (Patent applied for)
 - Targeted vote participating and relating in specific events
- Citizens - meme / topic based voting**
 - ▶ voting targeting all Seoul citizens
 - Vote targeting all the Seoul citizens
 - Mobile vote through text message and Social Media authentication
 - Mobile voting through external platform such as Facebook, Naver and Kakao Talk.
 - Vote targeting designated individuals without phone number information

Figure 2-2. mVoting: Policy Introduction

Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government.

Citizens can directly participate not only in voting on contemporary policy issues, but also other pressing issues associated with all types of real-life situations. The SMG, for example, can attach images and additional information to the policy issues; thus, citizens are more aware of what is at stake and can view detailed descriptions by clicking on the items. Furthermore, the SMG has the option to target the eligibility of voters to certain groups or


demographics within a specific region in a given time frame to ensure that important information is appropriately distributed to the key stakeholders in case of emergency.

2.3. 120 DASAN CALL CENTER (QUICK QUESTION AND ANSWER, CITIZEN-CENTERED CALL CENTER)

The accessible and easy-to-remember “120” is a telephone complaints handling system of the SMG that directs all inquiries and complaints towards a single integrated call center, which is designed to process the daily grievances of the citizens more quickly and conveniently on a one-to-one consultation.


Quick question and answer, citizen-centered call center

120 Dasan Call Center



Main Feature

- ▶ 120 telephone, SMS counseling: For necessary information and/or complaints, call or text 120, or alternatively, send a photo.
- ▶ 120 Chatting, sign language counseling: For necessary information and/or complaints, hearing/language impaired individuals can use chatting or video (sign language) services.
- ▶ 120 Foreign language counseling (five languages): Foreigners residing in Seoul can call 120+9 for consultation.



Phone > Cellphone > Internet > Video Chat > 120 Dasan Call Center

Figure 2-3. 120 Dasan Call Center: Policy Introduction

Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government.

Though the basic system is based on the 24/7 telephone counseling system, the 120 Dasan Call Center also provides consultations through other means such as SMS, Social Media, Text Chat and Video Chat. This integrated phone-counseling system was introduced to solve the problems of having overlapping and redundant call centers that were basically set up to achieve the same mission. With the consolidation of all the services into one easy-to-remember number, the city was able to reduce long wait times and increase citizens' satisfaction with upgraded service quality.

2.4. OASIS (OASIS OF 10 MILLION IMAGINATION: BRINGING IDEAS INTO REALITY)

Oasis of 10 Million Imagination is a channel for the public to submit their policy proposals to the SMG. Specifically, the communicative channel is designed to collect citizens' creative ideas, appraise the creativity and applicability of the ideas and submit the best idea selected by citizens to the municipal officers. The relevant departments then review the actual proposals and make efforts to implement them as real administrative initiatives. Oasis of 10 Million Imagination was introduced to utilize crowd sourcing and incorporate citizens' desires for open administration, and to engage in meaningful civic participation for policy adoption. Oasis not only allows citizens to make policy proposals, but also vote on the best policy suggestions in one channel.



Bringing ideas into reality

Oasis (Oasis of 10 Million Imagination)

천만상상 오아시스

Main Feature

1. Citizens can directly make proposals easily anytime, any place
 - ▶ Related free opinions and/or policy ideas can be submitted through the website or mobile page.
2. Status check (Review, Pending, Accepted) is available in real time
 - ▶ If there are votes from at least ten other citizens, the proposal will be reviewed by the relevant responsible department. After which, the results will be shared with the public.
3. Mileage Membership System
 - ▶ Graded mileage will be given to all users who log into 'Oasis of 10 million imagination' and use any direct/supplementary functions. Citizen participation is to be improved through objective incentives for activities.

Figure 2-4. Oasis (Oasis of 10 Million Imagination)
Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government.

3. EUNG-DAP-SO (CIVIL COMPLAINT / PROPOSAL INTEGRATED SERVICES)

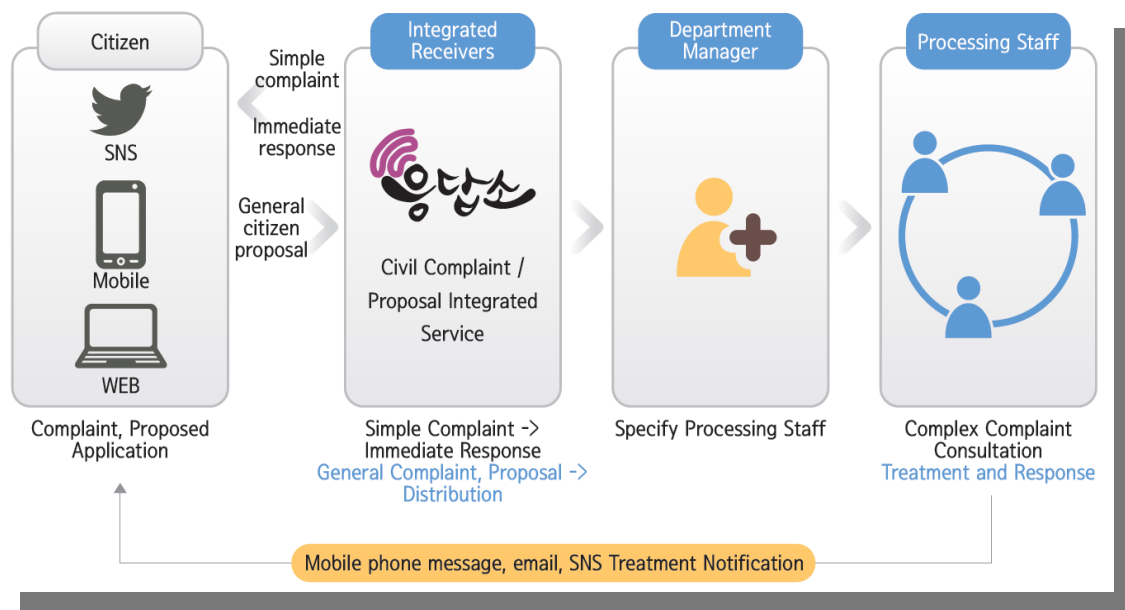


Figure 2-5. Eung-Dap-So: An Overview

Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government.

3.1. POLICY GOAL, PERFORMANCE AND OUTCOMES

3.1.1. POLICY GOAL

Prior to the current Integrated Complaints handling system, the City of Seoul citizens too often experienced inconvenience in terms of the government's numerous complaints systems. In particular, for ordinary citizens without any knowledge of how the administrative system works, it was a hassle to find the responsible department and the officer in charge in order to report their opinions and complaints. From the administration side, the extant communication channels were not interchangeable with the costs and difficulties in the administration of the civil complaints.

To solve and reduce the red tape characteristics of SMG's communication policy, Eung-Dap-So was introduced. Its policy goals are as follows:

1. Increasing Accessibility and Responsibility of SMG

Quick and easy way to contact for anyone

Simplified system that incorporates all the existing channels such as phone call, visiting, internet suggestion and social media.

Immediate response to the citizens' opinion and suggestion

Constructing a more systematic way to provide feedbacks to citizens' complaints

2. Improving Public Productivity of SMG Officers

Increase work efficiency through a refined single-channeled system

Set up and provide at-a-glance understanding environment for the public officers in terms of complaints handling

3. Enhancing Effectiveness of SMG

Answering to all the opinions from citizens by integrated managing system

Managing the opinions regardless of channel, format, place and time

3.1.2. PERFORMANCE AND OUTCOME

After the introduction of the integrated management system, SMG obtained the following outcomes:

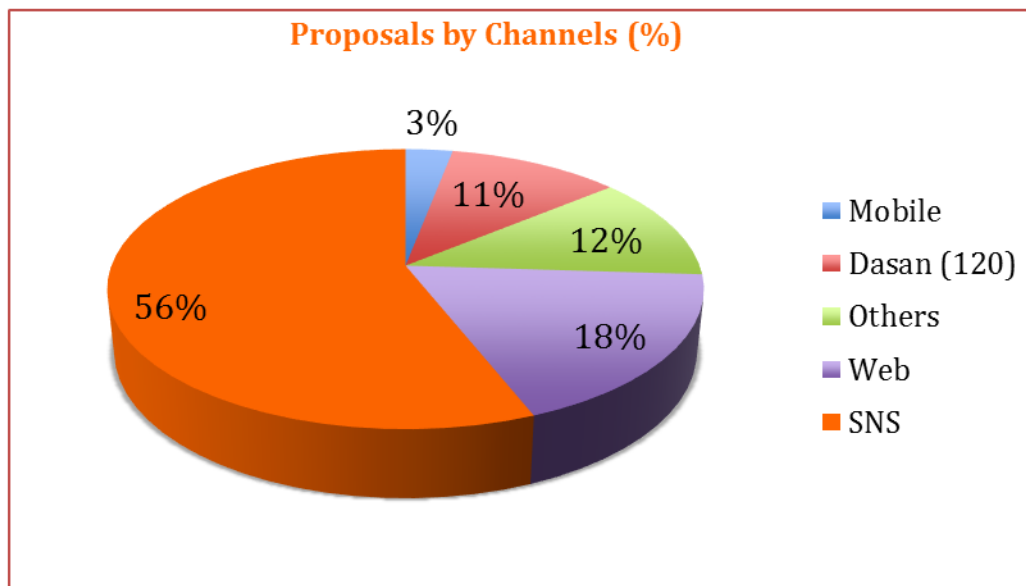


Figure 2-6. The proportion of citizen proposals by Channels (Feb. 2014 – Dec. 2015)
Source: Seoul Metropolitan Government (2015). Eung-Dap-So Operation Report.

First, visible improvement in quantitative performance, which reduces the complaint processing periods. The wait time to obtain responses from the government has been reduced from 3.8 days in 2013 to 2.9 in 2015. Eun-Dap-So enables to make immediate responses to the citizen complaints, which results in the qualitative improvements in communication with the public. Second, due to a significant improvement in the qualitative performance of complaints, the SMG implemented the “immediate answering” system.

In addition, they disclosed and made public the complaints handling process, including the person in charge and the processing time to the citizen. Third, due to the effort to communicate through SNS with the citizen, the followers of SMG's SNS accounts (Facebook, tweeter) have almost tripled from 50,000 followers in 2013 to 130,000 in 2015. The detailed policy outcomes can be summarized as follows:

1. Reduced complaint processing time

3.8 days (before) → 2.9 days (in 2015)

2. Increased Responsibility and Accessibility to SMG

Easy and convenient real-time complaint management system

Instantaneous response to simple complaints or questions

3. Open and disclosed administrative processing

Public servant responsible for the claim is revealed to the public

4. Two-Way Communication Interface

Followers of SMG's Social Media:

50,000 (before) → 130,000 (in 2015 after policy adoption)

5. Improved Public Productivity

Public officers of SMG now can handle the complaints by using a single system

Specifically, since the introduction of the system, citizens' proposals and opinions have been substantially increased, especially through the Social Media. According to the SMG's CCPIS operation report (2015), SNS was the Seoul citizens' most preferred channel when it comes to contact with the government. Of the total 407,122 cases, 56% of proposals have been received via Social Media, which clearly shows that Social Media was the primary channel for communication with the government.

Since the introduction of Eung-Dap-So, the system is known to have achieved considerable public performance not only in terms of citizen satisfaction but also in terms of work efficiency for the SMG officers. For example, Eung-Dap-So has reduced workloads by eliminating duplicate proposals and has simplified the complaints processing system within the government. Most complaints are simple inquiries and require very little administrative determination and, therefore, citizens' satisfaction are generally affected by the promptness of the responses.

3.2. POLICY DETAILS

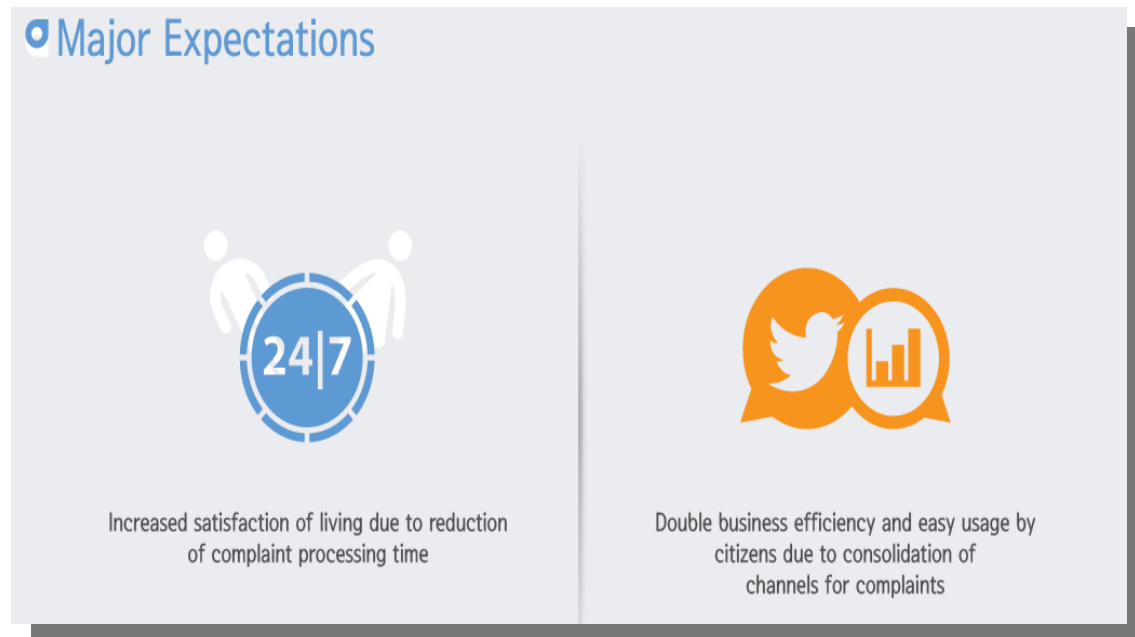


Figure 2-7. Eung-Dap-So: Policy Performance and Expectation
Source: Seoul Metropolitan Government. (2014). Digital Seoul e-Government.

Proposals through SNS to be treated like this!

- (1) Using a SNS, people could make a statement or a complaint about Seoul.
- (2) And, EUNGDAPOSO would distribute that to a proper department of SMG
- (3) Then, the answer would be made in a few days or promptly through the SNS

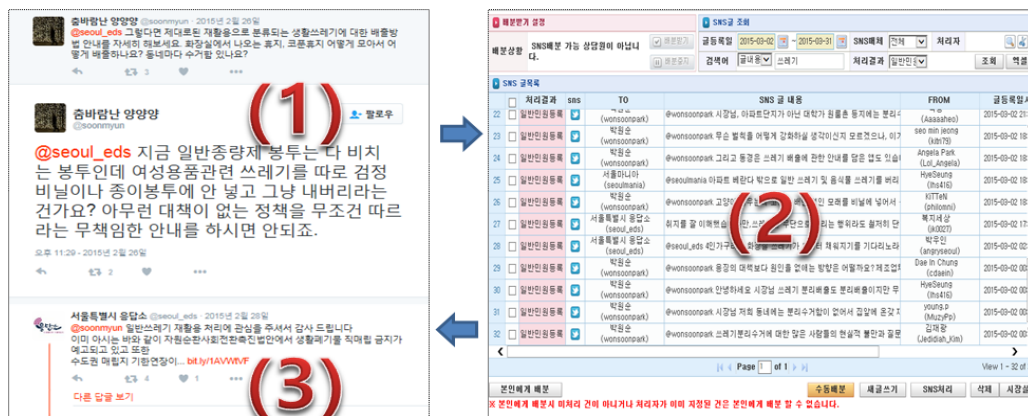


Figure 2-8. A Summary of Eung Dap So Proposal Process
Source: Park (2016), EUNGDAPOSO & Social Network Services, 2016 ASPA Annual Conference

Figures 2-7 and 2-8. present the summary of CCPIS system. One major feature of the system is that, if the suggestions or opinions are filed before 6PM, simple complaints can be responded to within the same day.

3.2.1. MAIN FUNCTIONS



One more: Emergency Message through SNS

This section shows two screenshots. The left screenshot is from the Eungdapso website, displaying a table of emergency alerts. A red box highlights a specific entry: 'State of Emergency, 2016.03.06... The actions which citizens should do or obey to evade.' The right screenshot shows social media posts from users like Tommy (@TOMMY_ARMY) and others, discussing the state of emergency and providing advice. A red box highlights a tweet that says: '3.6 13시 기준 서울지역에 발령된 미세먼지 주의보가 100µg/m³미만으로 낮아져 해제되었음을 알려드립니다.' (As of 3:06 PM on March 6, the PM10 alert issued for the Seoul area has been lowered to below 100 µg/m³ and has been lifted.)

Figure 2-9. Emergency Management by Eung-Dap-So

Source: Seoul Metropolitan Government (2016), EUNGDAPO & Social Network Services, 2016 ASPA Annual Conference

The main functions of Eung-Dap-So can be summarized as follows:

Registering Complaints and Proposals.

Eung-Dap-So files the cases such as complaints and proposal applications, public official corruption reporting, reporting for public interest, applying for help regarding violations of human rights, reporting violations of public welfare, and all other types of complaints and/or

proposal. When the detailed and specific opinions are required for any response to the cases, responses are obtained from the SMG's departments and agencies, affiliated headquarters, and/or from any of the 25 districts within the SMG. The cases about the outside of Seoul will be transferred to Korea central government Ministries, other local governments and/or government offices. Complaints and proposals can be made with text, voice, photo or video files attached. Request for direct consultation is also possible

Check Results of Complaints/Proposals.

If filed before 6PM, simple complaints can be responded to the same day. Content that requires in-depth review will be responded to via mobile phone, email or SNS after being handled by the relevant organization department. Progress on processing steps for registered complaints, process content, and additional responses can all be easily checked anytime, from anywhere.

View Example Complaints/Proposals.

Search through examples of responses to various complaints/proposals posted on bulletin boards is possible with the use of specific keywords.

View Frequently Asked Questions

Ability to search through bulletin boards using specific keywords for citizens' frequently asked question (FAQs) is also possible.

Citizens Evaluate Satisfaction to Government's Responses.

Ratings on a score of 1 to 5 can be given to responses. Additional responses can also be requested.

Real-time Social Media Communication

Complaints, questions, proposals and responses submitted to the City of Seoul can be viewed in real-time by the Mayor of Seoul.

Emergency Management

For the more effective emergency management, the SMG has collaborated with private sectors to distribute emergency messages by using the Social Media of the private sectors. Specifically, as with agencies such as FEMA and Homeland Security in the U.S., and the Policy Agency in Japan, SMG is also authorized to make Twitter Emergency Alerts to the Citizen. Thus, the CCPIS system can spread Emergency Alerts promptly via 31 twitter-accounts that possess emergency management function.

3.2.2. COMPOSITION AND DETAILS

Figure 2-10. is the list of Social Media Accounts of Twitter and Facebook which are connected to the Eung-Dap-So. So to speak, all the messages, comments and postings to those 16 Social Media Accounts from the citizen are handled clearly and accurately by the SMG.

In addition, in case of disaster situations, the Retweet function of Twitter and Sharing function of Facebook are far more effective than traditional channels, in which the emergency messages can be disseminated instantly with the support of the citizens.

SNS accounts connected to EUNGDAPSO

Total 16 SNS Accounts are connected to EUNGDAPSO (As of 2016.2.)

		User name	Follower	Proposal
Twitter	Wonsoonpark	Mayor	1,249,980	112,879
	Seoul_eds	EUNGDAPSO	843	14,397
	Seoulmania	SMG	74,246	9,654
	Seoulgyotong	Transportation Division	6,369	3,167
	Seoulhangang	Han-river Division	4,174	961
	Seoulspoke	Spokesman's Office	34,313	1,644
	Seoul_smc	EUNGDAPSO	2,387	922
	Greenseoulcity	Green Seoul Division	1,634	15
	Arisusalang	Water Service Division	41,123	214
	Seoulroadmania	Road Management Division	2,436	49
	Womanseoul	Woman Welfare Division	3,276	28
	Seoul_tong	Civil Service Division	4,704	424
	Livingenv	Environment Division	4,477	130
Facebook	Wonsoonpark	Mayor	222,310	55,833
	Hope2gether	Mayor	364,999	62,811
	Seoul_eungdapso	EUNGDAPSO	365,002	298

5

Figure 2-10. Social Media Accounts Connected and Managed by Eung-Dap-So
Source: Seoul Metropolitan Government (2016), EUNGDAPSO & Social Network Services,
2016 ASPA Annual Conference

Eung-Dap-So: Web Site Composition



EUNGDAPOSO: Mobile App Composition



15

Figure 2-11. Eung-Dap-So Web Site Composition

Source: Holzer et al. (2016). "Establishment of Bridgehead for Policy Export and International Relations: Digital e-governance of Seoul Metropolitan Government." 2016 ASPA Annual Conference. Retrieved from http://eungdapso.seoul.go.kr/Cmn/Cmn01/Cmn01_not.jsp

RUTGERS
School of Public Affairs and Administration
Rutgers University - Newark

EUNGDAPO: real-time monitoring (through SNS)

- http://eungdapso.seoul.go.kr/Cmn/Cmn01/Cmn01_not.jsp

The screenshot displays the EUNGDAPO real-time monitoring system interface. At the top, there is a header with the Rutgers logo and the text 'School of Public Affairs and Administration, Rutgers University - Newark'. Below the header, the title 'EUNGDAPO: real-time monitoring (through SNS)' is prominently displayed. A list of links is provided, including the main URL: http://eungdapso.seoul.go.kr/Cmn/Cmn01/Cmn01_not.jsp.

The interface itself is a web application with a navigation bar at the top containing icons for various services. The main content area is titled 'SNS 소통현황' (SNS Communication Status) and shows a list of posts from August 10, 2016, at 05:48:02. The posts are organized into two columns, with a central vertical line separating them. Each post includes a profile picture, name, and text content. The interface is in Korean.

Key elements visible in the interface include:

- Navigation Bar:** Contains icons for '민원제안신청' (Apply for Public Proposal), '민원제안결과' (Public Proposal Result), '민원제안사례' (Public Proposal Case), '민원정보즐거찾기' (Find Public Information), and '소통현황' (Communication Status).
- Header:** Displays the Rutgers logo and the text 'School of Public Affairs and Administration, Rutgers University - Newark'.
- Main Content Area:** Titled 'SNS 소통현황', it shows a list of posts from August 10, 2016, at 05:48:02. The posts are organized into two columns, with a central vertical line separating them. Each post includes a profile picture, name, and text content.
- Post Content:** The posts are in Korean and discuss various topics, including public proposals, social media interactions, and community events. Examples of post titles include '• 눈부름본부영이바워 • 2017정권교제!' and 'Taehee Kim 2016-08-10 03:22:15'.

Figure 2-12. Eung-Dap-So: Real-time Monitoring System

Source: Holzer et al. (2016). "Establishment of Bridgehead for Policy Export and International Relations: Digital e-governance of Seoul Metropolitan Government." 2016 ASPA Annual Conference. Retrieved from http://eungdapso.seoul.go.kr/Cmn/Cmn01/Cmn01_not.jsp

3.3. CASE OF SINGAPORE, SINGAPORE

Challenges of e-Government are not limited to technology; they require broad understanding of the multidimensionality of the e-Government development process. Very similar to the vision and strategies of the SMG, the Singapore Capital City Government built an e-Government structure that incorporates new forms of leadership, transformative public and private partnerships, participatory processes and increased accountability.

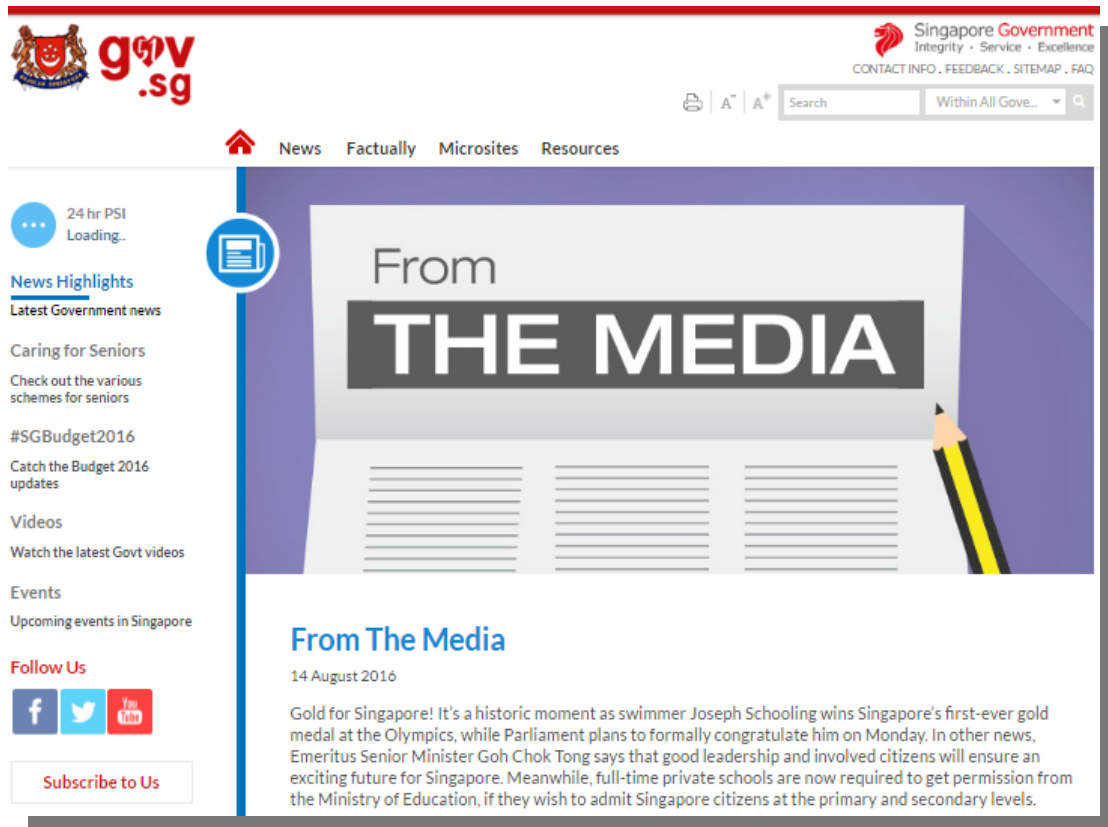


Figure 2-13. Singapore Government Web Site: Main Page
Retrieved from <https://www.gov.sg/>

e-Government Profile: Singapore (Source: Holzer & Manoharan, 2016. Digital Governance in Municipalities Worldwide (2015–16): Fifth Global E-Governance Survey: A Longitudinal Assessment of Municipal Websites throughout the World. National Center for Public Performance, Rutgers University-Newark.)

ONE OF THE TOP 20 CITIES IN DIGITAL GOVERNANCE FROM 2009 TO PRESENT

- **4TH IN 2014 DIGITAL GOV. RANKING**
- **5TH IN 2009 AND 16TH IN 2012**
- **8TH IN CONTENT MEASUREMENT**
- **7TH IN SERVICE DELIVERY MEASUREMENT**
- **2ND IN CITIZEN AND SOCIAL ENGAGEMENT**

According to the Rutgers University's Digital Governance, Singapore is in the top 20 cities in terms of e-Government and Digital Governance. More specifically, the Singapore Capital City Government has scored considerably high in the Service Delivery measures and the Citizen & Social Engagement measures of e-Government.

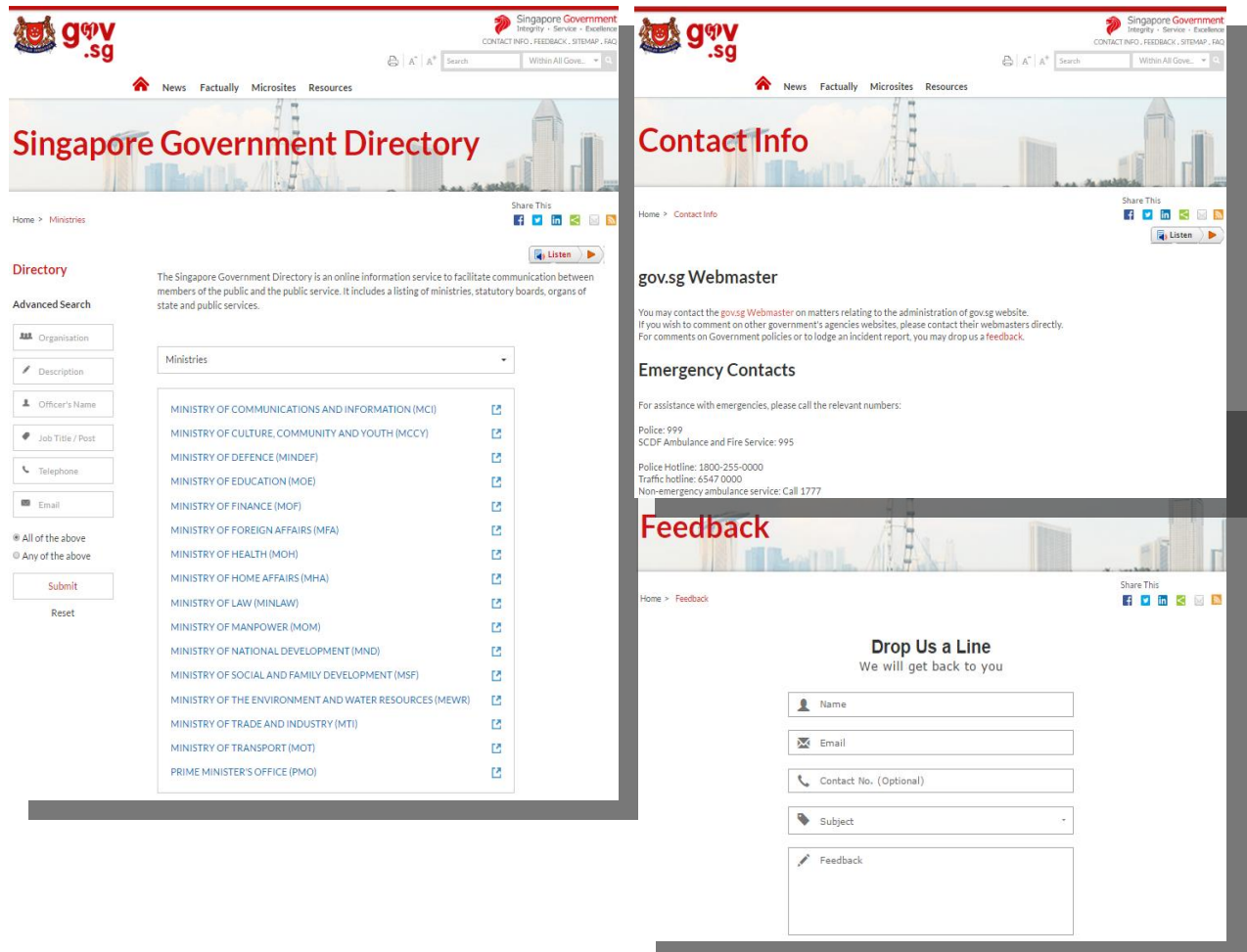


Figure 2-14. Singapore Government Web Site: An Accessibility to Government
Retrieved from <https://www.gov.sg>

Figure 2-14. presents the accessibility to the Government through the Website. The Homepage clearly specifies the structure of department information in government. In this Directory page, Singapore citizens have access to government directly and simultaneously, and citizens can find detailed information about public officers in charge with the advanced search function on the left-side of the page. Contact information and Webmaster's e-mail address are provided for inquiries and Emergency Contacts. In case citizens want to leave feedback, the site offers a Feedback Page, therefore citizens can make suggestions without having to contact public officers directly.



Figure 2-15. Singapore Government's Communication through Social Media: Facebook
Retrieved from <https://www.facebook.com/gov.sg>

On Figure 2-15 and 2-16, Singapore Government officially operates Facebook, Twitter and YouTube as an alternative means of communication to traditional channels. However, all channels offer two-way communication between government and citizens. Nevertheless, the channels are still managed separately though the link is provided from the Website.



Figure 2-16. Singapore Government's Communication through Social Media: Twitter
Retrieved from <https://twitter.com/govsingapore>

4. mVOTING

4.1. POLICY GOAL, PERFORMANCE AND OUTCOMES

4.1.1. POLICY GOAL

Before the implementation of mVoting Policy, public officers of the SMG had no choice but to conduct surveys, offline, and at town hall meetings, to assess the sentiments of the citizens. However, those traditional ways of listening to residents' comments are too costly and require too much time and human resources.

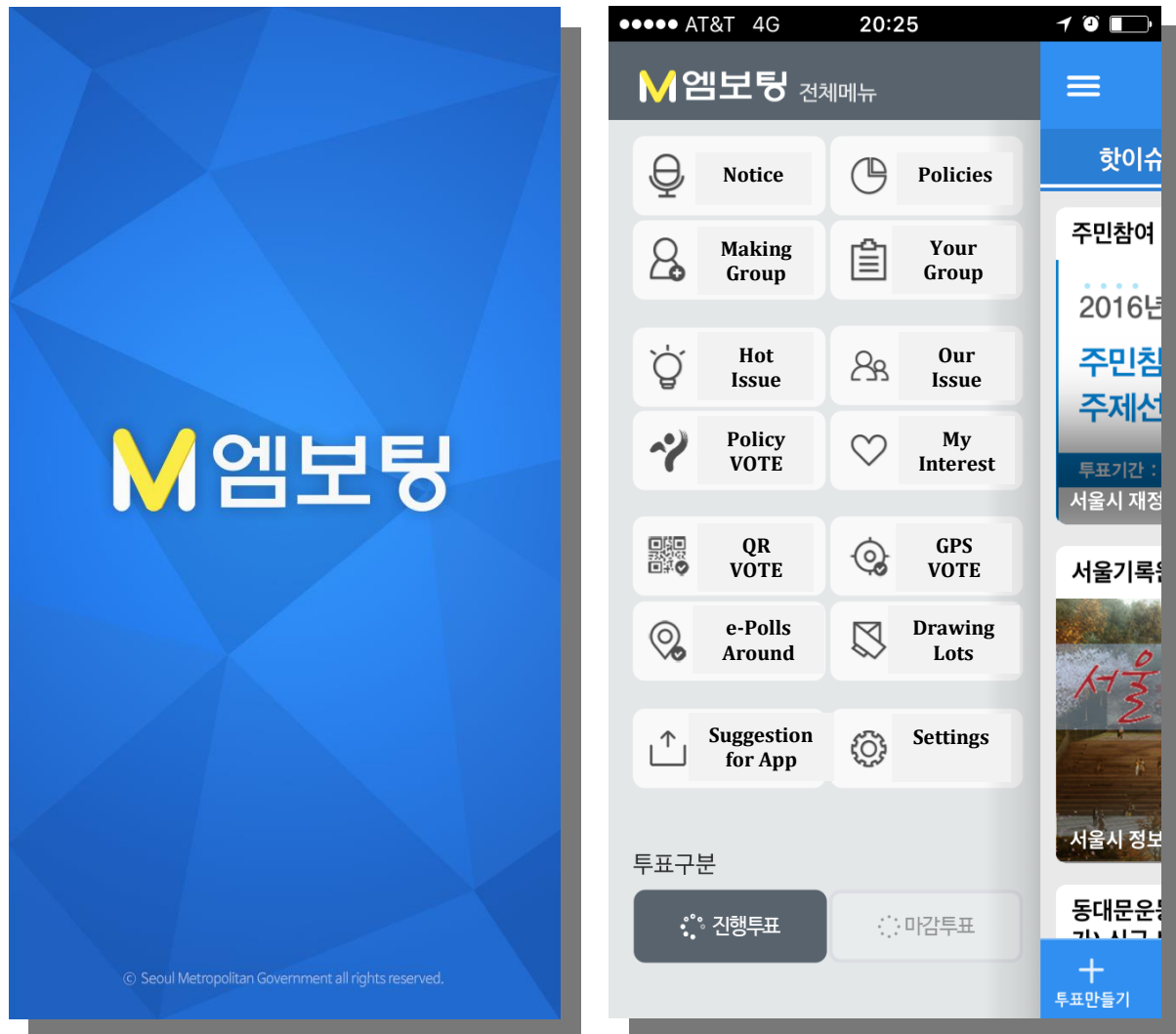


Figure 2-17. mVoting App Menu

In order to solve this endemic problem of modern democracy, the SMG has tried to involve citizens in the policy decision-making process. With this objective, the SMG introduced the mobile app voting policy based on the 44 million Smartphone users (88% of entire population) in Korea. “mVoting” is a compound word which combined Mobile and Voting together. The policy goals of the mVoting are as follows:

1. Sharing the Policy Decision-making Process with Citizens

Transparent Disclosure of Information and facilitating citizen Participation and Engagement on Specific Policy Issues

2. Promoting Citizens' Participation on Policy Determination

Seoul Citizens as Policy “Prosumers”

Improving Public Performance through Public-Private collaboration

3. Increasing the Public Policy Quality of SMG

An Interactive Policy Communication Process (G2C and C2G)

Resident-centered Policy Debate and Determination

In addition, this participatory policy allows citizens to vote not only on policy issues, but also on any ordinary city life issues. It is very user friendly, and the App can be reached both on a smartphone and a personal computer.

Figure 2-17. illustrates the main page and the menu of the mVoting mobile App. To differentiate it from the general governments' mobile app, the mVoting App provides an intuitive interface based on voting-related policy contents.

The main objectives of the mVoting App are to reduce the cost of citizen participation and draw citizens into the SMG's Policy Formation Process by expanding and providing more convenient channels. Traditional opinion collection methods, such as face-to-face discussions, letters, telephones and faxes, are still the main modes for assessing the sentiments of the citizens.

However, mVoting can be integrated with traditional modes to provide multichannel service delivery. In addition, mVoting is able to satisfy citizens' expectations during government's policy formation process and enhance public sector quality improvement by providing promptness, responsiveness and citizen participation within limited resources.

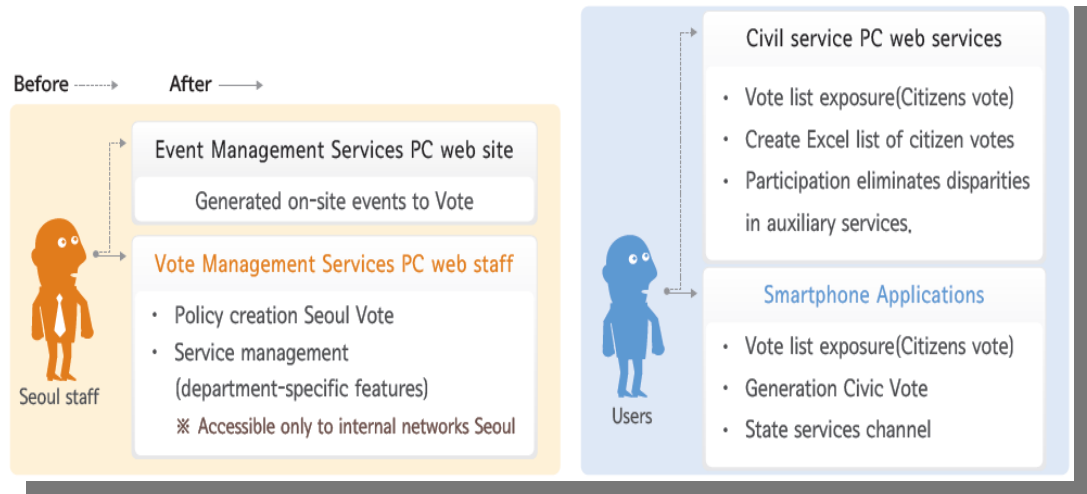


Figure 2-18. mVoting: Before and After of the Policy Introduction
Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government.

4.1.2. PERFORMANCE AND OUTCOME

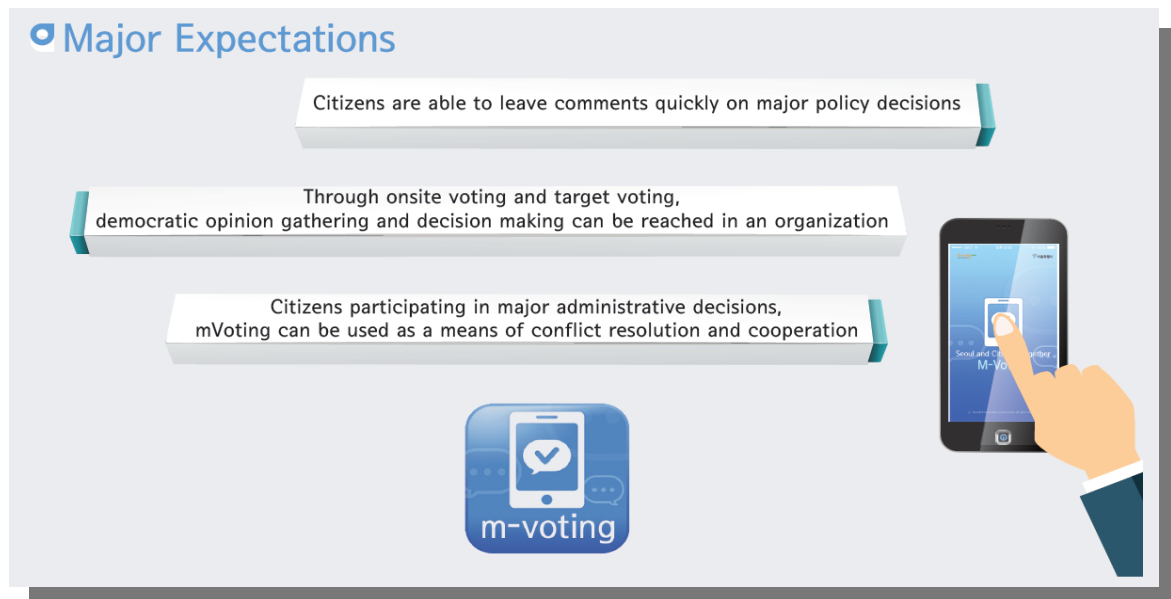


Figure 2-19. mVoting: Policy Performance and Expectation
Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

The most important features of this policy are trying to gather opinions about specific policies through two-way communication between government and citizens (C2G and G2C). The Policy characteristics of the mVoting are as follows:

1. A New Type of Communication Platform: High Use and Download Rate (as of June 2016)

App downloads: 280,000 downloads

Vote participants: 1,100,000 participants

2. An Actual Space for Policy Discourses

Vote Proposals: 4,404 cases

→ 3,889 proposals from the citizen (88.3%), 515 proposals from the officials (11.7%)

Reflected to the Policy Process: 181 cases are accepted as Seoul's Policy

3. Improving the Quality of Two-way Communication between Citizens and Government

Citizen-driven Communication Platform

Active Use in Policy Formation and Implementation Process (Policy Agenda – Policy Decision Making – Policy Implementation – Policy Evaluation)

Reduced Cost for e-Vote: Temporal, Economic and Electronic costs can be reduced

4.2. POLICY DETAILS

Through the mVoting App and Web page, citizens of Seoul can ask about and participate directly not only in policy votes, but also in votes related to all types of real life issues. Images and the GPS tag can be attached to questions or voting items, which allow others to understand the detailed situation more specifically.

User-targeted voting is possible thorough the mobile web as well; thus, regional and private-centered groups and citizens can proceed to examine citizens' opinions more conveniently within a specified time. In other words, when the SMG needs to find out people's perceptions and opinions in a short time, it can obtain real data through mVoting without expensive surveys.

Seoul City Full Public Vote

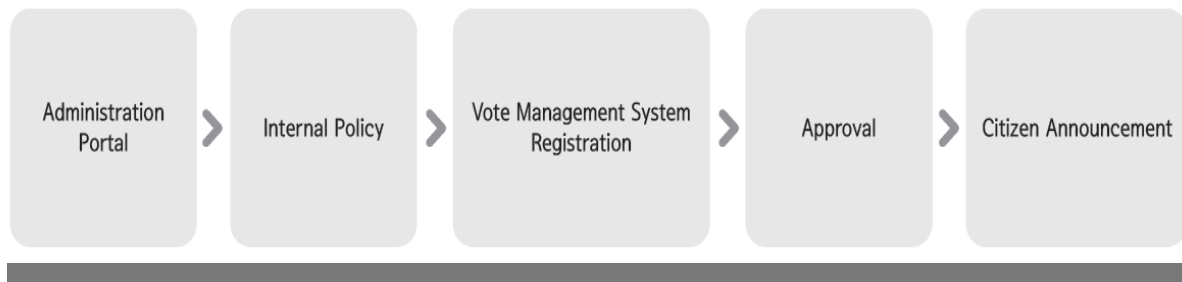


Figure 2-20. mVoting: Open Vote Process

Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

4.2.1. MAIN FUNCTIONS

Open Vote for Everyone (G2C)

Regardless of which department in SMG is involved, the SMG officers can request a vote when Seoul citizens' opinions are required. Thus, SMG officers would be able to understand what the citizens' preferences are and how they differ depending on the modes (e.g., emergency message channel vs. traditional notice, web site notice, and social media posts) and opinions from citizen.

Targeted Vote in Specific Context (G2C)

Based on the existing Seoul database, mVoting offers the SMG officers the option of opening a targeted vote to specific citizens depending on age, municipality, job, and gender. Specifically, targeted votes enable the SMG to generate specific policies and to store the data on the specified.

Making a Poll by Citizens (C2G)

Just as Seoul officers can use the voting function of mVoting to ask citizens' opinions, Seoul citizens can also suggest a voting poll on specific policy and other issues of interest.

Location Based Vote with GPS, register and QR (G2C)

In many cases, policies are related to a location's unique context such, as traffic signs and city hall events. In order to inform those kinds of policy problems, mVoting can provide a GPS-based vote (e.g. to citizen who are within a radius of 2 miles).

Seoul City Specific Person Targeted Voting

- + Targeted voting on a DB that grouped people by specific criteria, such as age, address, job, and gender
- Sample composition by age, gender, address, and SNS has been developed but not yet released
(example : taxi driver, nurse's aid, people in their 20s, Joong-gu residents, specific criteria for sample classification)

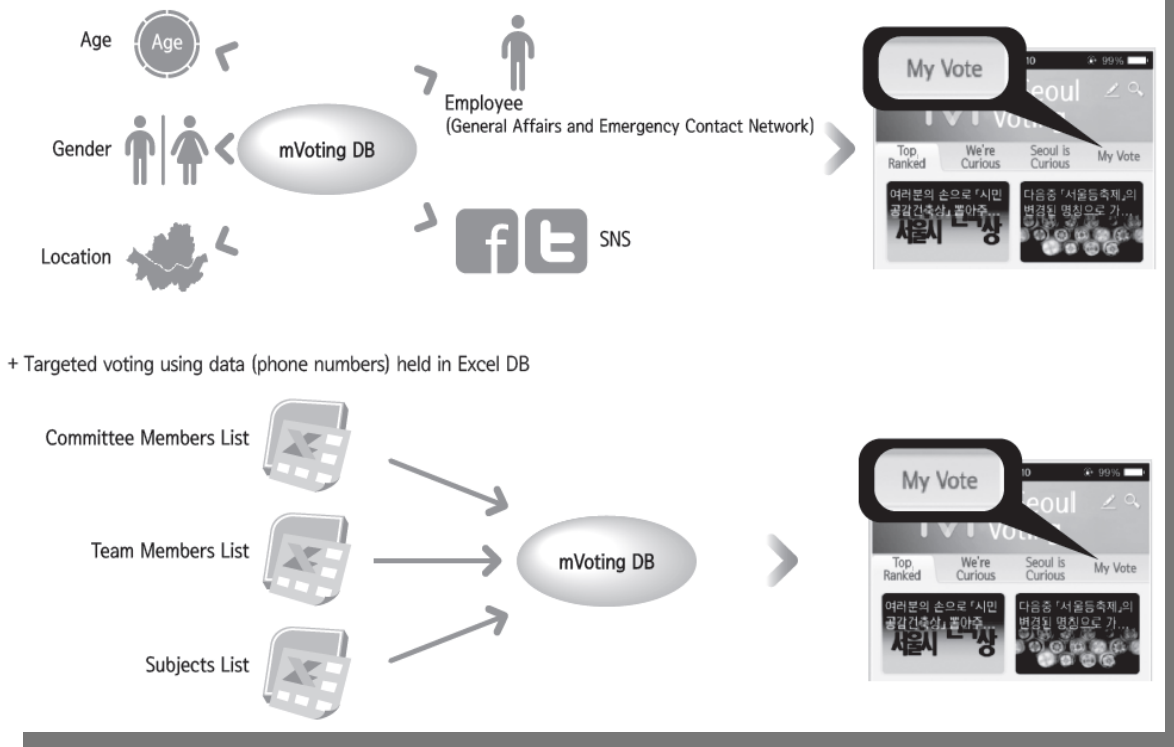


Figure 2-21. mVoting: Targeted Vote Process

Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

4.2.2. COMPOSITION AND DETAILS

Figure 2-22. shows the mVoting Application as of Aug. 2016. The “Only One-Touch” function provides citizens with recent issues of the SMG and Seoul citizens. In addition, rather than the one-sided informative function of traditional communication, citizens can express their opinions directly without having to go through a “hassle.”

mVoting Mobile App Composition

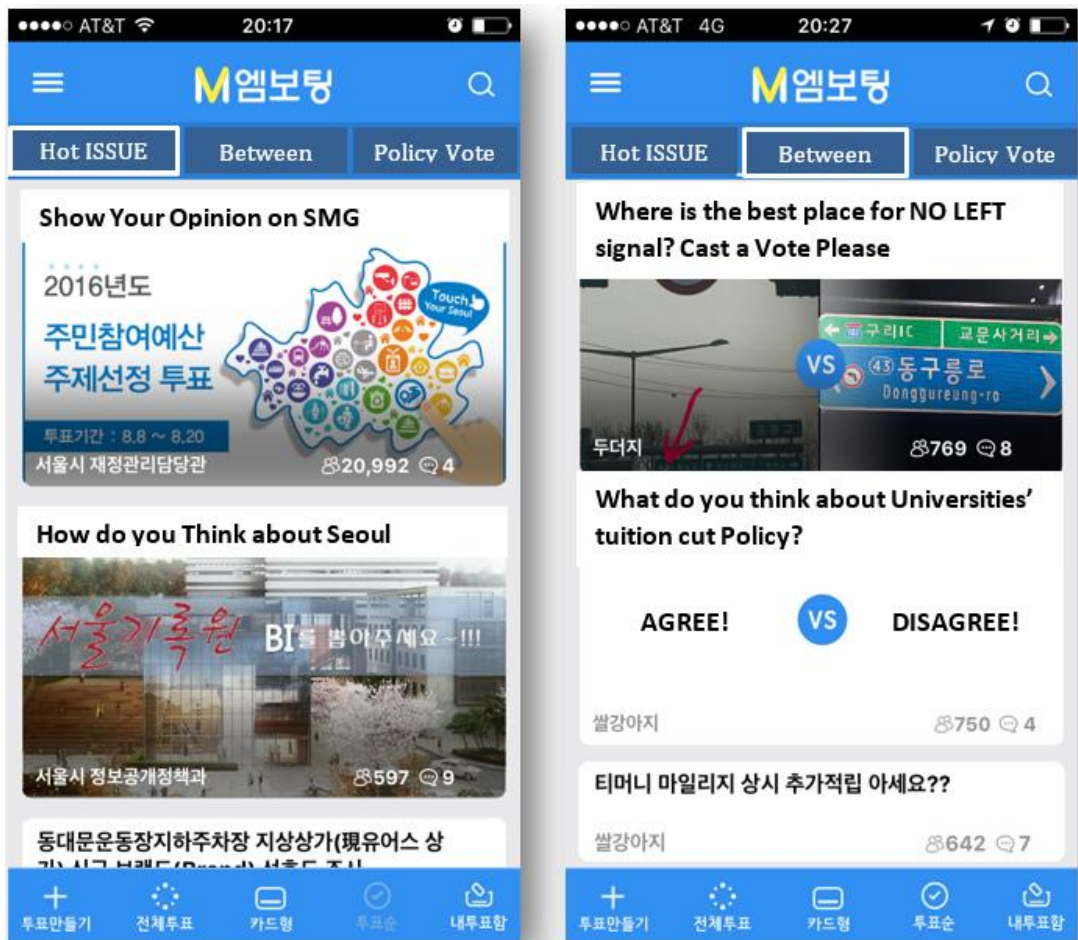


Figure 2-22. mVoting: App Composition and Details

mVoting Vote Examples

Type	Contents of policy vote	# of participants
G2C	Vote on designating of non-smoking area in the Han River park	1,048
	Vote on the restriction of vehicle driving when the level of air pollution rises extremely	1,085
	Vote on utilization plan of <u>Nodeul</u> Island	2,368
	Asking opinions to citizen about <u>RandD</u> supporting policy for solving the urban problems	4,371
C2C	Asking opinions to citizens about the policy of riding public transportation for free over the age of 65	1,466
	Asking opinions to the citizen about standing seats of Red-bus between the Seoul city and <u>Kyungki-do</u> (Safety first? or not)?	2,185
	Asking opinions to citizen about the problems of public buses	1,281

Table 2-2. mVoting: Vote Process and Specified Functions
Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

mVoting Targeted Voting Category

Voting Target	Voting Category	Subject
All	Targeting all who have the app installed	Seoul City & Citizens
Specific (targeted) Citizens	Separate registers	Seoul
	Database extraction (gender, age, area, Social Media)	
	Employee phone numbers database connection (internal vote)	
	Administrative district (Gu and Dong) *fixed concept	
	Current locations (GPS-based) * variable concept	
	Policy field vote (register / GPS / QR)	
	Private group vote (phone number unknow) To register for private vote, specific room number and password are required in the 'Poll / Vote Search' area.	Citizens

Table 2-3. mVoting: Vote Process and Specified Functions

Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

5. 120 DASAN CALL CENTER

5.1. POLICY GOAL, PERFORMANCE AND OUTCOMES

5.1.1. POLICY GOAL

Before the development of e-Government, during the period of traditional government, citizens of Seoul had no choice other than to visit City Hall directly, or had to waste time holding the phone for the information they needed. To make matters worse, even though citizens could get in contact with the person in charge, the quality of response from City Hall was very unsatisfactory.

In order to resolve this repeated problem of government's accountability, 120 Dasan Call Center was introduced. Through the single number "120," Seoul citizens can now contact the SMG regardless of the kind of complaints, questions or suggestions.

1. Increasing Accessibility to SMG

Through the "Single Number 120," citizens can contact Departments and Officers in charge regardless of any questions

To provide governmental services more conveniently by Simplified Procedures

2. Enhancing Citizen Satisfaction toward SMG through Technology Adoption

To expand the counseling service from Telephone Call to Text Message, Chatting, and Social Media

To develop 120 Dasan Call Center Counseling Information Database

To adopt Scientific Complaints Management by introducing Counseling Record Program

To expand Service Area by providing Smartphone Application



Figure 2-23. 120 Dasan Call Center: An Overview
Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

5.1.2. PERFORMANCE AND OUTCOME

The primary policy goal of 120 Dasan Call Center is to enhance Seoul Citizen satisfaction through reconstructing an essential contact line with the government. Through ISO 20000 standardized IT service management technology, the center now can now provide 24/7 services to the citizens. Seoul citizens can ask questions and receive inquiries more quickly and accurately with just one call.

1. High Public Use of the System (As of June 2016)

Total Number of Counseling → 83 Million Cases

Daily Average Numbers → 22,000 cases per Day

2. Seoul Citizens' Satisfaction

91.4% of the users have answered "Satisfied with 120 Dasan"

3. Reducing Barriers for the Non-native Speaker and Hearing-impaired Person

Providing Foreign Language Counseling Services → Daily Average: 87 Cases

Offering Sign-Language Services for the Hearing-impaired through Video Chat

→ Total Number: 2.39 Million Cases; Daily Average: 65 Cases

4. A Faster Services through Text Message Counseling System

→ Total Number: 7.2 Million Cases

→ Daily Average: 2,545 Cases

5. Sharing Know-how to Manage 120 Dasan Call Center with Domestic and International Governments

On-the-spot information sharing Program

50 Countries and 800 Municipalities and Organizations have visited the center

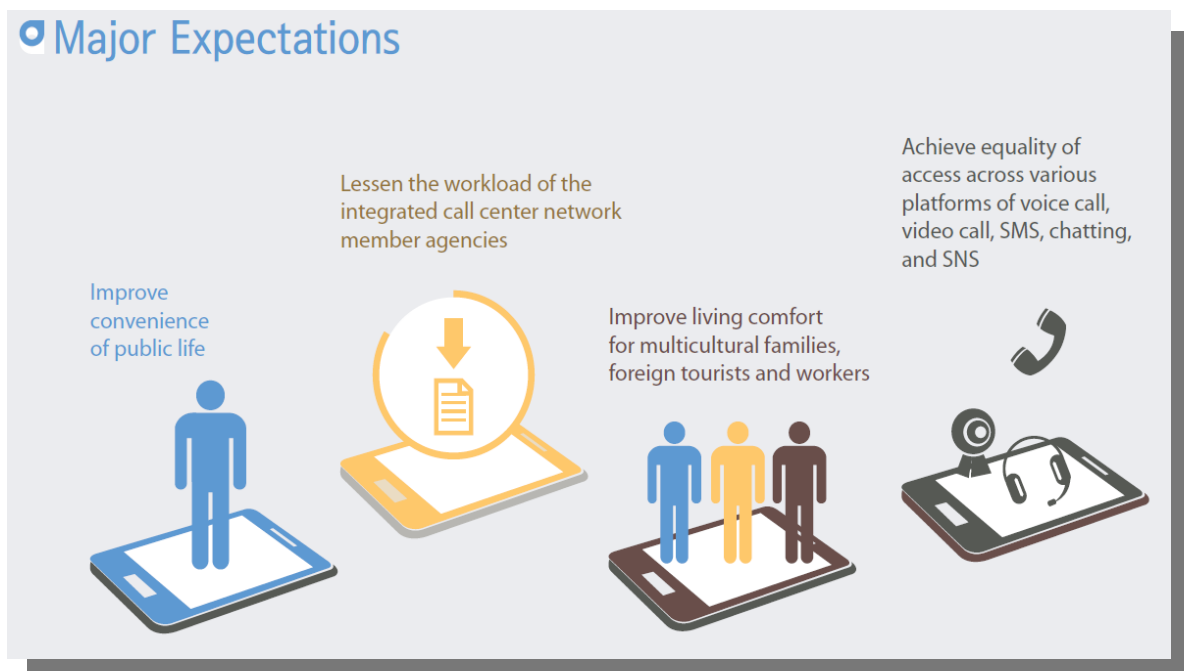


Figure 2-24. 120 Dasan Call Center: An Overview

Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

Figure 2-25. summarizes 120 Dasan Call Center's entire management system. Most importantly, the SMG is expanding channels to receive citizens' public service needs from phone calls to Text Messages, Video Chat and Internet Messenger. After the establishments of 120 Dasan Call Center, citizen satisfaction for the SMG has improved considerably (an

approximately 91.4% of service satisfaction rate). Moreover, by consolidating all the services into a single center which is in charge of serving citizens' public service needs, the productivity of other departments has increased due to the fact that they do not have to spend so much time dealing with civil complaints.

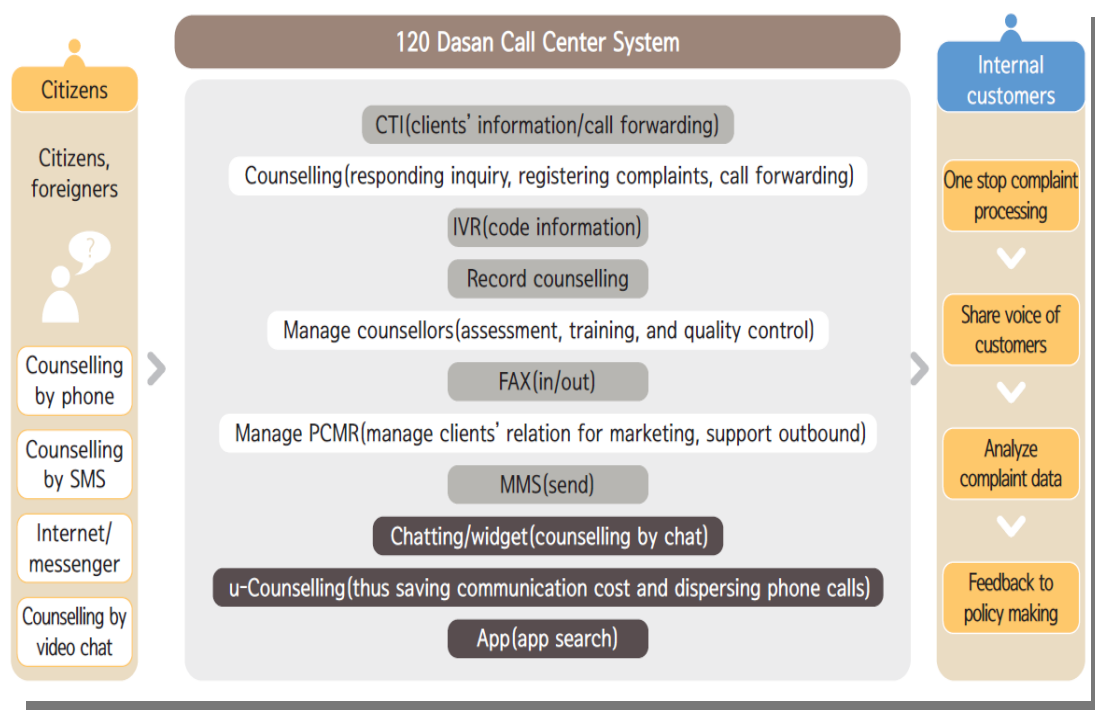


Figure 2-25. 120 Dasan Call Center: A Summary of System
Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

5.2. POLICY DETAILS

5.2.1. MAIN FUNCTIONS

Voice Call Counseling

Seoul Citizens can ask questions and inquiries by calling the single number 120 anytime and anywhere.

Text Message Counseling

In case citizens do not want to call directly, it is possible to ask questions and inquiries through a Text Message (SMS or MMS message, within 1,000 letters). Images can be received by the system to provide for more convenient counseling and complaints.

Video Chat Counseling

In the case of hearing and speech impaired citizens, 120 Dasan Call Center provides video chat counseling through the website. This service can also be provided through the 120 Smartphone Application.

Foreign Language Counseling

For foreigners, tourists and visitors, the SMG's counseling services can offer various interpretation services through the number 120 and extension 9. Currently, English, Chinese, Japanese, Vietnamese and Mongolian counseling is available, and the SMG is planning to include additional languages in the near future.

Social Media Counseling

The Seoul Government and the District Offices are constantly on standby to respond to citizens' requests via Social Media such as Twitter. In most cases, the inquiries are processed within 24 hours and are responded to through Twitter as well.

5.2.2. COMPOSITIONS AND DETAILS

120 Dasan Mobile App Compositions



Figure 2-26. 120 Dasan Smartphone Application: Compositions - Revised
Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

120 Dasan provides an easy and quick means of contacting the SMG, and it is intrinsically a Call-Center based policy. However, in addition to the multilingual voice call counseling, citizens still can get counseling services through the 120 Dasan Smartphone Application.

Moreover, through the 120 App, users can easily get access to other e-Communication services such as Eung-Dap-So, mVoting and Seoul Smart Inconvenience Reporting. Therefore, the 120 Dasan is the most essential connection link between the SMG and Seoul citizens.

Because phone call counseling alone is not sufficient to meet the diverse needs of the citizens, the SMG is providing the same service through another channel. *Figure 2-26.* represents the 120 Dasan Application and the main functions. Through this App, Seoul citizens can use Video Counseling more efficiently. App users can get in contact with Dasan Call Center quickly and conveniently by using Voice Call Counseling and Text Message Counseling.

120 Dasan App: Details

Chat and Video Counseling provide sign language services for the hearing-impaired. As described earlier, foreigners can also ask and make inquiries about living in Seoul or about other public services for the non-nationals. Through this ongoing effort to provide counseling services even for non-natives, the SMG is actively trying to resolve the problem of information gap, generation gap and the issues involving diversity in Seoul.

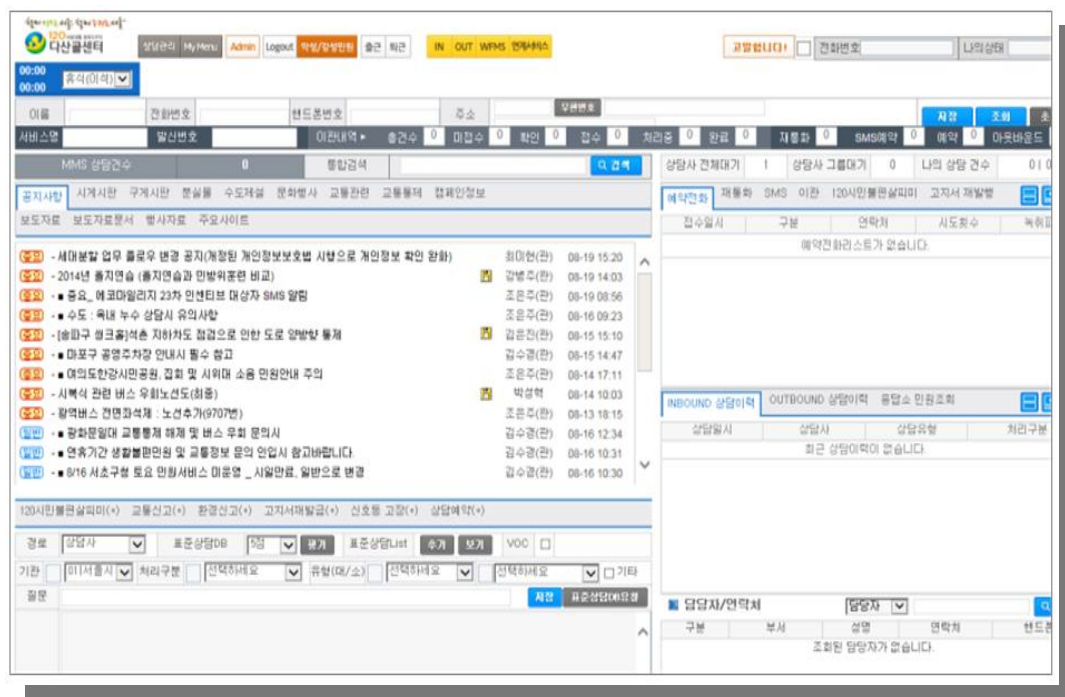


Figure 2-27. 120 Dasan Call Center: A Counseling Record Program
Source. Seoul Metropolitan Government. (2014). Seoul Metropolitan Government' E-Government Policy Tool-Kit Development Report.

Figure 2-27. represents a Counseling Record Program of 120 Dasan Call Center. In order to manage the deluge of requests, inquiries, and public service needs from the citizens, 120 Dasan Call Center manages calls by specific programs or policies.

Through the program, counseling and complaints information is recorded in real-time, and the data is stored and processed statistically without any omission. By utilizing technology actively, counselors of 120 Dasan Call Center can deal with citizens' public service needs more efficiently and effectively.

5.3. CASE OF NEW YORK CITY, U.S.

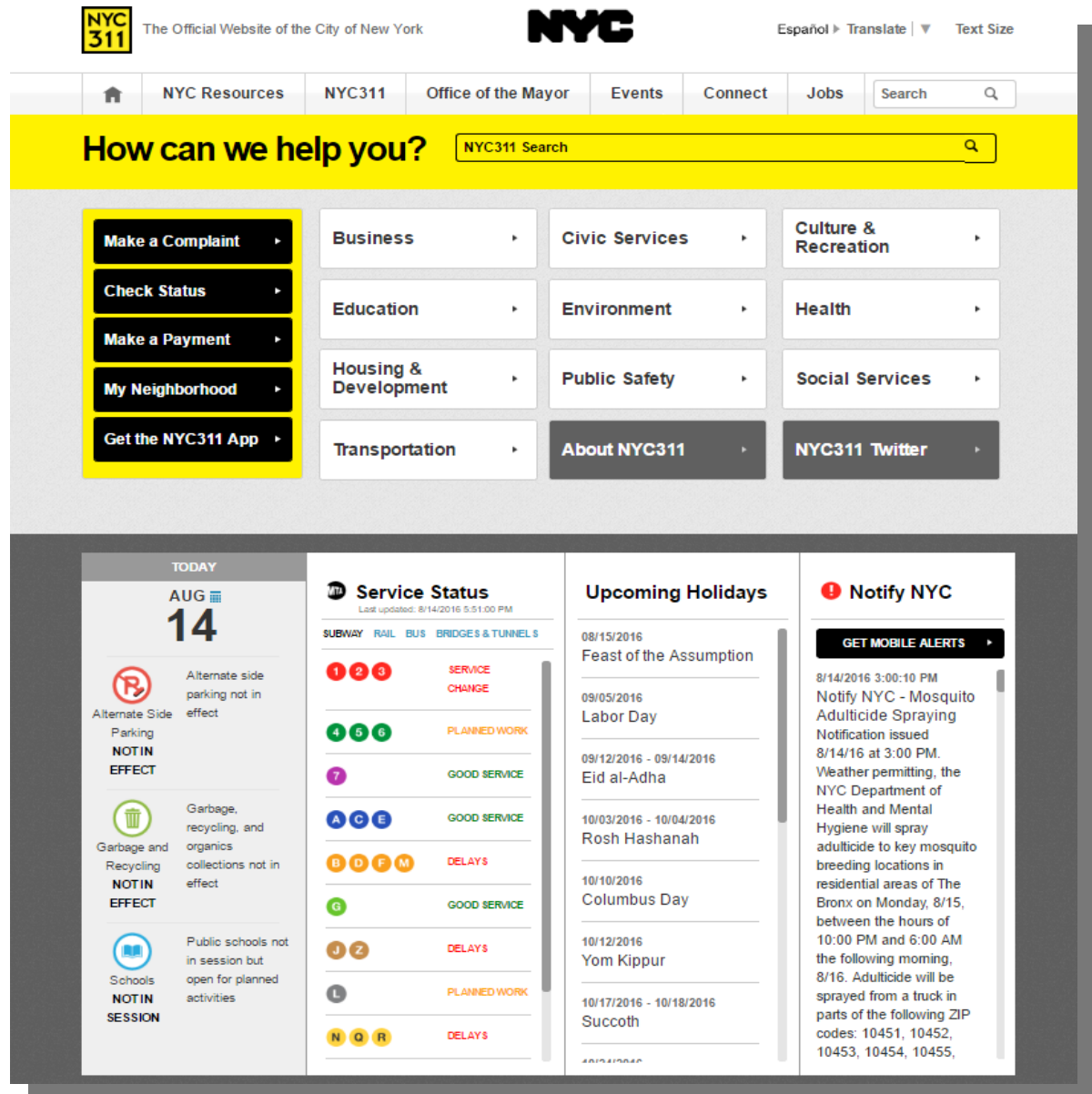


Figure 2-28. New York City Government 311NYC Website: Main Page
Retrieved from <http://www1.nyc.gov/311/index.page>

e-Government Profile: New York City (Source: Holzer & Manoharan, 2016)

ONE OF THE TOP 20 CITIES IN DIGITAL GOVERNANCE FROM 2009 TO PRESENT

- 2ND IN 2014 DIGITAL GOV. RANKING
- 4TH IN 2009 AND 6TH IN 2012
- 5TH IN CONTENT MEASUREMENT
- 3TH IN SERVICE DELIVERY MEASUREMENT
- 7ND IN CITIZEN AND SOCIAL ENGAGEMENT

Figure 2-29. shows the main page and menu of NYC311 Smartphone Application. The NYC311 service is very similar to Seoul's 120 Dasan Call Center, except for the fact that NYC311 is mainly a smartphone-based app and provides access for citizens to non-emergency City services and information about City government programs. NYC311 is available online and by phone. Citizens can obtain access and ask about public services through a voice call to 311. In addition, by using the application, they can initiate complaints to city government and get alerts in terms of weather, traffic information, parking spaces and public services.

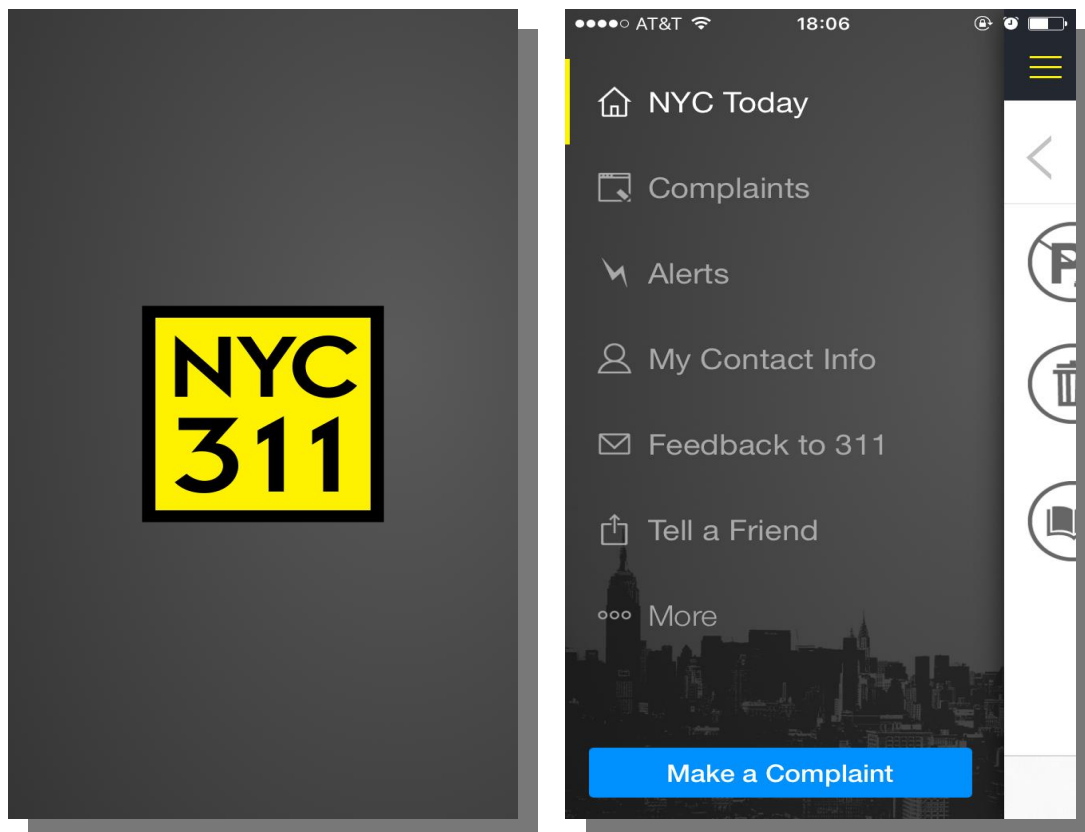


Figure 2-29. NYC 311 Smartphone Application: Main Page and Functions

Citizens can use the App to check if alternate side parking and meters are suspended, if garbage, recycling, and organics collections are suspended, and if public schools are closed. NYC citizens can also make service requests to get help with unwanted noise, heat or hot

water problems, rat conditions, snowy streets or sidewalks, potholes, and more. Specifically, due to the fact that NYC is one of the busiest and most crowded cities, the NYC311 places considerable emphasis on traffic notifications and alerts such as parking complaints, parking meter and alternate side parking information.

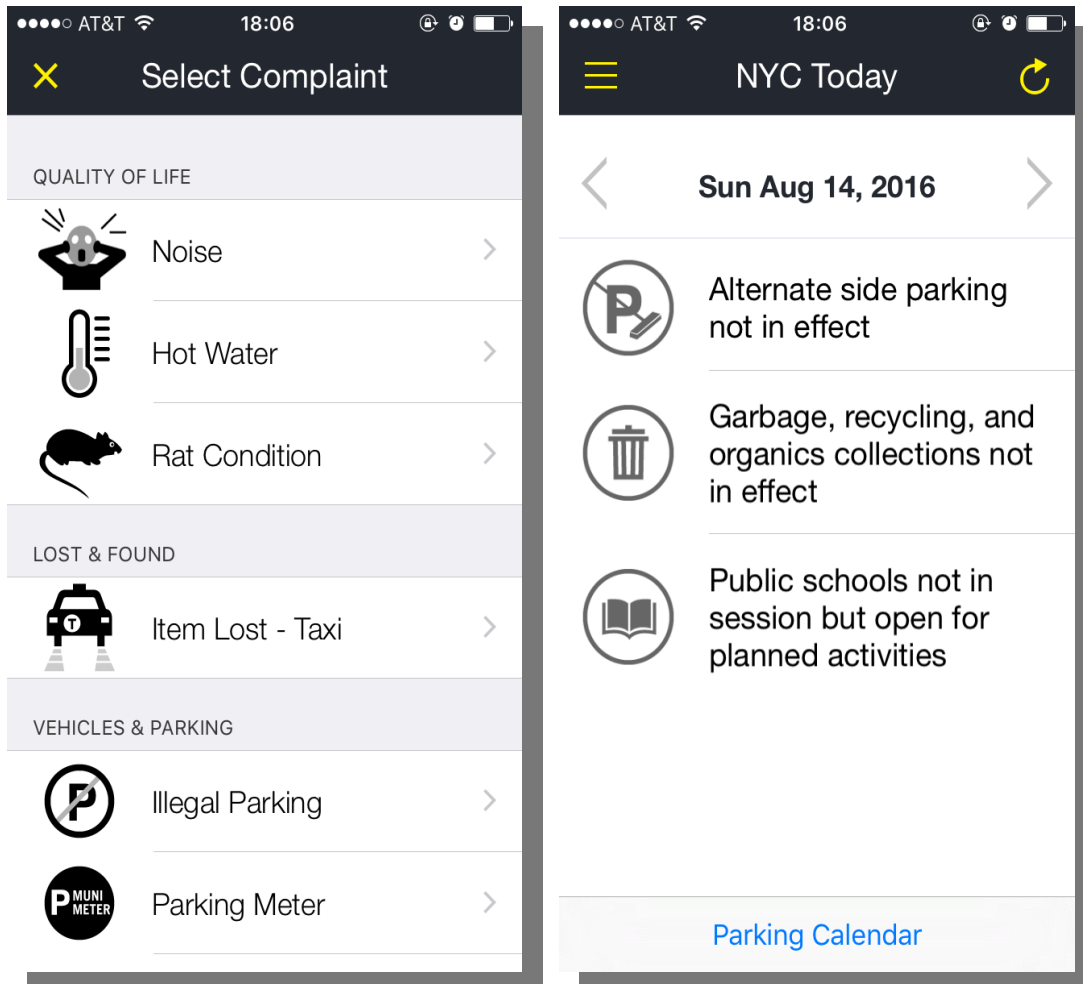


Figure 2-30. NYC 311 Smartphone Application: Complaints and Alerts

6. OASIS OF 10 MILLION IMAGINATION

6.1. POLICY GOAL, PERFORMANCE AND OUTCOMES

6.1.1. POLICY GOAL

Before the introduction of Oasis Policy, citizens of Seoul had to visit City Hall in person and had to wait in a long line to make policy suggestions. In addition, the policy determination process was not opened to the public; therefore, there were no incentives or advantages to making policy suggestions. For this reason, it was difficult for citizens to get involved in the policy decision-making process. More importantly, citizens' participation in the decision-making process was still a novel concept, and the only way citizens could participate was through filing civil complaints. However, due to the nature of making complaints, both citizens and the City Government were missing out on a huge opportunity to draw positive and creative energy from having citizens participate in the policy decision-making process.

In order to solve this intrinsic problem of citizen participation, the SMG introduced the Oasis of 10 Million Imagination policy that enables citizens express their opinions of policy suggestions and ideas to the city government. After introducing the policy, citizens of Seoul can now make suggestions and recommendations regarding a wide range of city policies, and they are assured that their opinions and suggestions will be seriously considered during the decision-making process.

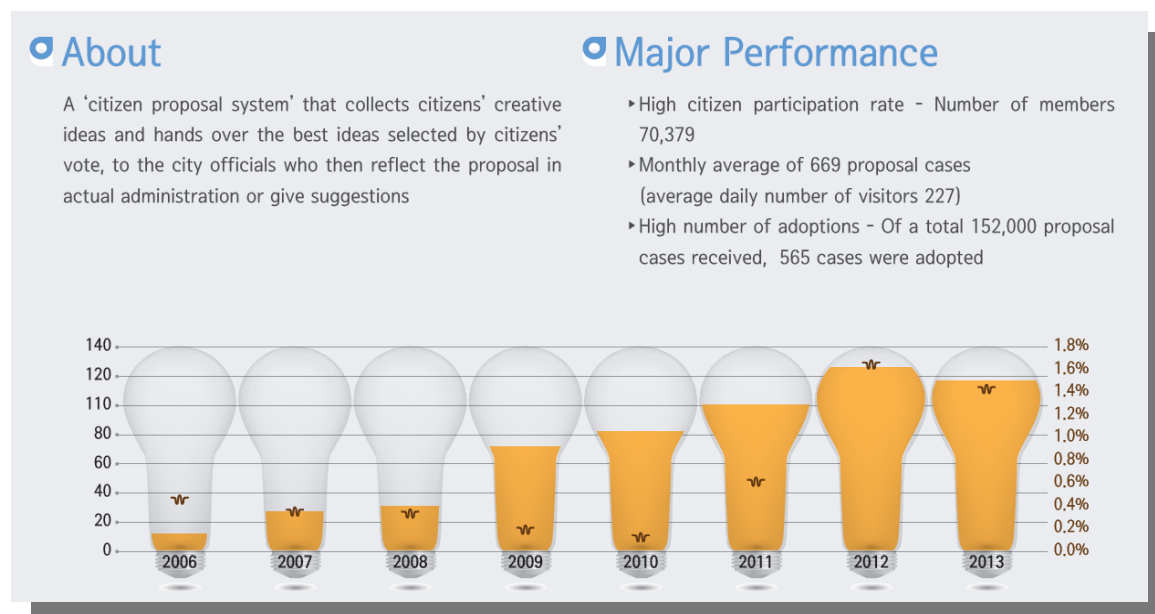


Figure 2-31. Oasis of 10 Million Imagination: An Overview
Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

The most distinctive feature of Oasis 10 Million Imagination Policy is that the new system allows citizens to express their opinions as policy suggestions and public management

concerns to the SMG. Previously, citizens can make policy suggestions, but this was no more than a formality due to the high cost of submitting the suggestions and the complicated and undisclosed policy decision-making process that thwarted citizens from active participation. As a result, the Oasis 10 Million Imagination Policy offered a chance for Seoul citizens to be creative and participate in the policy decision-making process of the SMG.

1. Promoting Citizens' Participation with respect to the Policy Decision Making Process

Reduced Policy Suggestion Cost for Anyone

Active Utilization of Citizens' Policy Creativity

2. Reducing Barriers of Policy Suggestion from Seoul Citizen

A More Convenient Platform With Respect To Policy Suggestions From the Citizens' Point of View

3. Enhancing Efficacy and Feasibility of Seoul's Policy from Citizens' Points of View

To promote Increased Mutual Understanding of Public Policy Between Citizens and Government

To produce Citizen-centered Public Policy

4. Promoting a Creative and Casual Atmosphere for the Policy Suggestions from the Citizen

6.1.2. PERFORMANCE AND OUTCOMES

1. High Rate of Use by the Citizens

Total Number of Proposals Accepted: 165,824 (As of Dec. 2016)

Number of Selected Proposals: 841 cases (0.50%)

	TOTAL	2006-2011	2012	2013	2014	2015	2016
RECEIVED	165,824	136,379	7,610	8,031	6,650	4,742	2,659
ACCEPTED	841	324	125	116	119	97	60
RATE (%)	0.50	0.23	1.64	1.43	1.78	2.04	2.25

Table 2-4. Oasis of 10 Million Imagination: Proposals from the Citizen
Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

2. Considerable Citizen Participation in Terms of Policy Suggestion

Number of Subscribers → Approximately 71,000 citizens

Average Daily Visits → Approximately 227 citizens

Number of Received Policy Proposals from Citizens → Approximately 166,000 cases

Number of Accepted Policies in Actual Policy Process → Total 841 policies

Cases: Realized Policies from Citizens' Policy Idea Proposal

- Parcel Service Storage in Subway Station for Women (Best Creative Policy of 2016)
- Han-River Park Forest Trails (Creative Policy of 2016)
- Air Quality Signboard in Subway Station (Best Creative Policy of 2014)
- Braille Notice of Road Name Address for visually handicapped person (2013)
- The Guards Changing Ceremony at Daehanmun Palace for Citizens' Experience (2012 Best Creative Policy)

Table 2-5. Oasis of 10 Million Imagination: Cases

Source. Seoul Metropolitan Government. (2016). Oasis Operation Report

6.2. POLICY DETAILS

Unlike other e-Communication policies such as Eung-Dap-So, 120 Dasan Call Center or the mVoting, the Oasis of 10 Million Imagination places more emphasis on Public Policy Suggestions through active citizen participation.

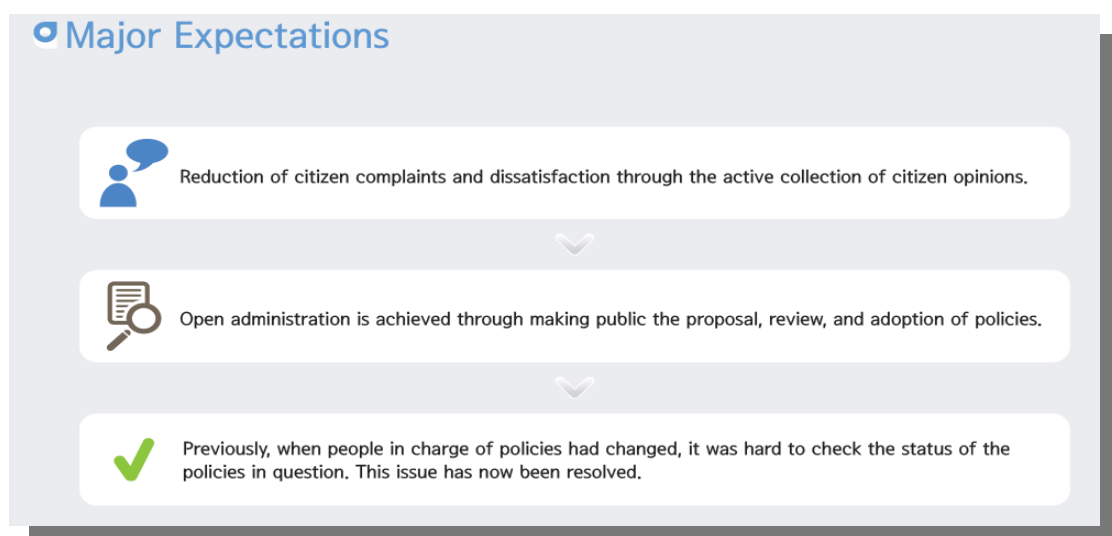


Figure 2-32. Oasis of 10 Million Imagination: A Summary of Performance

Source. Seoul Metropolitan Government. (2014). Digital Seoul e-Government

More specifically, in terms of the policy suggestion process, Oasis is basically dependent upon citizens' imaginative policy ideas on Seoul's public policy. Once the ideas and policy suggestions have been submitted to Oasis, other citizens can also participate by voting on which suggestions are the best ideas and which are worthy of serious consideration. Once this is complete, SMG officials can review the few selected ideas and decide whether they will translate a suggested idea into an actual administration policy.

6.2.1. MAJOR FUNCTIONS

Submitting Policy Ideas & Proposals

General Policy Proposal: Citizens can submit any idea if it is related to Seoul. Regardless of any topic and field, citizens can present any suggestion and other citizens can vote on the "best idea."

Policy Proposals on fixed themes from each department of SMG: Citizens can subscribe to a proposal from a set of policy subjects designated by different departments in a specific period.

Developing Suggested Proposals for Policy Implementation through the Citizen Evaluator and the Policy Professional

Since Oasis aims to produce an actual policy, the proposals from the citizens are reviewed and revised by a policy specialist. To realize citizens' creative ideas and policy needs, Oasis includes a suggestion evaluation process for policy implementation feasibility.

Sharing Status and detailed Contents of the Selected Proposals through Social Media

If the suggested policy can actually be realized, the SMG officers provide the government's opinion about the necessity, effectiveness, feasibility and the required budget for the policy.

If it is either an unrealistic or impracticable policy, the SMG officers in charge would provide explanations as to why it was not accepted based on reasonable criteria of validity, effectiveness, budget and regulating ordinances.

Citizens' Vote for Best Proposal

Fellow citizens can express their opinions and let the authorities know which policies are their favorites through e-voting. In this case, any suggestion that earns more than 10 votes from the citizens can be reviewed by public officers and the department in charge to consider whether to adopt the suggestion or not. The government's review decisions are soon posted as a form of notice.

6.2.2. DETAILS AND COMPOSITION

Proposal Evaluation Teams

Proposal Evaluating Team Organizing

	Public Administration Experts	External Policy Experts
Total Number	15	19
Characteristics	Retired Public Officers	Professors, Researchers, Non-Profit civil campaigners,
Role	Reviewing Citizen's Policy Proposal Selecting a Feasible Policy Suggestion "Monitoring Reports of Citizens' Suggestion"	Reviewing proposed Policy Ideas Selecting most useful Policy Suggestions

Table 2-6. Oasis of 10 Million Imagination: Proposals from the Citizen

Source. Seoul Metropolitan Government. (2016). Oasis 10 Million Imagination Operation Report.

The most important goal and mission of Oasis 10 Million Imagination is to produce actual policies based on citizens' points of view. In order to develop citizens' policy needs and creativity, professional experts are involved in the support and review process. How the SMG will go about realizing the dreams of the citizens into an actual policy is the key success factor of Oasis. Therefore, Oasis provides professional policy supports to citizens' proposals. Specifically, there are two teams of evaluators, which are made up of Internal Experts (retired public officers) and External Policy Experts from various related fields. Determining whether to accept the proposal or not depends on these professional teams' evaluation responses.

Oasis: Policy Proposal Process

Figure 2-33. illustrates the detailed adoption process for the Citizens' policy proposal through the Oasis. User Interface Design is emphasized to enhance usability in order to encourage citizens' active participation. Policy evaluation plays a critical part in this process, as this is the part where the SMG provides professional responses to the suggestions. Since the service cannot be operated without citizens' interest and enthusiasm, the policy additionally ensures citizen participation through the operation of membership.

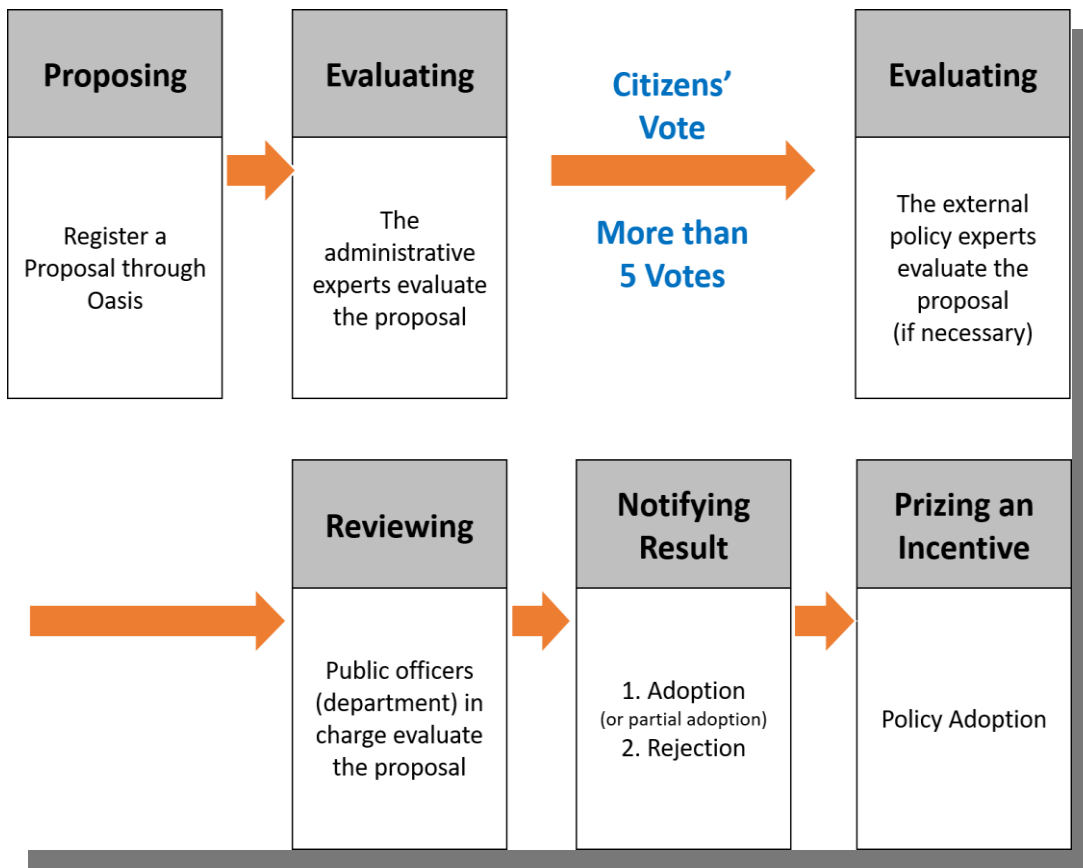


Figure 2-33. Oasis of 10 Million Imagination: Proposals Adoption Process

Oasis Web Site Composition



Figure. 2-34. Oasis of 10 Million Imagination: Web Site Composition

6.3. CASE OF TOKYO, JAPAN

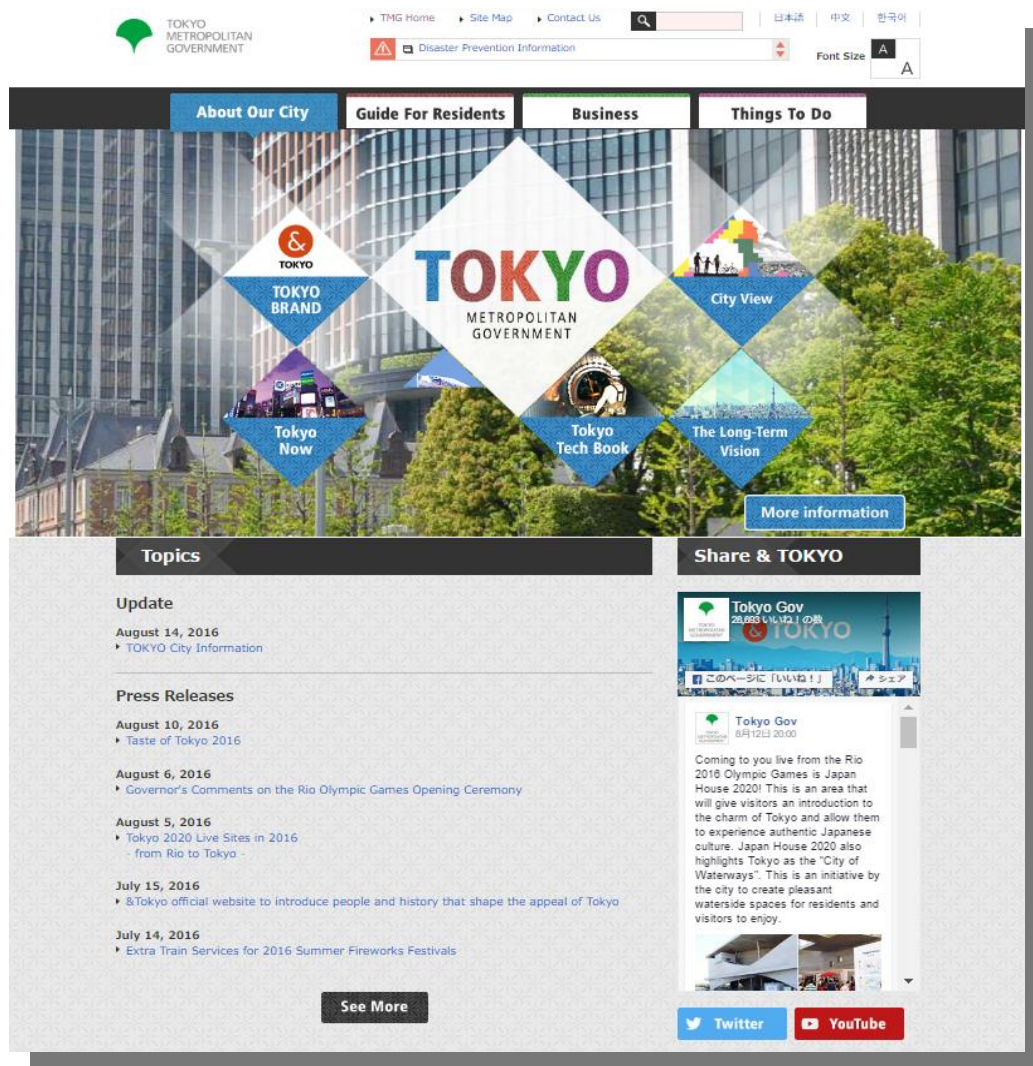


Figure 2-35. Tokyo Metropolitan Government, Japan Website: The Main Page in English
Retrieved from <http://www.metro.tokyo.jp/ENGLISH/index.htm>

e-Government Profile: Tokyo Metropolitan Government (Source: Holzer & Manoharan, 2016)

ONE OF THE TOP 20 CITIES IN DIGITAL GOVERNANCE FROM 2005 TO 2009

- 15TH IN 2015 DIGITAL GOV. RANKING
- 7TH IN 2005 AND 2007
- 5TH IN 2009 DIGITAL GOV. RANKING OF ASIAN CITIES
- 11TH IN SERVICE MEASUREMENT (2009)
- 19TH IN CITIZEN PARTICIPATION MEASUREMENT (2009)

Figure 2-36 illustrates the Suggestion Page for the Tokyo Metropolitan Government. In this case, all information is provided in foreign languages, including English, Chinese and Korean.

The site provides added convenience to non-natives as the Suggestion application forms are also in English.

The screenshot shows the Tokyo Metropolitan Government's suggestion page. The main form is on the left, with fields for Subject, Message, Name, Address, Phone number, and E-mail address. Below these fields are instructions and a 'Confirm Message' button. On the right, there is a sidebar with a title 'フォーム入力について' (About Form Input) and a list of instructions. Below this, there are fields for District (区分), Title (タイトル), Comment (コメント), Name (お名前), Age (年齢), Residence (ご住所), Telephone number (電話番号), and E-mail address (メールアドレス). At the bottom of the sidebar, there is a '確認' (Confirm) button and a 'キャンセル' (Cancel) button. The page also includes a footer with contact information for the Metropolitan Office of the Metropolitan Government of Tokyo.

Figure 2-36. Tokyo Metropolitan Government: Suggestion Page for Government
Retrieved from <http://www.metro.tokyo.jp/ENGLISH/index.htm>

This web page allows citizens of Tokyo to send opinions and policy suggestions. Once completed, all submissions are forwarded automatically to appropriate departments for review and consideration. All departments in the Tokyo Metropolitan Government are linked to this single web page, so citizens no longer need to go through the complicated organizational chart to figure out the responsible office and get the appropriate contact number. Nevertheless, in terms of the transparency and convenience, the Tokyo Metropolitan Government could provide notices in real-time, letting citizens know how their submitted suggestions are being processed to ensure transparency.

東京都 TOKYO METROPOLITAN GOVERNMENT

文字サイズ・色合い変更 音声読み上げ Foreign Language サイトマップ

検索 詳細検索

トップページ 暮らし・健康・福祉 教育・文化・スポーツ 産業・仕事 環境・都市基盤 都政情報

トップページ > 都政情報 > 意見・相談・都政への参加 > お問い合わせ > 寄せられた声の紹介

お問い合わせ

寄せられた声の紹介

都庁の相談・窓口案内

ツイート 平成28(2016)年8月5日更新

寄せられた声の紹介

※皆さまから寄せられた提言、意見、苦情、要望及び都の対応を紹介しています。

月例報告

- 平成28年度（2016年度）
4月 5月 6月
- 平成27年度（2015年度）
4月 5月 6月 7月 8月 9月 10月 11月 12月 1月 2月 3月
- 平成26年度（2014年度）
4月 5月 6月 7月 8月 9月 10月 11月 12月 1月 2月 3月
- 平成25年度（2013年度）
4月 5月 6月 7月 8月 9月 10月 11月 12月 1月 2月 3月
- 平成24年度（2012年度）
4月 5月 6月 7月 8月 9月 10月 11月 12月 1月 2月 3月
- 平成23年度（2011年度）
4月 5月 6月 7月 8月 9月 10月 11月 12月 1月 2月 3月

年報

- 都への提言、要望、相談等の状況2015
- 都への提言、要望、相談等の状況2014
- 都への提言、要望、相談等の状況2013
- 都への提言、要望、相談等の状況2012
- 都への提言、要望、相談等の状況2011

Figure 2-37. A List of Annual & Monthly Reports of Tokyo Citizens' Voice
Retrieved from <http://www.metro.tokyo.jp/ENGLISH/index.htm>

One interesting feature of the Tokyo case is that the Tokyo Metropolitan Government uploads and provides the annual and monthly reports of Tokyo Citizens' Voice on their web page. All monthly reports and recent annual reports are on the web page for citizens to view. The detailed annual report includes opinions, messages and suggestions from Tokyo citizens, and the Tokyo Metropolitan Government provides information about how the government handled the cases and what its positions were for each individual case.

東京都生活文化局

年度	各自治体の声 (件)	市民の声 (件)	市民の声総合窓口 (件)
21年度	140,163	18,085	158,248
22年度	144,285	24,838	169,123
23年度	137,589	45,507	183,096
24年度	139,256	37,164	176,420
25年度	143,176	29,538	172,714
26年度	140,660	63,756	204,416

Retrieved from
<http://www.metro.tokyo.jp/ENGLISH/SH/index.htm>

7. CONCLUSION

7.1. IMPLICATION: HOW DO WE PREPARE FOR E-COMMUNICATION POLICY?

There must be growing recognition of a more integrated approach to e-Government and online service delivery. Municipal governments are trying to provide various services delivered through “one-stop-one-click” online services, or integrate existing customer service centers into single and comprehensive call centers. In the case of the SMG, we found that during the actual implementations of e-Government and e-communication strategies, they have faced a few challenges that are not so dissimilar to those faced by many other municipalities:

- 1) Leadership changes and administrative reforms both at the local and national levels
- 2) Managerial willingness, including the Mayor’s and the key staffers’, for policy development
- 3) Political dynamics between the City Government and key stakeholders
- 4) Technological readiness, both in terms of availability in the commercial market and capacities already adopted by the government sector
- 5) Both local and central ordinances and regulations facilitating Information, Communication and Technology (ICT)
- 6) Level of democratic maturity and other environmental factors.

This concluding section (below) examines how municipal governments can support e-Government and e-communication initiatives, and provides lessons learned from the SMG case on how to support integrated services delivery efforts that could provide institutional and political coordination between stakeholders. Meaningful and successful lessons may be drawn from Seoul’s experiences.

7.1.1. DRIVING FACTORS OF E-GOVERNMENT AND E-COMMUNICATION

As with any major administrative policy decision, e-Government and e-communication through social media are made through complicated political and bureaucratic processes that aim to provide more transparency as to government activities.

The levels of e-Government performance and e-communication of a country depend on both governmental and societal factors. Intrinsically, e-Government itself is not only shaped by the government’s proactive initiatives, but also determined by political, economic, and technological readiness. According to Moon et al (2005), cost-effectiveness, technological availability and citizen’s accessibility restrict the feasibility of practices and operations in governments. They pointed out two major factors to drive e-Governments among nations by

resolving such restrictions (Moon *et al.*, 2005: 4). The framework is relevant for this study and it is important for municipal governments to identify these drivers of e-Government and e-communication.

Identifying Internal Driving Factors of Policy Motivation: Interests of Both Government and the Public

Moon *et al* (2005) defines the internal driving factors of e-Government as a force that can be observed within the scope of public organizations and politics through administrative reform initiatives and political leadership. E-Government became an administrative reform as an alternative and complementary mechanism to deliver public service to areas where traditional forms of government organization cannot reach. In keeping with this reform, the U.S. offered an e-Government initiative, followed by the Reinventing Government Reform during the Clinton administration (1993-2001). In this period, U.S. e-Government encouraged citizen participation via internet-based communication to develop interactivity that might overcome internal barriers of a political nature. The definitions of internal factors of a political nature (Moon *et al*, 2005: 6) are summarized as follows:

- ✚ ***Level of Democracy*** – The level of democracy can be measured through the Freedom House Democracy Index that includes scores for a level of Corruption score, Civil Liberties, and Political Rights in a nation. In that context: 1) civil Liberties measures media independence, freedom of assembly, religious expression and political organization, as well as independence of the judiciary, and 2) political rights includes whether elections of political leaders are free and fair, the fairness of electoral laws, and self-determination by ethnic and minority groups (Moon *et al*, 2005: 6).
- ✚ ***Size of Government*** – The size of government is clearly related to the level of e-Government performance; and to measure the government size, total government expenditure can be utilized as a proxy indicator (i.e., government spending as a percentage of GNP is one measure for size of government) (Moon *et al*, 2005: 6).
- ✚ ***Level of Corruption*** – Level of corruption indicates government crimes that benefit individual officers, as well as the additional costs of delivering public services. This level can be measured by citizens' perceptions in terms of judiciary independence, protection by law of financial assets and wealth, and neutrality of government in contracting and bribery practices (Moon *et al*, 2005: 6).
- ✚ ***Technology Literacy or Social Capital*** – Since e-Government inevitably arises from citizen participation and a bottom-up approach, level of education and literacy rate are major requirements for policy adaptation (Moon *et al*, 2005: 6).

External Driving Factors: Policy Environmental Approach and its Conditions

In addition to the internal factors, the external factors refer to public and political field – non-governmental and non-political areas that facilitate and promote e-Government. Such external factors include the development level of information communication technology and the economic conditions in a country. These two factors are also relevant to the level of democracy and the prosperity in a country that encourage tangible actions in e-Government. Furthermore, advancement and availability of technology should be supported in order for public administrators and citizens to initiate e-Government. In accordance with the internal factors, the external factors are summarized in Moon *et al* (2005: 5-6).

- ✚ ***Economic Stability*** – As one major factor that makes e-Government adoption succeed, a country's economic status is a substantial requirement. Economic condition and stability can be measured by inflation rate, exchange rate, budget surplus, saving rate and business conditions in a country (Moon *et al*, 2005: 5).
- ✚ ***Quality of Life or Human Development Index (HDI)*** – This indicator refers to components of citizen's quality of life and well-being such as health, education, income level, expected life expectancy and educational attainment (Moon *et al*, 2005: 5).
- ✚ ***Internet Penetration*** – Since e-Government always requires access to the Internet, internet availability and the level of information technology are essential factors that determines the success of e-Government. Measuring Internet penetration is based on the population who can access and use the Internet, and possess computer and smartphones (Moon *et al*, 2005: 5-6).

Most importantly, e-Government is considerably related to the level of democracy in a country. It would probably not be an ideal form of government presence in a less democratic society. Less democratic government is less likely to advance e-Government due to the fact the government might not support transparent and interactive relationships with citizens. In particular, administrative communication through social media policy intrinsically requires contingent conditions as above, because it only becomes truly possible when the country's high levels of citizenship, quality of life, democracy, and stabilized e-Government status are evident.

7.1.2. BARRIERS OF E-GOVERNMENT AND E-COMMUNICATION

Though e-Government and its internet-based services continue to be embedded in the context of today's public administrations services, it cannot exist alone. Still, there are pervasive misunderstandings on e-Government and Social Media policy such that the barriers and challenges are primarily technical.

As society and technology advance, e-citizens in the information society require more from their governments. Within this context, e-Government would advance 1) the technological tools available, 2) accessibility that citizens and business will have, 3) their overall trust in internet-based channels and 4) their expectations of the types of e-services that should be delivered and how they should be delivered. However, due to the failure to respond to the ever-changing needs for public services, barriers to e-Government implementation and social media communication may result.

Internal Barriers

Commonly, the internal barriers of e-Government often concern machine breakdowns, missing components, and lack of flexibility in the inter-governmental frameworks that enable e-Government physically. This is particularly true when e-Government is treated as a merely technical issue rather than as a policy itself for the basic service delivery system of public administration. Barriers for e-Government adaptation and social media communication might arise for agencies that only focus on putting their own services online, without considering the broader government context that controls what they can and cannot do. According to Lau (2002: 3-15), the obstacles to e-Government adoption are regulatory and legislative barriers, governmental budgets, and infrastructure.

- ✚ ***Regulatory and Legislative Barriers*** – Since e-Government is an alternative form of delivering public services, government's role is the fundamental consideration. The first role of government is the distinction between classical paper and digital processes in decision-making. The processes are arranged by legal legitimacy, and the complexity of regulations and requirements on an e-Government system hinders the establishment of e-Government agencies. Governments are required to organize their paper and digital forms according to different perspectives. In particular, privacy and security should be addressed through appropriate legislation, regulation and/or ordinances before the initial innovations of e-Government are possible (Lau, 2002: 5).
- ✚ ***Budgetary Barriers*** – Funding structure is vertically organized in most democratic governments and a core public management principle holds that an agency that distributes funding sources to achieve its goals and objectives. However, this vertical funding structure cannot be applied to all e-Government policies because the policies imply long-term commitments and overlap across other government agencies and private sectors (Lau, 2002: 5).

Focus of traditional government budgeting	Characteristics of high-value ICT investments
Single-year (or biennial) expenditures	Multi-year investments
Programme-by-programme performance	Enterprise or cross-boundary performance
Financial cost/benefits	Financial and non-financial costs/benefits
Level of effort within existing work flows	Changes in the flow of work
Ongoing operations	“Start-up” operations
Control	Innovation

Source: “Challenges for e-Government Development” Lau (2002: 6), 5th Global Forum Reinventing Government Mexico City.

✚ ***Inconsistencies in Technical Frameworks and Infrastructure*** – e-Government agencies need a channel to communicate with each other and with citizens. First, information communication technology advances and its frameworks are required to deliver public service with mutual communication between agencies and citizens (i.e. Eung-Dap-So system of SMG) (Lau, 2002: 7).

External Barriers

✚ ***Radical Changes of Technology*** – Since the government’s social media communication policy is inevitably dependent on trends of the non-public environment in the private market system (e.g. Facebook, Twitter, Instagram, Blogs, and Kakao Story), government often faces the challenge of fostering the development of e-Government. The development of technology in the private sector moves more rapidly and government sometimes fails to follow speedily. Governments are required to use well-proven approaches and better-standardized software to expand the scale of their service delivery (Lau, 2002: 14).

✚ ***Digital Divide*** – The digital divide is an important barrier to e-Government in which people who do not have access to the Internet would be unable to benefit from not only public services but also social media communication. The technology advances may inadvertently constrain citizen access to the services in e-Government, which only widens the digital divide. An established e-Government system does not necessarily require additional costs; however, the increase in digital division may bypass those who do not have knowledge and skills to access to the Internet and its technology. Recently, U.S. public libraries have expanded their mission so as to educate citizens about such access in accordance with the policy of the American Library Association. After the implementation of e-Government, governments still need to educate citizens who do not have enough skills and knowledge to access the Internet (Lau, 2002: 2-3).

✚ ***Citizen’s Perception and Seamless Services*** – Due to the risks of on-line “fracturing,” what types of public service e-Government delivers is a controversial issue with citizens. Technology development becomes an ideal tool that citizens are able to consult with government and government understands the expectations of

citizens on public service. However, many citizens are still much pressed to express their opinions on government. Citizens would regard this policy of SMG's e-government and e-communication as a useless tool that discourages of citizen participation. For this reason, the SMG incorporated integrated e-Government policies (so-called CCPIS, or Eung Dap So). Under this system, seamless online services aim to transcend the agency-based structure for providing information and public services (Lau, 2002: 4).

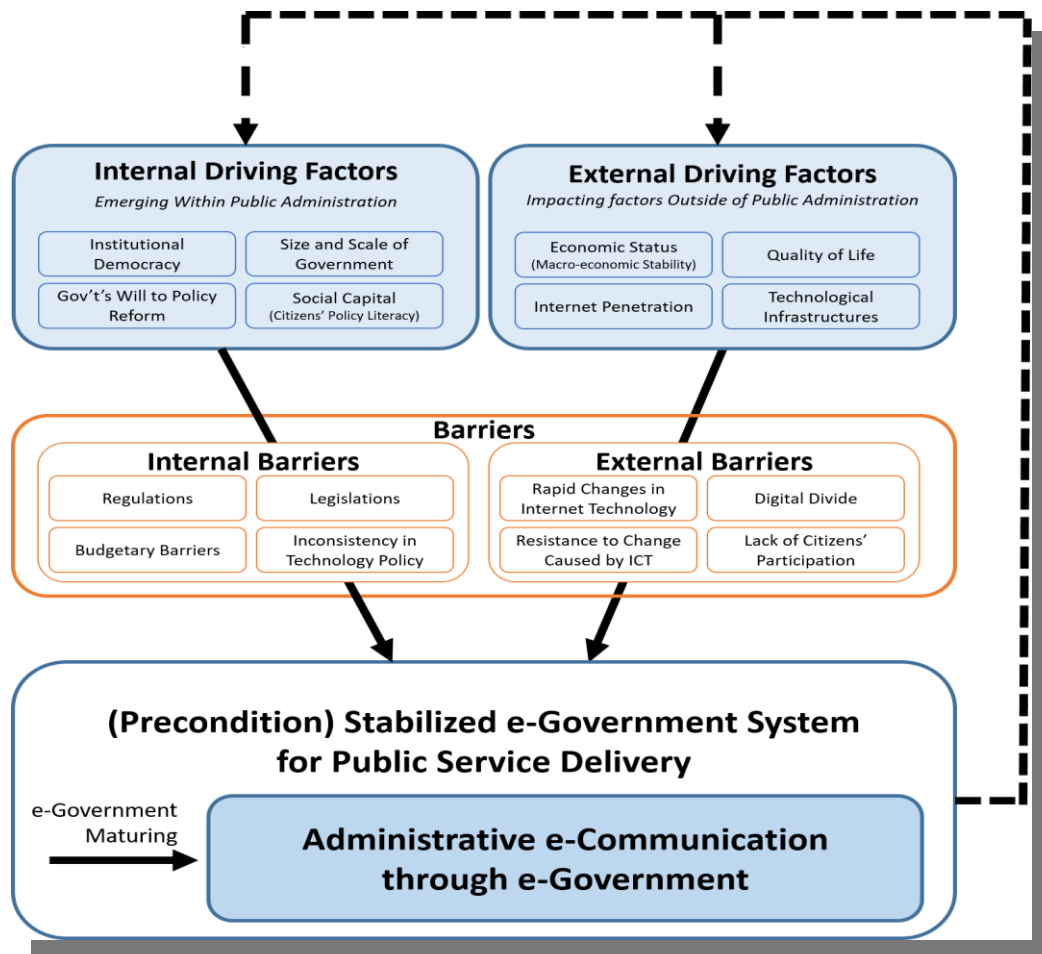


Figure 2-39. Factors impacting on e-Government and e-Communication Policy
Source: Modified based on two research “What Drives Global E-Government?” (Moon et al, 2005), *Public Administration Review* and “Challenges For e-Government Development (Lau, 2002), 5th Global Forum on Reinventing Government Mexico City.

Figure 2-39. represents the process for the Administrative e-Communication Policy. With regard to the implementation and adoption of the e-Communication Policy, stabilizing e-Government is one of the most important prerequisites. The point of e-Communication for the policy makers is that it is imperative to adopt to rapid changes of technology trends and understand citizens' policy needs. Thus, the policy should keep up with times as ICT changes along with societal context.

7.2. POLICY RECOMMENDATION

The SMG has shown strong e-Government leadership in envisioning its long-term strategy plan since 2007. The SMG has maintained and renewed its five-year long-term strategies since then, and has consistently pursued both government reform and technology innovation to transform its implementation infrastructure and governance structure. However, the ultimate purpose of e-Government remains to achieve citizen-centered public administration.

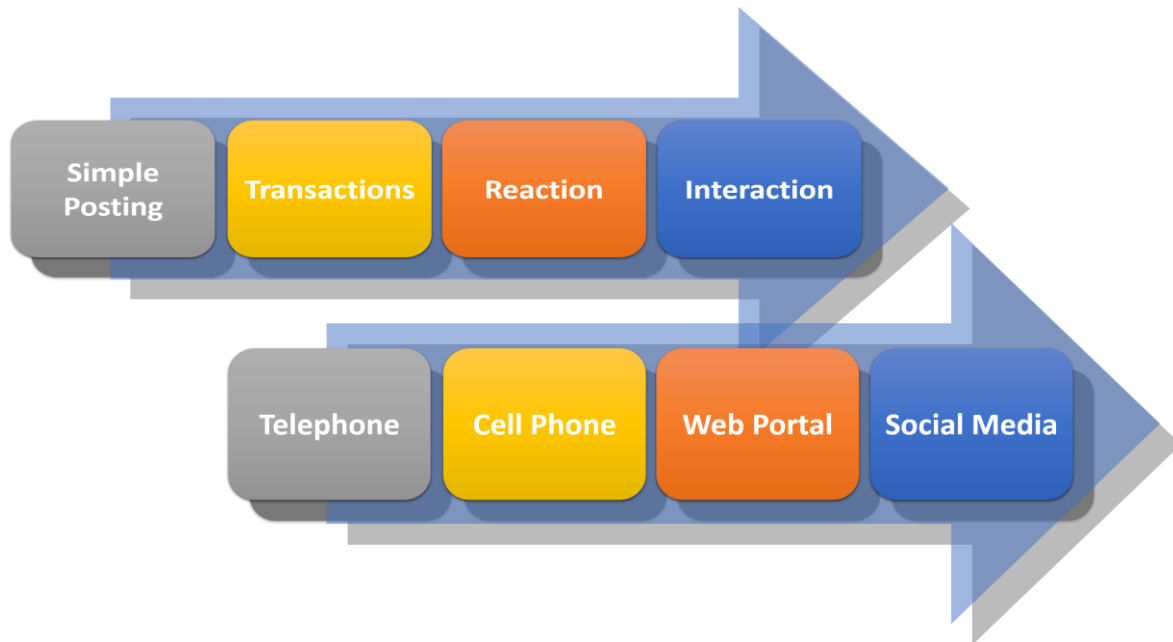


Figure 2-40. *The Relationship Between Social Media Communication and Digital Governance*

Source: Holzer & Manoharan (2016), Seoul, Korea E-Governance: Best Practice for Policy Adoption, 2016 ASPA Annual Conference.

The SMG's citizen-centered services have made government more accessible, more transparent and more relevant for each citizen. The SMG had to overcome some of its own challenges to get to where it is today and is continually putting in place efforts to improve operational and managerial capabilities of its e-Government policy. In addition, the SMG continues to innovate its e-Government efforts and is utilizing Big Data to provide individually customized services and to create a more efficient service delivery system. Furthermore, the SMG is hoping to achieve Government 3.0 on its own accord and is also considering moving most of its service delivery capabilities to cloud computing within the next few years. In light of these efforts, Seoul remains a top e-Government contender and this study finds that several perspectives provide both institutional and technological implications in developing effective e-Government and e-communication policies. The study's findings should serve as a point of comparison to guide other cities in their e-communication development efforts. Our policy implications and recommendations are as follows:

1. The study confirmed that SMG's social media policy is one of the most innovative ways of communicating in terms of (1) responsiveness and accountability (2) open government and

(3) user-friendliness. Along with the SMG's social media policy, open data initiatives have a significant effect in getting citizens engaged in civic activities, providing government transparency and encouraging user-sourced innovation. However, open social media policy is available in only certain areas (e.g. transportation, recreation services, complaints services, facility management) and they are still uni-directional. The SMG should consider adopting multi-directional communication and greater data accessibility for its smart services during its transition to Government 3.0.

2. In addition, the SMG's CCPIS (so-called Eung-Dap-So) is considerably useful not only to understand and interact with citizens' daily public needs, but also to manage alerts and notices in case of emergency situations. The SMG is especially proactive in utilizing private sector social media networks such as Facebook, Twitter, and Kakao Talk (a free mobile application for instant messaging and texting. Over 170 million users worldwide and approximately 93% of smart phone users use this app in Korea). This allows for greater service penetration among a wider range of citizens. Although participation and engagement levels are very high through Eung-Dap-so, e-Government service development is mostly government-centered and there is not much room for the local entrepreneurial community to get involved. The SMG needs to take a more market-oriented and incremental approach to creating an open innovation platform for various stakeholders.

3. This study has found that in order to successfully implement the e-communication policy, the e-Government service needs to be based on a long-term strategy that takes into account the underlying political and social situations. For this reason, this study included the driving factors and barriers to e-Government, including conditions municipal governments need to work around if they are to evolve towards higher levels of e-Government development. As mentioned earlier, these driving factors and barriers may be perceived as opportunities and threats to developing social media policy, and it is important for municipalities to be aware of the situations in order to translate the overarching socio-political goals into concrete and achievable social media policy strategies which aim to increase citizen engagement and get citizens involved in the municipal governments' decision making process. This study finds that the SMG has taken steady and effective e-Government strategies to achieve these socio-political goals, but is still lacking a comprehensive and effective incentive system to get more citizens motivated and involved in the SMG's services and decision making process.

4. With regard to the internal policy adoption process of the social media policy, there are three distinguishable development stages in general: (1) Entrepreneurship and Experimentation Stage, (2) Constructive Stage and (3) Institutionalization Stage. Even though social media policy is relatively new in Public Administration, municipalities still tend to follow the general development stages of e-Government as they attempt to adopt the social media policy. Although it has been extensively argued that the process of developing e-Government has shifted from the stage progression to non-traditional, non-sequential and intersecting chunks of development, we have witnessed that the model of stage development

still holds true in the SMG case. For example, long-term strategic planning for e-Government, enhancing citizen participation, utilizing Big Data and transferring services to a mobile-based platform all require government-led planning and execution, and also collaboration between different agencies and public-private partnership during the early stages of the development.

Most importantly, as we have seen early in the development of e-Government, governments work with the legislative body to set up important legislative and legal frameworks to should keep the development efforts legitimate. Once infrastructure and institutional foundations are in place, governments can engage themselves in longer term sustainable strategies that can be categorized as the later stages of the development process.

5. Finally, although there are numerous factors that impact the success of e-communication policy implementation, the government's willingness and political leadership to implement the policy is the most paramount factor. In the case of the SMG, the study has found that centralized governance with a comprehensive strategy reinforces effective coordination and control, and prevents duplicate or overlapping investments in the services through IT divisions coordination across different agencies. In general, this duplication of services is considered a major problem, and that having a strong centralized authority leads agencies to make better investment decisions. However, every local municipality has its own embedded organizational culture, and cities need to consider how to coordinate between centralized and decentralized investment efforts. Therefore, when formulating the long-term development strategies, policy makers should consider how to best strike a balance between leadership and collaboration, and must remain consistent and must stick with the long-term strategy until the development results are fully realized.

Chapter 3

GEOSPATIAL INFORMATION SERVICE (GIS)

By Dr. Jongmin Shon & Sungyoon Lee

Seoul Metropolitan Government (SMG) launched the Geospatial Information Service (GIS) project in 1995 to improve the quality of its service delivery. Since then, the SMG has relied on a Master Plan that laid out 4 distinct phases that would systematically and effectively guide the development of the digital map information system.

These processes have allowed the SMG to develop the structure and its application systems, such as the Space Data Warehouse, which is the integrated system of GIS, GIS portal, and the Data Reference Model. Keeping up with the IT development, SMG incorporated the User Created Contents (UCC), Web 2.0, Open Application Program Interface (API), and finally, built the Community Mapping Center to provide civil services through mobile platforms to accommodate user-led geospatial information services which emphasize citizen participation.

1. POLICY BACKGROUND

Government officers have to consider a dozen factors before they can decide how much tax to levy on a property; they would have to collect information from various sources to calculate the total land area, examine the surrounding area to estimate the value of the property, and decide how much they would tax the land.

A geospatial information system (GIS) can help with the analysis and the determination of the resources, such as land and capital, into the decision-making processes. GIS is a scientific tool that visually illustrates spatial information and helps with the efficient conduct of spatial investigation (Ganapati 2011). GIS is now significantly used in the governments, businesses, and researches for a broad range of applications including land use planning, infrastructure and utility development, demographic analysis and investigation of environmental resources, etc. Particularly, the use of GIS in local governments has considerably increased since the 1990s.

For example, the Seoul Metropolitan Government (SMG) has launched the GIS project in 1995, and has been using GIS to improve its policy applicability. Many GIS services offered by the SMG have already begun to provide a three-dimensional map service to the public. The SMG has aggressively applied the GIS platform in the decision-making process regarding how to utilize its surrounding land mass effectively. In fact, SMG has achieved top ranking in the Global E-Governance Survey of the SPAA at Rutgers University for the seventh consecutive time (Holzer and Manoharan, 2016). Therefore, this report will focus on the SMG's GIS policies as a best practice to suggest policy recommendations regarding the facilitation of GIS policies for many cities in developing and undeveloped countries.

2. POLICY GOALS AND IMPLEMENTATION STRATEGIES

2.1. HIGH EFFICIENT MODEL OF SMG'S GIS

The GIS of SMG launched from a comprehensive graphic information system development project in 1987 and was finally materialized with the establishment of Seoul GIS Part 1 and 2. The City of Seoul created a basic plan to build its own GIS platform but also collaborated with other agencies, including with the central government's national GIS building project in 1995. Currently, Seoul's GIS is being developed as part of the Seoul information project using the spatial information and geographical information. The goal of Seoul's GIS is closely aligned to achieve the overall e-government policies, which is "To provide Citizens with Customized Public Services; Create Jobs; Build New Engines of Growth."

In fact, the SMG has produced fundamental digital map products and developed various GIS application systems such as roads, urban planning information, water supply, sewerage, land information, geotechnical, underground facilities, and a new address management system.

Recently, the Seoul has started to provide 3D map services and has put efforts to improve the accuracy of the digital maps and their measurements.

According to the survey by Won, Lee, Lee, and Hyeon (2011), SMG has received very high scores in terms of efficiency since the introduction of GIS. This is due to the fact that the utilization of GIS enables the SMG to reduce the working hours spent in drawing up documents regarding geospatial information. Moreover, since the Seoul Data Warehouse system (SDW) allows the sharing of geospatial information with other internal departments, other departments are also taking advantage of the information available in the SDW. These GIS initiatives have been developed in accordance with the GIS master plan of SMG.

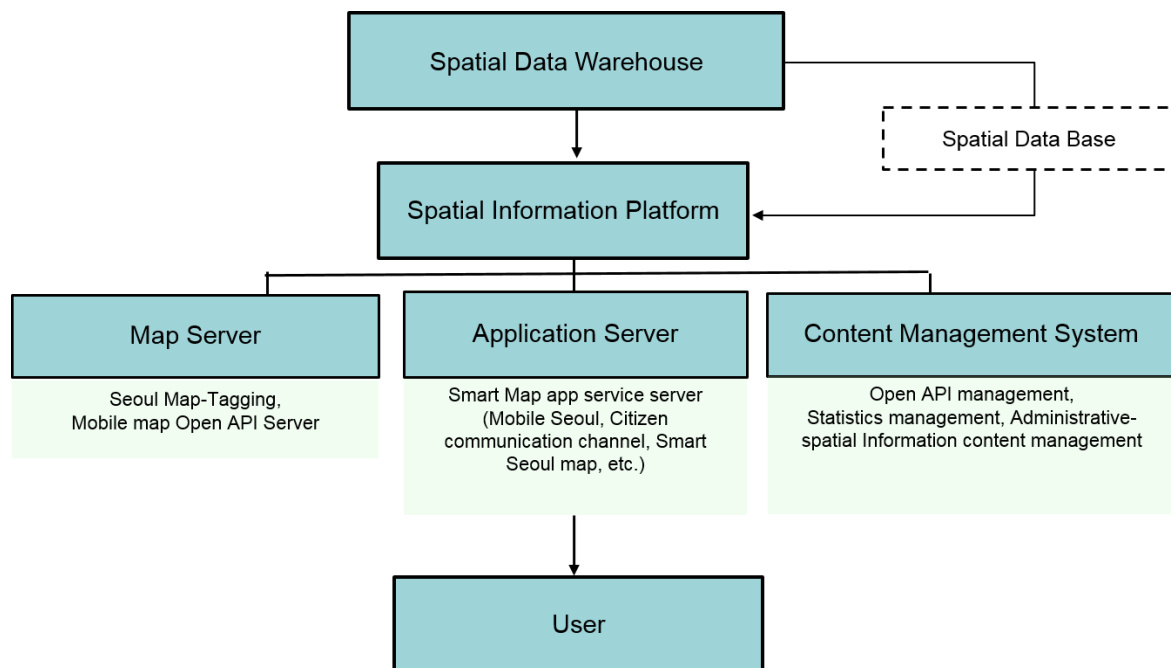


Figure 3-1. Model of SMG's Spatial Data Warehouse

2.2. GIS STRATEGIES OF SEOUL METROPOLITAN GOVERNMENT

The specific GIS initiatives of the SMG, which are mentioned above, are based on the master plan of the SMG. In fact, the SMG's GIS was first introduced in 1995 with the establishment of the SMG Master Plan and the revision of the National Geographic Information System (NGIS). During the First Step (1996-2001), the SMG completed the production of the digit map, which enabled numerous application systems to make use of the digit map.

In the second phase of the Master Plan (2002-2006), the development of the application systems introduced in the first stage have been completed. In this stage, Spatial Data Warehouse, which is an integrated system of GIS, GIS portal, Data Reference Model, and Standard Operating Procedure for developing applications were established. The SMG managed various administrative services based on GIS by utilizing 29 application systems

such as the statistical map and the administrative area map. Moreover, the SMG rigorously reflected the space analysis results in its urban policies.

The SMG formed a ubiquitous environment by upgrading the existing application programs and introducing a new GIS technology such as User Created Contents (UCC), Web 2.0, and Open Application Program Interface (API) in the Step 3 (2007-2011).

In the Step 4 (2012-2016), the SMG built the Community Mapping Center and provided civil services through a mobile platform in accordance with a paradigm shift toward user-led forms of geospatial information emphasizing citizen participation. The SMG is providing more public sector information such as 3D indoor spatial information and other spatial information regarding maps, transport, land, environment, and public institutions. It is also providing map-based information on disabled-friendly facilities, current status of the new town development projects, free Wi-Fi zones and other services through the Map-Tagging Service. The Smart Complaint Register in the Seoul Map Website encourages citizens to participate actively in the administrative services by collecting data from them.

3. IMPLEMENTATION AND EFFECTS OF GEOSPATIAL INFORMATION SERVICE

3.1. GOVERNMENT-TO-CITIZEN (G2C)

“Government-to-Citizen (G2C)” is a new SMG initiative which emphasizes the importance of explaining the government policies or activities to the citizens. The Seoul Map Website and Smart Complaint Filing initiative are part of the G2C services, which were introduced to provide various spatial information regarding maps, transportation, land, environment, and public institutions. To be specific, it provides citizens with a variety of content types such as life information maps, statistics maps, and other spatial information created since 1995.

The SMG’s website of open space information provides the spatial information above for all citizens to use. Furthermore, the information includes the maps that private sectors do not provide such as foreign language based, building types, and ecology environments in Seoul.

3.1.1 SEOUL MAP WEBSITE

The Seoul Map Website was built to make spatial information about various areas of Seoul available to the citizens and make it easy to check. Its function can be divided into various sub-functions; the ‘Map Service’, the ‘Urban Information Map Service’, the ‘Statistics Map Service’, the ‘Spatial Information by Field’, the ‘Spatial Information Education Center’, the ‘Make My Map’, and the ‘Smart Complaint Filing.’

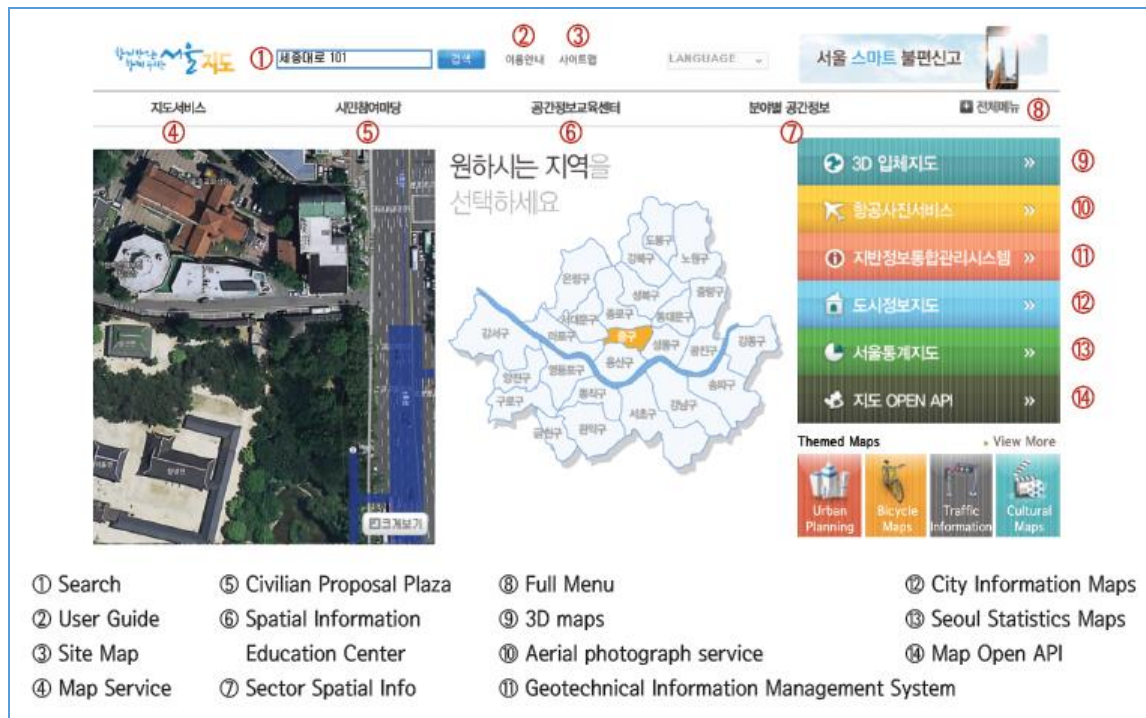


Figure 3-2. Seoul Map Website

Source: Seoul Metropolitan Government (2015)

In terms of Map Service, it helps citizens not only to search maps by names or lot numbers, but also to search local welfare services, female employment opportunities, and children's facilities. Real time traffic information, aerial photographs, urban planning, etc., can be easily determined with the maps. People are able to check the actual size and distance with just a few clicks. Notes to particular parts of maps can be inserted. Maps can also be saved as images, emailed instantly or shared through SNS.

The Urban Information Map Service includes city and administrative district borders, bridges, road facilities, tunnels, pedestrian overpasses, public parking places and other facilities, rivers, parks, bird distribution charts, environmental information, and annual average temperatures.

The Statistics Map Service deals with data on population, housing, traffic, education facilities, and a variety of statistical information by year or region. Furthermore, spatial information in various fields, such as transportation, real estate, environment, cultural tourism, urban management, etc. are provided in the Spatial Information section by selecting specific field. Spatial Information Education Center supplies spatial information and map related learning contents, including the introduction of GIS and other study materials related to maps provided to the general public and to children.

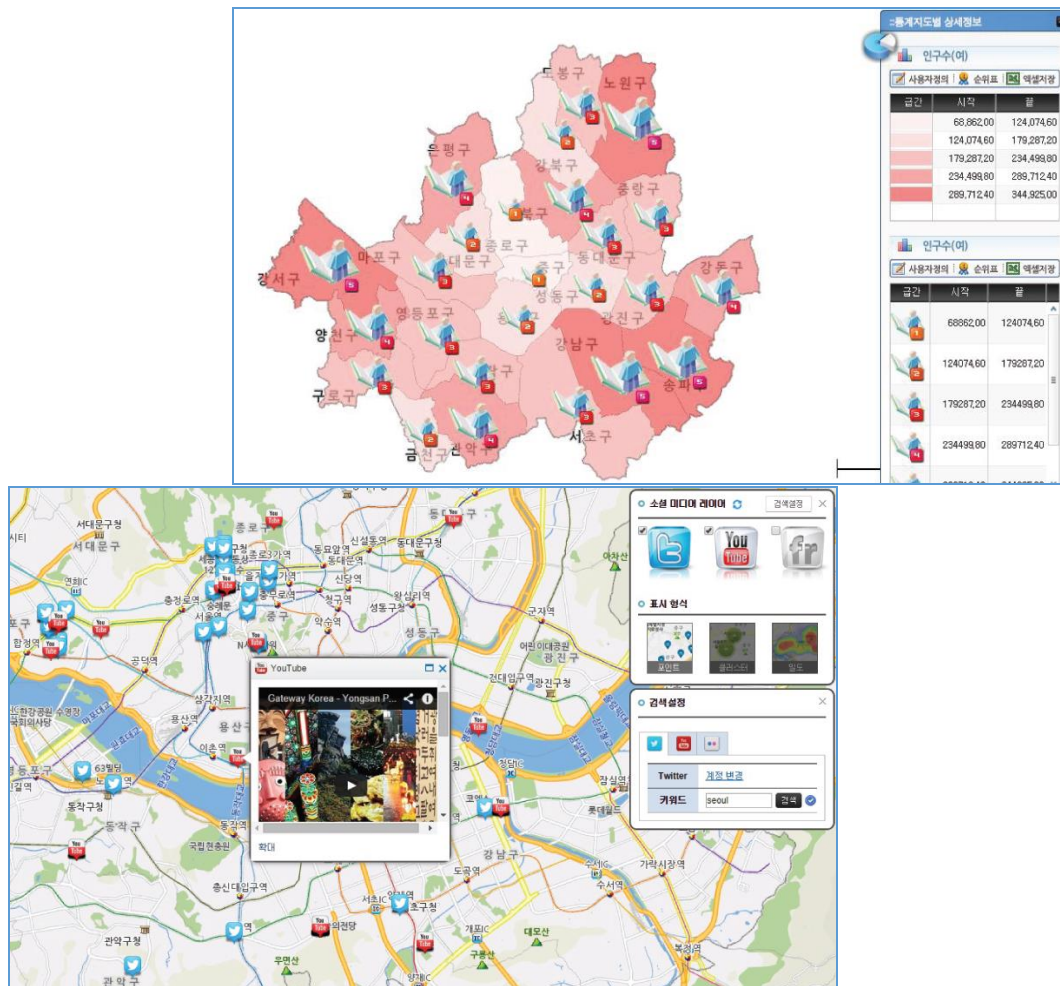


Figure 3-3. Seoul Statistic Map and Location-based SNS Map Service
Source: Seoul Metropolitan Government (2015)

3.1.2. SMART COMPLAINT REGISTER IN SEOUL MAP WEBSITE

The Smart Complaint Register service allows citizens to use the applications on their mobile devices to report a variety of complaints, such as sidewalk block damage, illegally dumped trash, illegally parked cars, and allows them to mark the exact locations on the map or attach photos. It is available both through the website and app.



Figure 3-4. Process of Smart Complaint Reporting

When complaints are received at the Seoul Smart Complaints Register, they will be filed and processed through the “120 Dasan Call Center.” In particular, if citizens’ complaints involve road and sidewalk damages, noises complaints, or female and child safety issues in certain areas, prompt actions are taken by the authorities to resolve them.

During the processing, the reports are received and the results can be viewed via smartphone or Internet website. The details of the process, including total time elapsed or expected time to resolve the complaints are also sent via SMS to a registered phone number. Since the initial phase of the application ‘Smart Complaint Register,’ 760,000 cases were registered via this application. Among the registered cases, 280,638 cases were reports of illegal parking which takes the greatest proportion, 157,728 cases were about illegal advertisements, 88,915 cases were about illegally dumped trash, 51,698 cases were about damaged roads, and 28,732 cases were about destroyed sidewalk block.

3.1.3. 3D INDOOR SPATIAL INFORMATION

Information about indoor spatial information has been raised. Thus, the SMG started to building 3D indoor spatial information in terms of overall the city such as subway stations since May 2013. A pilot project for web service launched in September 2013 and the initial project included three subway stations and three public buildings. This project aimed to provide indoor datasets in order to provide available information about public safety and navigations to citizens. Currently, the SMG has expanded to the service targets of the “Seoul Map Service” through mobile applications. The SMG has made public various data so that

the private sector can utilize it and produce several contents in terms of cultural and sightseeing facilities. Moreover, 3D indoor information service enables for disabled people and senior citizens to approach to the public service more easily. In addition, it is used for fire drills of a head office of firefighting through a safety map for firefighting for the public safety.



Public Building Modeling



Subway Station Modeling

Figure 3-5. Examples of 3D indoor modeling
Source: Seoul Metropolitan Government (2015)

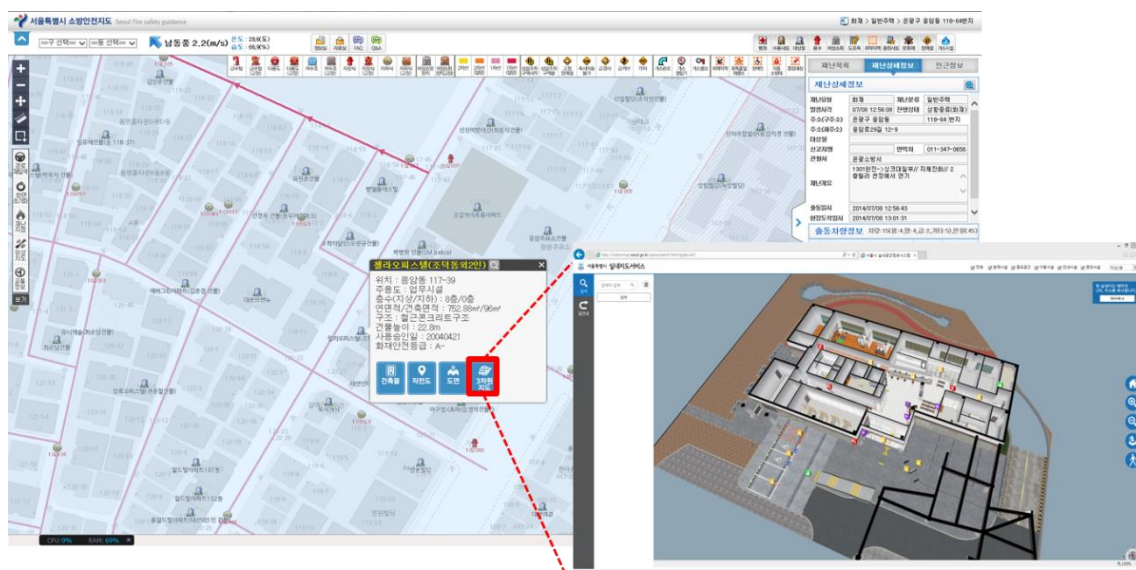


Figure 3-6. Linkage of 3D Indoor Spatial Information with the Fire Safety Map

This 3D indoor modeling service is currently conducted and provided by private corporations directly, while the Seoul Metropolitan Government plays the role of supporting this service by funding or providing fundamental data. Furthermore, 3D indoor modeling service plans to support the most vulnerable members of society, such as the elder citizens and the disabled, by providing addition information regarding access to transportation, as well as providing interior display or a fire safety map of buildings for safe evacuation.

3.1.4. Infrastructure of Spatial Information

1) Introduction

The Government 3.0. which has the key word such as openness, sharing, communication, and collaboration, has tried to communicate and collaborate with citizens rather than simply making public information. In this context, about 80% of total public information should be related to location and geospatial information for communicating with citizens. Therefore, the SMG built LBS(LOCATION BASED SERVICE), which can be used through the smart phone, for enabling the citizen to comprehend the public administration better.



Figure 3-7. Configuration of Geospatial Service Infra

The LBS (Location-Based Service) has a common function such as expansion, reduction, and coordinate transformation as a service with information on the map while it spends relatively more time and money. Therefore, the SMG built the Geospatial Information Platform to save time and money by enabling each department to use common functions and multilingual maps.

In addition, the Seoul Map-Tagging service makes non-specialists change the text-based information into location based information, which is the key role of the platform. The geospatial theme based on this platform are providing basic location based services though “Seoul Map-Tagging Share Center” via the tablet PC and laptop without fees under the department of municipalities. The geospatial information theme can be used in schools and corporations as well as citizens through the open API.

2) Elements of GIS infrastructure

This part introduces how to provide the ability to convert text information to spatial information will increase citizens’ understanding of Public Administration.

First of all, the platform is providing three parts: 1) Basic functions of maps, 2) Multi-lingual Map offering Korean, English, Japanese, and Chinese (both complicated and simplified Chinese), 3) Changing address (a road name and a lot number) into a broad coordination, which are offered by the Open API.



Figure 3-8. Infrastructure of SMG's geospatial service and process

Based on this service, ‘Smart Seoul Map’ via smartphones and other application, and ‘Seoul Map-Tagging Share Center’ also are provided.

Second, the Smart Seoul Map enables the smartphone users to utilize services based on Android and IOS types of software and provides participating theme service as well as location based services of contents. Each department can offer the location based services in terms of public information to the smartphone users without fees.



Figure 3-9. Introduction of Smart Seoul Map

Finally, for private developer such as citizens, the map provided the board which copes with Open API of the platform, and Software Develop Kit (SDK), and Q&A through ‘Seoul Map-Tagging Share Center’. This is composed of four factors, which are (1) ‘Seoul Map Tagging’ providing administrative services with the map tagging, (2) ‘OpenAPI’ which explains how to use the OpenAPI, (3) ‘Sharing and Collaborating Community’ providing a board of instructors and Q&A, and (4) ‘Theme Gallery enabling people to be able to glance at the themes of map tagging at one time. The major characteristic of this web service is to provide


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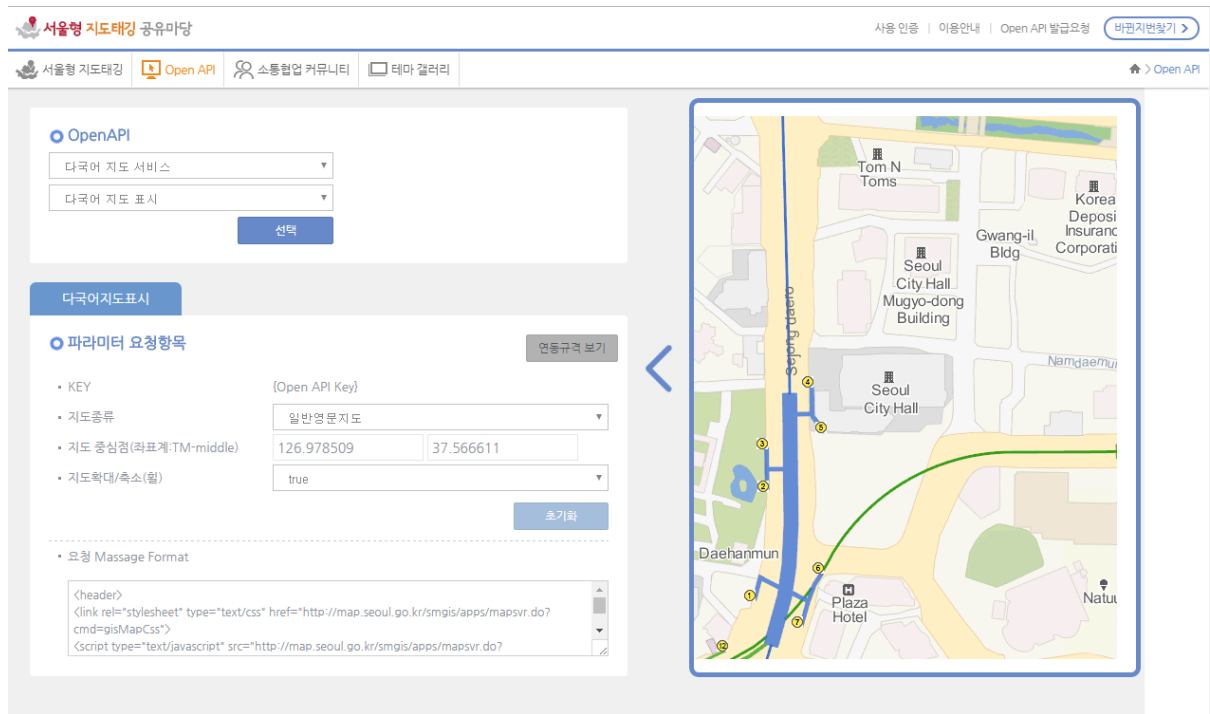


Figure 3-12. OpenAPI

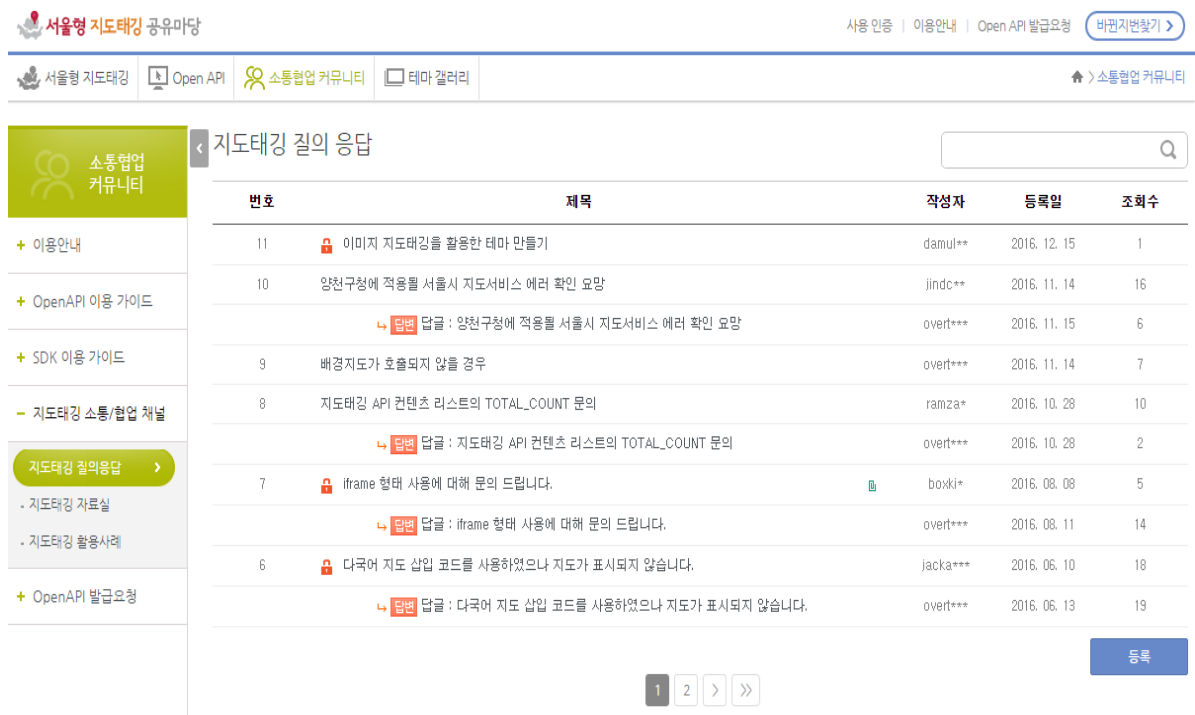


Figure 3-13. Seoul Map-Tagging Share Center (Board)

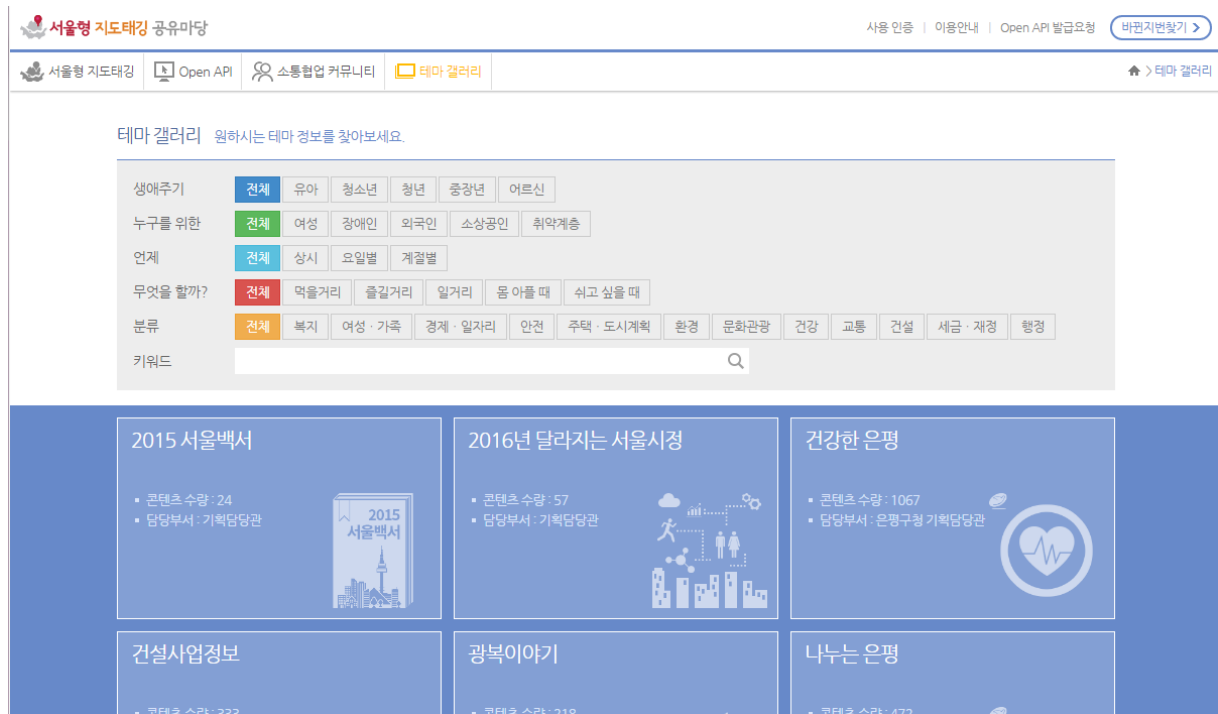


Figure 3-14. Theme Gallery

Without any infrastructure, such as the “Smart Seoul Map,” each department would waste time and money to develop applications individually. In fact, these departments are saving money in maintain H/W and S/W from year to year. Each department induces the citizens’ participation in their tasks more actively with the geospatial infrastructure by providing their information to the public. Currently, this infrastructure is related to other 43 initiatives, such as Seoul Do-Dream Roads, Information Sharing Center, Seoul Homepage, Seoul Sightseeing Homepage, Legacy of Future Webpage, and Pavement Management System (adding 19 in 2016).

The picture shows the Smart Seoul Map and Sharing Center enable people to get services through applications and webpages without additional development of the website of each department.

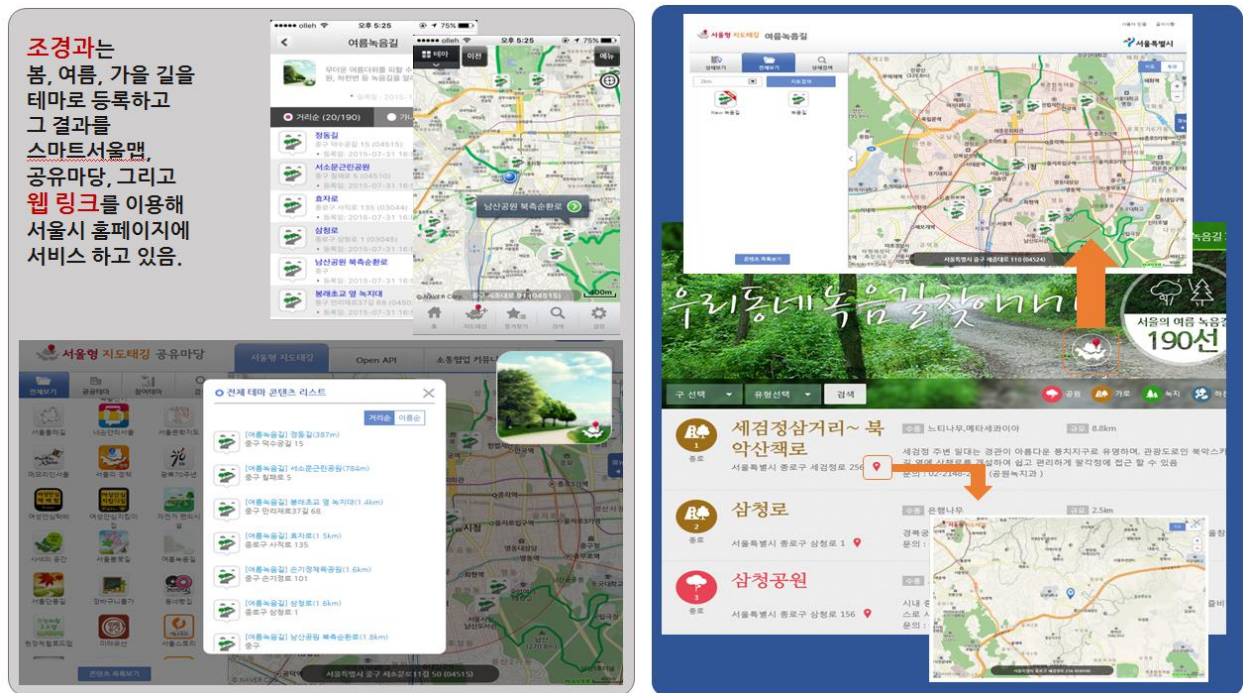


Figure 3-15. Homepage of ‘Green Road (Nokeumgil)’ using Web-Link

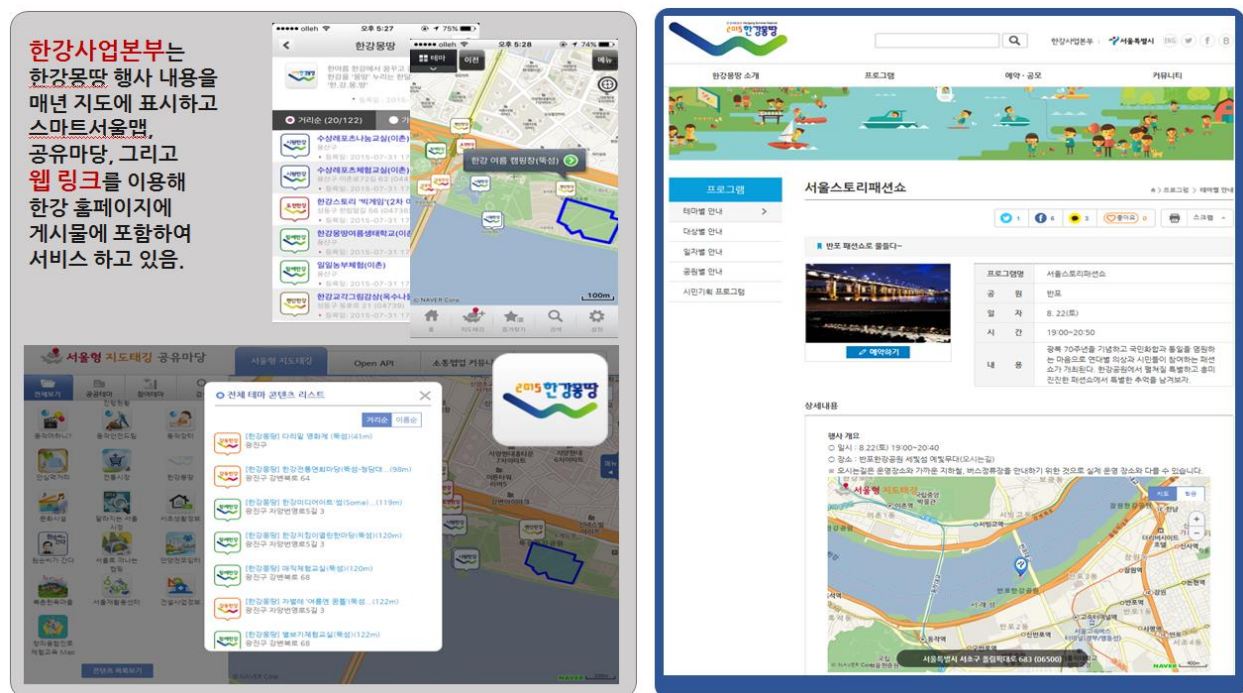


Figure 3-16. Homepage of ‘Han-River Monddaing’ providing GIS using Iframe

Therefore, the geospatial platform service play a positive role in enabling for the citizens to understand public information in terms of public administration by changing text-baed information into the geospatial information. Using this platform, each department could

establish its own geospatial information and standardized location-based information. In the future, when citizen's participation is more expanded than before, the map tagging services could make the citizens register their information and know-how in term of geospatial information and share them with members of the SMG.

3.1.5. MAP TAGGING SERVICE

The prominent function of the geospatial platform is the Map-Tagging function. A public officer of the city inserts the locational information of status including 'Location Reference System' in the excel type of files and makes the geospatial information available for being served. Non-specialists could correct, delete, and add the information easily.



Figure 3-17. Effect of Seoul Map Tagging

From 2013 to 2016 December, about thirty departments of municipalities are utilizing the map-tagging service for providing public services with the citizen. The map-tagging services include the major investment initiatives, Seoul Circle Roads, facilities for bicycle, changing public administration of the SMG, flower streets in Spring/green streets in Summer/colorful streets in Fall, and other 105 kinds of services (adding 32 types of services in 2016).



Figure 3-18. Best Practice of Seoul Map Tagging

Map-based spatial information is much easier to understand and use than text-based information. Thus, the Seoul Metropolitan Government is fully using "Seoul-type Map Tagging" services for a whole array of its public services to enhance its citizens' convenience.

In 2013, the SMG launched mobile location-based services to inform citizens of the diverse events and facilities in the area, such as information of shelters from the summer heat for children and senior citizens. This map-tagging services currently include 105 kinds of services, such as the major investment initiatives, Seoul Circle Roads, facilities for bicycle, and colorful streets in Fall. Citizens can also participate in the map tagging services. They can make proposals for new services or create and register their own content for new services.

The provision of map tagged spatial information, if map services are registered into the map tagging service, can be operationalized without additional costs to other departments. In addition, according to the completion of the 2016 initiative, it is possible to offers various services to revitalize the geospatial information platform through the diversification of

supporting devices and to use in tablet PC and computer by adoption of reaction type web design tech.



Figure 3-19. The Reaction Type of Web Map Service

Furthermore, the Map-Tagging could confuse the user because it indicates only exits for the several buildings in one address such as apartments. For example, the pre-elementary schools are indicated as the major building or exits of apartments currently. However, according to the completion of the 2016 initiative, it could be map-tagged based on own address information in the future.

Map Tagging Using Name of Road



Map Tagging Using both Name of Roads and Lots



Figure 3-20. Seoul Map – Tagging Share Center
Source: Seoul Metropolitan Government (2015)

4. PROCESS OF GEOSPATIAL INFORMATION SERVICE INITIATIVES

Domains/ Masterplan	Land	Facility	Transportation	Environment	Disaster Management	Urban Planning	Life information	Civil Service & Participation
Step 1 1996-2001	Integrating 16 underground facility data	Integrating 16 underground facility data			Integrating 16 underground facility data	Integrating 16 underground facility data Validity analysis of Urban Landscape Plan		
Step2 2002-2006	Integrated management system (IMS) based on web of undergrounding facility data A GIS portal system based on the web (Seoul Map Webpage)	A GIS portal system based on the web (Seoul Map Webpage) Collecting data for 3D indoor spatial information	A GIS portal system based on the web (Seoul Map Webpage)	A GIS portal system based on the web (Seoul Map Webpage)	Integrated management system (IMS) based on web of undergrounding facility data	Collecting data for 3D indoor spatial information	A GIS portal system based on the web (Seoul Map Webpage)	
Step 3 2007-2011	Accuracy improvement of underground facility data	GIS portal system through Open API 3D indoor geospatial information providing civil service Accuracy improvement of underground facility data Mobile GIS Platform (Geospatial Information Platform)	GIS portal system through Open API	Mobile GIS Platform (Geospatial Information Platform)		Mobile GIS Platform (Geospatial Information Platform)	GIS portal system through Open API 3D indoor geospatial information providing civil service Mobile GIS Platform (Geospatial Information Platform)	3D indoor geospatial information providing civil service Mobile GIS Platform (Geospatial Information Platform)
Step 4 2012-2016		Smart Complaint Register in Seoul Map Launching Map Tagging Service Smart operation for 3D indoor geospatial information (Geospatial Information Platform)	Smart Complaint Register in Seoul Map Launching Map Tagging Service	Smart operation for 3D indoor geospatial information (Geospatial Information Platform)		Smart operation for 3D indoor geospatial information (Geospatial Information Platform)	Smart Complaint Register in Seoul Map Launching Map Tagging Service Smart operation for 3D indoor geospatial information (Geospatial Information Platform)	Smart Complaint Register in Seoul Map Launching Map Tagging Service Smart operation for 3D indoor geospatial information (Geospatial Information Platform)

5. CASE STUDY

5.1. THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

The EPA webpage allows users to use the web-based GIS through Environmental Dataset Gateway (EDG). It allows every user who enters the website to search, find, and access geospatial resources produced by EPA's program. Moreover, it connects other available geospatial metadata through 'DATA.Gov' and 'GeoPlatform.gov'. A number of geospatial applications of EPA, such as 'Air Quality Tools,' 'Water Quality Tools,' 'Neighborhood Tools,' and 'Waste Tools,' enable users to approach and utilize various kinds of geospatial data (www.epa.gov).

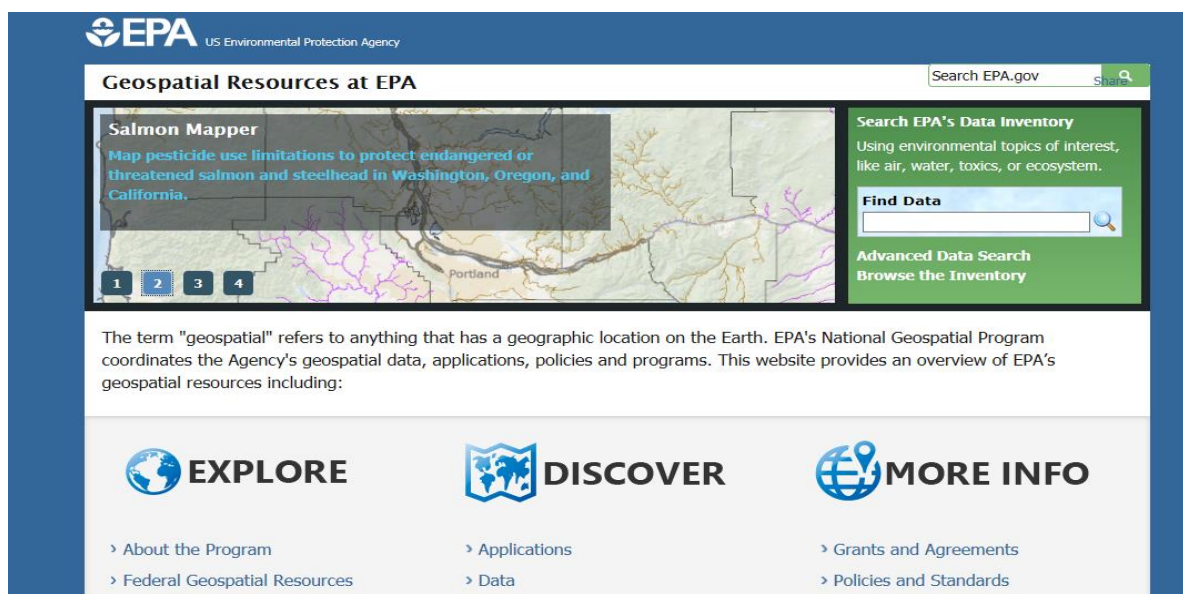


Figure 3-21. Various geospatial resources at EPA (Source: www.epa.gov)

5.2. THE U.S. GEOLOGICAL SURVEY (USGS)

The USGS allows all users to download free bulk of maps and geospatial data. It has contributed to the dissemination of geospatial data for the emerging GIS technological community by providing reliable data at low cost. Currently, the USGS offers primary resources of free geospatial data and a linkage to primary sources of geospatial data, such as 'The National Map', 'Earth Explorer', and 'GloVis' (www.usgs.gov).

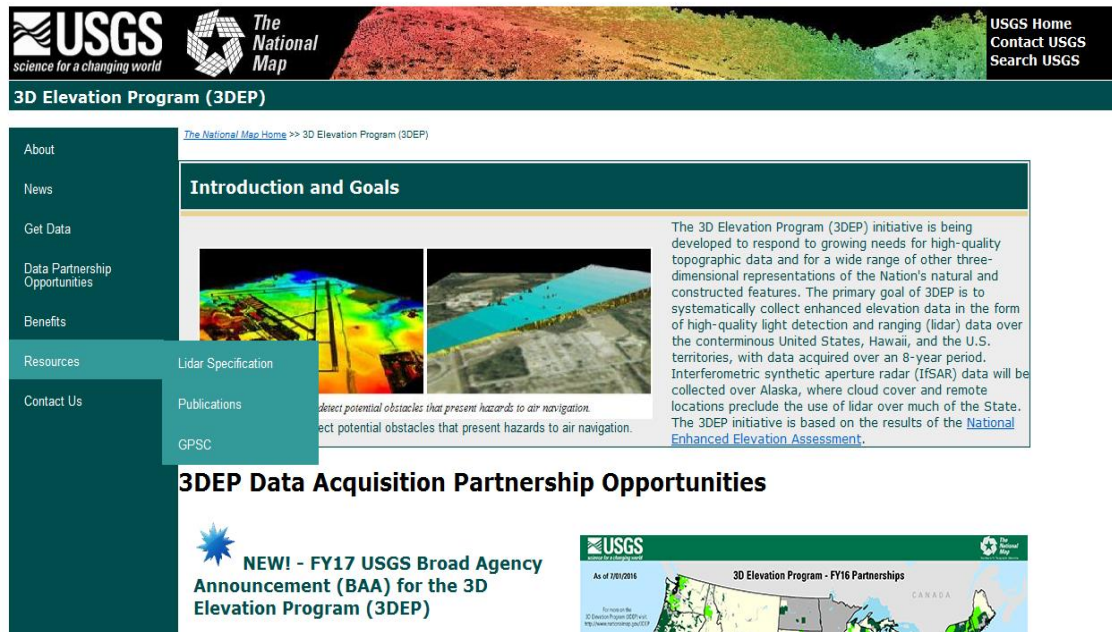


Figure 3-22. USGS Website

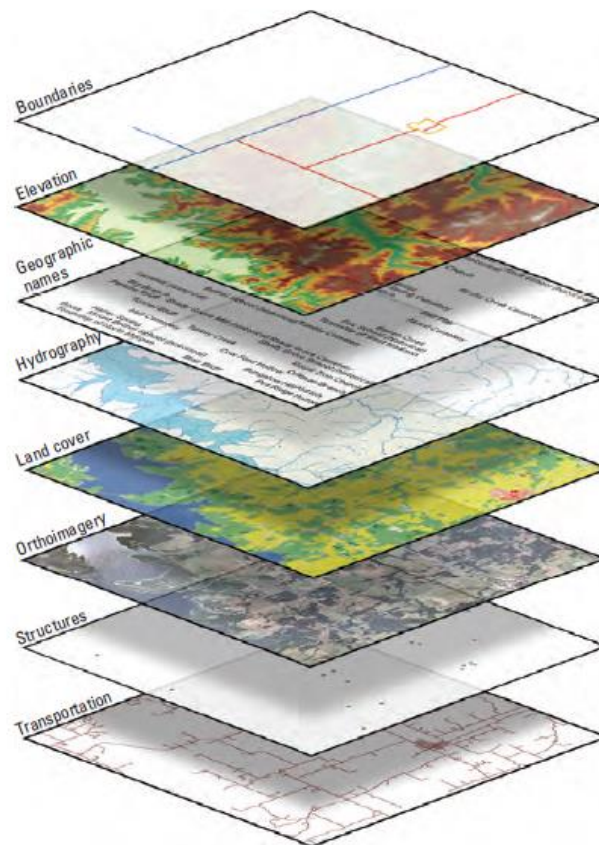


Figure 3-23. Eight base layers of The National Map
Source: William J. Carswell (2012)

The National Map provides basic geospatial information which describes the types of landscapes of the United States, including elevation, boundaries, geographic names,

hydrography, land cover, orthoimagery, structure, and transportation, through a number of applications and other services. It contains digital and print versions of topographic maps, geospatial data services, online viewing, and data download services (William J. Carswell, 2012).

5.3. THE ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI)

The Environmental Systems Research Institute (ESRI) is an international institute which provides programs and services related to geographic information system. Currently, the ESRI provides about fifty percent of total GIS software worldwide and operates ten regional offices in the U.S. alone. The ArcGIS is the one of the major software of ESRI and is offered in both desktop and mobile versions. The ArcGIS provides a variety of capabilities, such as mapping and visualization, spatial analysis, imagery and remote sensing, big data, real-time GIS, data management, geo-design, and community engagement, etc.

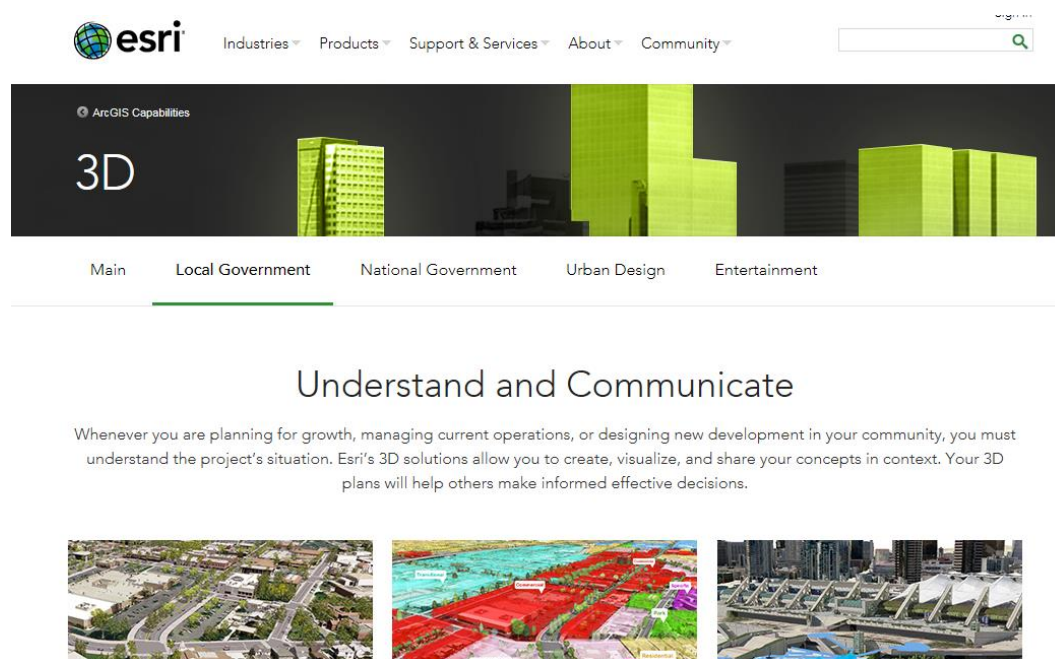


Figure 3-24. ESRI Website

5.4. STAGE (STATISTICS & GEOGRAPHY), THE REPUBLIC OF SLOVENIA

The Statistical Office of the Republic of Slovenia has developed an integrated system for the provision of geospatial statistics through an instrument called STAGE, which stands for **ST**atistics and **GE**ography. This application system deals with a broad range of variables collected and developed by different levels of administrative units.

Furthermore, this application utilizes a hierarchical grid to disseminate geospatial statistics as an open free geospatial statistical data source. The role of STAGE which produces and disseminate geospatial data is evaluated as one of the greatest contributions of official statistics to broad adaptation of geospatial data by user groups in Slovenia (United Nations, 2016, Economic and Social Council Report).

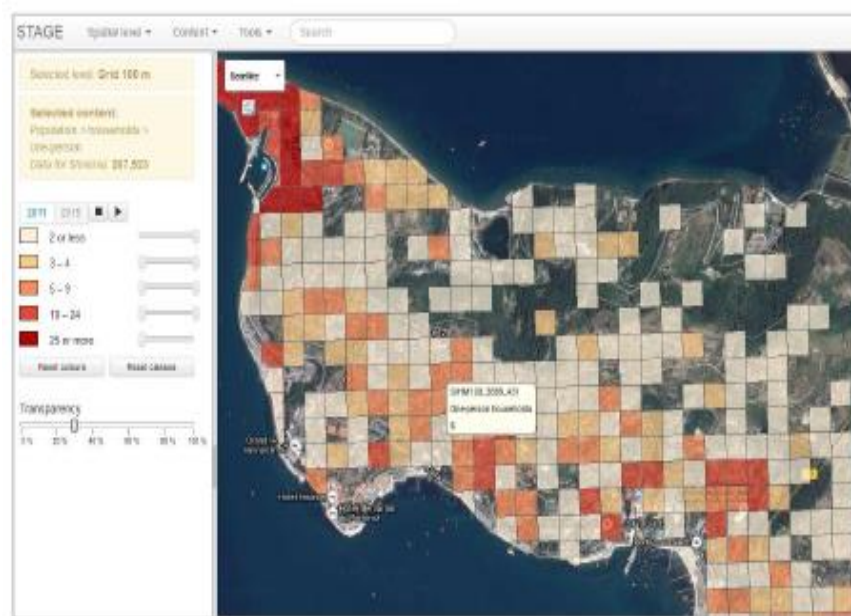


Figure 3-25. The number of one-person households
Source: United Nations, Economic and Social Council Report, 2016

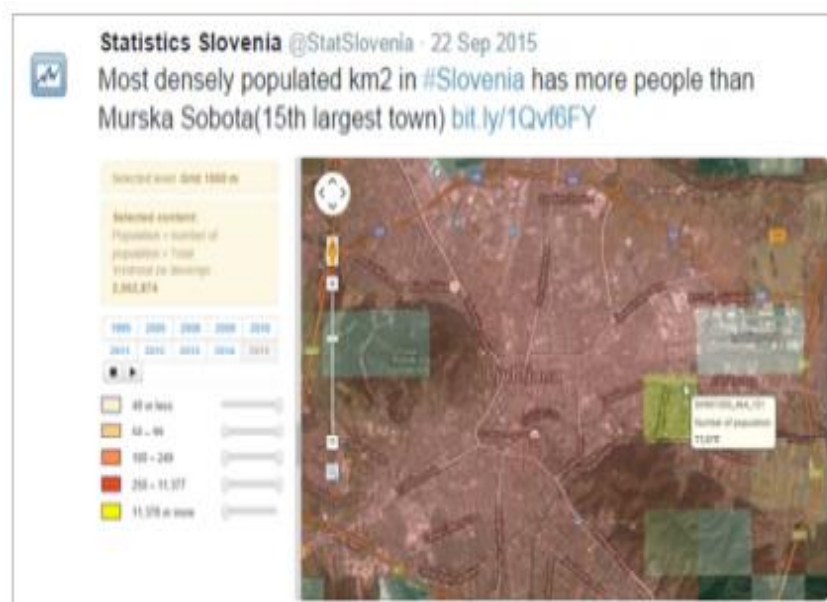


Figure 3-26. STAGE on Twitter
Source: United Nations, Economic and Social Council Report, 2016

6. CHALLENGES AND OPPORTUNITIES

This section of the study attempts to illuminate the drivers and barriers of GIS development in the Seoul Metropolitan Government case, which could serve as a guideline and strategy for GIS implementation in developing countries. The evolution of GIS has focused on resolving other related issues such as transparency, accountability, citizen engagement, dissemination, privacy, etc.

More specifically, Shark (2015) suggested that GIS is providing more access to information about the activities of government so that it can support transparency and lead to progress safety and security. Drew (2000) argued that utilization of GIS could promote transparency in decision-making process. Furthermore, many research showed that e-Government is increasingly being used to improve transparency in the public sector and to combat corruption (Kim, Kim & Lee, 2008). In terms of citizen engagement, GIS is one of the fundamental technologies facilitating decision-making process in the government.

GIS has also gradually become more accessible and user friendly, therefore significantly contributing to the increase of citizen engagement. Clark, Brudney, and Jang (2013) demonstrated in the 311 call system in the Boston example that citizens can play a complementary role in detecting and reporting the gap in the government services and provide helpful comments to the government.

Haque (2001) claimed that in the short term, it is obvious that GIS seems to provide better efficiency during the policy implementation process through quicker access to data and a more efficient distribution of information. On the other hand, public officials also need to deal with the broader implications of GIS as they try to accommodate democratic values (Haque, 2001). Although GIS offers valuable information to the decision makers, there are a few limitations associated with it.

Similarly, Public Participation GIS (PPGIS) is becoming important with regard to discussions about the future of GIS. Particularly, GIS enables public participating mechanisms in collaborative mapping exercises and even decision-making. According to Ganapati's (2011), there are three waves in the evolution of GIS technology for public participation: desktop-based GIS, web-based GIS, and finally the Geospatial Web 2.0 platform. The waves represent progression of the GIS technology from being understood by expert professionals to being understood by citizens. Ganapati (2011) contended that limited use of PPGIS for higher levels of participation was found even though "barriers to PPGIS adoption for decision making seem less technological and more institutional."

These issues mentioned above could be indicators suggesting the challenges and opportunities surrounding the use of GIS.

6.1. DRIVERS FOR THE GIS

The Seoul Metropolitan Government (SMG) case of GIS reveals that the incentives, or drivers, for the implementation of GIS services are very complicated. Some drivers come from within the government, while others originate from outside the government, and the government is left to take a rather reactionary stance. Each of the drivers is discussed below.

6.1.1. OPEN GOVERNMENT, E-GOVERNMENT AND TRANSPARENCY INITIATIVE OF CURRENT ADMINISTRATION

The Open Government and Transparency agenda or initiatives of the government could be a significant factor in facilitating the GIS services. For example, SMG's GIS policies are based on the initiative or agenda in terms of Open Government, e-Government, and Transparency. More specifically, all executive departments in the SMG had to come up with Open Government plans and indicate how they will share and utilize geospatial information in innovative ways. Compared to the SMG's e-Government master plan, geospatial information initiatives have strictly followed the development stages laid out in the Master Plan.

6.1.2. ACTIVE CROWDSOURCING PLATFORM BRING PARTICIPATION OF CITIZENS

Various GIS services could be largely affected by the crowdsourcing of citizens as well as government policies. In other words, the place that enables the citizens to create geospatial data and to share it could bring about development of a number of GIS services such as 'Bing.com'. Microsoft's search engine Bing.com utilizes public health data by geographic location and shows the results on a geographic map. Furthermore, citizens can augment their information to the official government information on the website and evaluate hospitals of private sector health providers.



Figure 3-27: Health data applications (<http://health2apps.com>)

This example shows that providing a crowdsourcing platform could be an important factor in drawing the participation of the citizens and in constructing geospatial data required by the GIS policies.

6.1.3. LOW RISK RELATED TO CONTENT AUTHORITY

Most geospatial data used in the public sector has informational and educational purposes. Considering the case of the Seoul Metropolitan Government, these data-sets are non-transactional and therefore content authority belongs to government. This means that there is a low risk for government to get involved. Moreover, constructing data and sharing information with citizens would help government increase transparency and accountability in the long term. This is attributed to the fact that the more geospatial data is available and the more citizen developers can experiment with the existing open data, the more useful applications in terms of GIS will emerge and ultimately lead to higher transparency and accountability of government.

6.1.4. INCREASED USE OF SMARTPHONE AND TABLET PC

Increased use of smartphone and tablet PC enables people to participate in producing, editing, and eliminating information everywhere. In fact, more than 90 percent of citizens in Seoul are smartphone users. Experts project that innovative technology could contribute in the development of the GIS. The development of technology might facilitate the provision of geospatial services to citizens. This is primarily due to the current data services including GIS of the Seoul Metropolitan Government being possible because of the relative uptake of smart phone users.

6.1.5. INCREASED USE OF SOCIAL NETWORKING SERVICES

Concerning the trend of smartphone use, the City of Seoul also has a new trend to co-produce and share data and information in general. According to Lee (2014), 55.1% of all Koreans above the age of six used social networking services (SNS) to access information in 2013. This has led to an increase in online connectivity, in time spent on social networking services, and the increased importance of sharing geospatial information.

For example, people can utilize GIS such as the Smart Complaint Filing Service in Seoul Map Website and Seoul Map Tagging Service and share their opinion regarding GIS through their social networking sites, social media applications or online. This fact implies that the Seoul Metropolitan Government will be able to reach citizens through the social networking services and that citizens are more likely to access government geospatial information through these services.

6.1.6. HIGH RECEPTIVENESS TO EXTERNAL INNOVATION

Local governments in Korea have had to face larger mandates, increasingly complex tasks and large budget cuts due to economic and social conditions. Some governments even have budget freezes and therefore have little or no capacity to innovate. In the past, governments could employ additional consultants or use their budget to hire external experts to bring innovations into government. With the advent of social media, this situation has changed and it is now possible to attract free innovations flowing into government from the outside. Therefore, government has become more receptive to innovation from external sources, producing and sharing public data such as geospatial information.

6.1.7. EXPECTATION OF THE PUBLIC

The general climate in Korea toward government is relatively negative. According to the result of a survey conducted by the Seoul National University in 2014, more than fifty percent of citizens do not trust their government. The current Administration has therefore

explicitly called for efforts to “restore trust in government.” In fact, many past administrations have called to the public and asked the government to allow innovative ideas to flow in and have highlighted that people should look into themselves as competent and innovative leaders. This escalates the incentives for the government to be innovative and generally allows for a climate of innovation and openness such as making geospatial information public.

6.1.8. SKILLED PUBLIC OFFICIALS IN THE NEXT GENERATION

With the expectations of citizens and a general innovation climate in the government, anticipated expectations of the next generation of government employees could be a driver for facilitating GIS in the government. The incoming cohort of young government employees is expected to be more tech-savvy than any previous generation, especially in terms of geospatial information. This is due to the fact that job opportunities in Korean government are highly competitive compared to private or nonprofit sector job opportunities. Therefore, the government would employ and select people who are skilled with the current social networking services and application programs that will allow future government to provide higher quality of geospatial services to citizens to fulfill their needs.

#	<u>EIGHT DRIVERS FOR THE IMPLEMENTATION OF GIS</u>
1.	Open Government, e-Government and Transparency initiative of the current administration
2.	Active crowdsourcing platform can bring the participation of the citizens
3.	Low risk related to content authority
4.	Increased use of smartphone and tablet PC
5.	Increased use of social networking services
6.	High receptiveness to innovation
7.	Expectation of the public
8.	Skilled public officials in the next generation

6.2. BARRIERS FOR THE GIS

6.2.1. DIFFUSION OF SMARTPHONES IN UNDEVELOPED AND DEVELOPING COUNTRIES

The affordability and diffusion of smartphones in Seoul is expected to increase in the near future, however, smartphones and subscription to data plans, are very expensive and therefore not widely used in other rural areas of Korea.

Choi et.al. (2014) showed that the percentage of diffusion of smartphones was 66.2% in 2013 and all cellphone users will have access to wireless connection, so that they can download

applications for the use of geospatial information services. The costs for purchasing a smartphone and the monthly costs are still relatively high compared to other types of phones. This means that relatively high costs could prevent parts of the population, such as those of rural areas and undeveloped countries, from purchasing smartphones and could lead to an even wider digital divide.

6.2.2. DIFFUSION OF BROADBAND ACCESS

Another major barrier for the facilitation of any advanced geospatial information services is that citizens need to have access to broadband services in their communities. In fact, most cities in developing and undeveloped countries have a relatively low access rate compared to that of City of Seoul, which means it is relatively inconvenient to access the government geospatial information. According to a recent ranking, Seoul ranks first in the world in terms of broadband diffusion among citizens. Therefore, it is important to ensure affordable broadband access as a fundamental condition for the facilitation of geospatial information service. In other words, ensuring that every citizen has equal access to broadband capability is a pre-requirement for geospatial data and to advance consumer welfare, civic participation, public safety, etc.

6.2.3. LOW USE OF SMARTPHONE APPLICATIONS

In the case of cities in developing countries, even though they may own a cellphone, most citizens are not used to using mobile phone applications on their smartphones. This has to do with the fact that data plans are still very expensive. Moreover, most citizens in those areas have no interest in accessing government geospatial information because they still do not trust online information and prefer offline face-to-face contact when getting information. In this case, geospatial information is not much use to the citizens.

6.2.4. DIGITAL DIVIDE

The diffusion of smartphones or broadband might lead to a digital divide within a certain region. “Digital divide” is defined as the dichotomous form of access to digital information. In other words, digital divide means the difference between citizens who have access and those who do not have access. While many argue that access is a matter of convenience, in many cities in developing countries, access is more than mere convenience. Very few cities have Internet access in public places, such as libraries or community centers. Furthermore, while there are many Internet cafes in Seoul, Internet cafes are rarely available in these other cities. Therefore, all information that is made available for the web or mobile device should be made accessible for those who do not have access to technology.

6.2.5. BEING SLOW IN ADOPTING INNOVATIONS

In comparison to other private or non-profit sectors, governments tend to be relatively slow in adopting innovations. Especially with regard to innovations such as social media services or other innovative smartphone applications, there is a long internal scrutinizing process necessary to make sure that the new processes are covered by existing rules and regulations within governments. The standards and regulatory policies in terms of utilizing geospatial information exist in government, but do not extend to third party web service. Therefore, it could be a barrier for the provision of geospatial information services and there is a relative disinterest in government agencies and employees to adopt mobile applications or social networking tools to utilize geospatial information.

6.2.6. BUDGETARY DISINCENTIVES

Governments often do not have the incentive to save the budget or spend less. Instead there is an incentive to show that the money budgeted for specific initiatives was spent and that future spending has to be increased. Therefore, existing initiatives by the governments that are already appropriated in the budget are pushed forward and there are no incentives to reassign budget categories and switch to off-the-shelf free third party applications, which can contribute to cheaper geospatial information services.

6.2.7. PRIVACY CONCERNS

Along with the barriers mentioned above, privacy concerns are another barrier against the facilitation of GIS. In fact, most citizens are concerned about their personal privacy intrusion by both government and private firms. The lift on the prohibition of online cookies to track user statistics for websites has allowed governments to track information about their users. Mobile phone applications and other websites based on desktop PCs that are providing geospatial information to the public are utilizing private information associated with IP addresses and cellphone numbers of social media accounts to provide a better GIS experience to the citizens.

For example, the Map-Tagging Service and the 3D indoor information of the Seoul Metropolitan Government. When the citizens use the “check-in” function from their mobile devices, the government is actually using private location data from smartphones to provide information about historic locations around the city of Seoul, or provides tips to citizens about the historic background of the location or the museums. Through every check-in, the government tracks not only personal information of each citizen, but also their geographic location.

6.2.8. CONCERNS ABOUT BIG GOVERNMENT

It is evident that in most countries people are concerned about “Big Government.” This has to do with the current political climate in many developing countries. While citizens expect various roles from their governments, they tend to criticize the current Administration for having too much influence and for making too many decisions on behalf of its citizens. This so-called “big government” fear indicates that the government is too large, inefficient, and too involved in the lives of its citizens. Critics of big government are demanding that certain services be assigned to the private sector and that the government only focus on producing public goods. This current political climate should be considered as a barrier for governments to lead in the production, management, and use of geospatial data, but policy decision makers must be aware that without the central role of the government, any GIS project cannot be easily managed.

#	<u>EIGHT BARRIERS TO THE IMPLEMENTATION OF GIS</u>
1.	Diffusion of smartphones in undeveloped and developing countries
2.	Diffusion of broadband access
3.	Low use of smartphone applications
4.	Digital divide
5.	Being slow in adopting innovations
6.	Budgetary disincentives
7.	Privacy concerns
8.	Concerns about Big Government

Chapter 4

e-Government Best Practices: Electronic Tax (ETAX) and the Open Tax Court

Prepared by: Dr. Marc Holzer & Hyuk Yang

Governments around the world have been introducing online tax submission system in an effort to reduce administrative burden. In reality, the provision of online electronic tax system not only saves time and money for the citizens, but also provides additional transparency and significantly improves the efficiency of the public taxing institutions. The Seoul Metropolitan Government (SMG) has been in the forefront of implementing an innovative tax system and has actively capitalized on available commercial solutions to develop its infrastructure. The SMG has also launched the 'Open Tax Court' in an effort to transform the review process of tax-related petitions by taking into account the viewpoints of the citizens. The Open Tax Court attempts to reduce the distrust and dissatisfaction of citizens regarding local taxes and the SMG provides pro bono legal counsel for citizens who wish to file an objection regarding local taxation but cannot afford a lawyer.

Overall, the City Government hopes to strengthen the value of creative capabilities for citizens by implementing certain policies that can enhance the competitive edge of the SMG, along with an environment that inspires flexible and creative organizational structure that encourages innovation and reform.

1. ANYTIME, ANYWHERE PAY TAX QUICKLY AND EASILY WITH ETAX

The online tax payment service allows citizens to check tax by categories, pay for tax, search and store the payment receipts, and deposit or use tax mileage. For better and more conveniences, Seoul and Seoul agencies implement a tax payment system for the various bills of local taxes imposed by the 25 districts, such as water and sewage charges, to be paid through cash or credit cards. The tax system leads to tax queries, tax refunds, and mileage system (Seoul Metropolitan Government, 2014a). While the bills are individually sent home, citizens are able to receive and pay electronic bills through websites, smartphone, SNS, etc., because of ETAX.



Figure 4-1. Electronic tax system.

Source: <http://etax.seoul.go.kr>

ETAX is an internet-based, one-stop service channel for filing returns, paying taxes, requesting certification documents, and viewing past returns and payment history. Such services are available to taxpayers in their home or office without having to visit a tax office. All Seoul taxes can be paid easily and conveniently in any place, any time, corresponding to the widespread Internet environment. A convenient tax payment system that enables citizens to pay by cash or credit cards, the local taxes and bills imposed by Seoul, its affiliated

agencies, and district offices in order to remove the inconvenience of visiting banks for tax payment. At the ETAX website (<https://etax.seoul.go.kr>), or mobile S-Tax, taxpayers can view taxes and arrears, tax receipts and payments, and accumulate tax mileage. It is possible to make tax payments through a variety of means such as the Internet, mobile phones, convenience stores, CD / ATM, ARS and smartphones.

“Seoul S-Tax” mobile application is also available to the citizens. Motor vehicle tax, property taxes, water rates, parking fines and 400 other types of taxes can be accessed online and be paid via smartphone using the mobile application.

FinTech(financial+Technique) Payment Service



Figure 4-2. Electronic tax system through mobile phone.

Source: <https://play.google.com/store/apps/details?id=com.woorifis.stax>

In 2006, online payments were at a proportion of 11.7%. Whereas in 2013, with ETAX and electronic payment methods (virtual accounts, CD/ATM, smartphone), there was a total number of 1,610,000 cases with an excess of 79.6% of the total payments (Seoul Metropolitan Government, 2014a). Because the demand for use-friendly tax payment system was unprecedentedly increased, Seoul Metropolitan Government (SMG) had to develop ETAX system. Using benchmarking from ETAX, all national local governments have started to use ETAX, since it first went into operation. Since 2007, Ministry of Safety and Public Administration (MOSPA) launched WETAX, an online tax payment system for all the local governments, similar to ETAX.



Figure 4-3. Electronic tax system strategy.

- **Formation of cooperative network**
Citizens rely on bank transfers for tax payments and credit card transaction system. Close cooperative networks have been formed through E-TAX with a local Woori Bank, which links 22 other banks and credit card companies.
- **Dealing with online security problems**
Taxpayer privacy are prevented using various measures, including private firewalls, website security solutions and cryptography modules and certification-based services are adopted to further protect private tax information. In addition, internet servers and database servers are placed in a physically separate network, so that even in case of a web server attack, access to the personal data stored in the database server is fundamentally blocked.
- **Legal background**
Articles on digitization of local tax handling and operation plan for local tax handling information system were established in 2010.
 - Digitization of local tax business related to information system (Local Tax Act, Article 142)
 - Establishment and implementation of local tax collection information system planning. (Article 142 - 2)
 - Delivery of electronic notice related documents (Local Tax Act, Article 28)
 - Ordinance on support for mileage for Seoul's model taxpayers. (Article 3 Support related with tax mileage)
 - Regulation for ordinance on support for Seoul's model taxpayers. (Article 3 Selection and support for electronic taxpayers, and provided a basis for mobile-based or internet-based tax payment in consideration of the changes in internet environments)

Hi! Seoul 서울시 ETAX

Seoul Main page | Main page | Sign in | Create Account KOREAN

Welcome to Seoul ETAX System

Sign In Create Account Benefits to Member

Mileage Login Required

Sharing the enjoyment, ETAX

H > 조회납부 > 회원납부


Related Sites

The followings are related sites
Click on the title, and you will move to the relevant site

Seoul


Seoul Homepage

Information on policies of the Seoul, One Click e-Civil Application, Culture, Tour and Geographic Information of Seoul




Finance Bureau Homepage of the Seoul

Information and data on the financial affairs of the Seoul including financial businesses, municipal property management and local taxes.




Traffic Offense Inquiry Homepage

Crackdown data on parking, stopping, bus lanes, Transport Service Act and Automobile Management Act, and data on fines.



Office of Waterworks (Arisu)


Information on Arisu, the tap water of the Seoul, water rate, cut-off of water supply, water quality, self meter reading and civil application.




Personal Firewall Program (My Fire Wall)

Gangnam-gu	Gangdong-gu	Gangbuk-gu	Gangseo-gu	Gwanak-gu
Gwangjin-gu	Guro-gu	Geumcheon-gu	Nowon-gu	Dobong-gu
Dongdaemun-gu	Dongjak-gu	Mapo-gu	Seodaemun-gu	Seocho-gu
Seongdong-gu	Seongbuk-gu	Songpa-gu	Yangcheon-gu	Yeongdeungpo-gu
Yongsan-gu	Eunpyeong-gu	Jongno-gu	Jung-gu	Jungrang-gu


Personal Firewall Program (My Fire Wall)




GIRO Site
<http://www.giro.or.kr>
Administered by Korea Financial Telecommunication and Clearing Institute. You can pay local taxes including property taxes, national taxes, fines, social insurance premiums and utility bills.



Wetax
<http://www.wetax.go.kr>
Local tax portal service of the Ministry of Public Administration and Security. Information on payment and registration of local taxes, acquisition taxes, residence taxes, registration taxes and automobile taxes.



National Tax Service
<http://www.hometax.go.kr>
Electronic report and payment of value added taxes and surtaxes. Certificates of civil applications including payment certificate of transfer income tax, certificate of income, tax payment certificate, certificate of cessation of business and certificate of business shut-down.



Electronic Civil Application G4C
<http://www.egov.go.kr>
Provides information on online civil applications and enables to request, to receive and view the certificates of civil applications.

Figure 4-4. Providing various information based on ETAX
Source: Seoul ETAX payment webpage

1.1. SEOUL ETAX FUNCTION

The official Internet payment system of Seoul that enables viewing tax, arrears, tax receipts and tax payments as well as accumulating tax mileage (Korean and English website in operation).

(1) View and Pay Tax

With an ETAX account, citizens can check for any outstanding tax payment and will receive alert messages on tax payment when the time limits for settling these duties are upcoming.

(2) Tax Filing and Payment

Taxes including acquisition tax, registration license tax, local income tax, resident tax, motor vehicle tax and leisure tax can be paid through the system. An ETAX account holder can update personal and business particular in the record, and then make enquiries on personal tax matters.

(3) Confirm Payment and Receipt

Citizens can confirm and print legally effective tax receipts. The ETAX payment is easy and stress-free step by step process. Anyone with an account can get a legally effective hard copy receipt as well.

(4) View and Apply for Refund

An ETAX account holder can check for any outstanding tax return and file tax refund. The whole process of tax refund filed through the Internet, tax assessments and payment acknowledgment can also be accessed through the internet.

(5) Electronic Notices

After applying for electronic notices by signing up as member on the website, ETAX members can receive secure emails or SMS regarding local taxes and non-tax revenue.

(6) Mileage System

After the application, users receive additional mileage for each electronic tax payment. In the form of electronic record instead of paper form, this will enable ETAX account holder to manager their tax records in an environment-friendly manner.

(7) Local Tax Information Provided

Seoul ETAX provides a variety of information about local taxes such as examples and legislation.

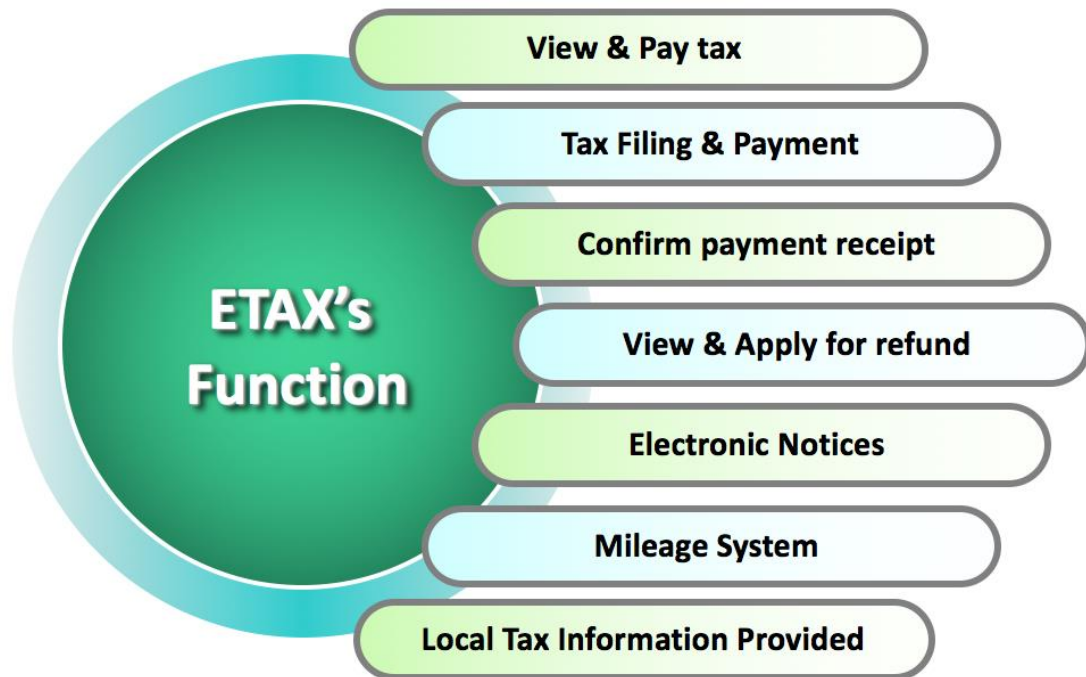


Figure 4-5. The Function of Electronic Tax system.

1.2. EXPECTATIONS FROM ETAX

ETAX is the gateway to the Seoul Metropolitan Government's electronic services. It offers an easy, secure and environment-friendly means to facilitate citizens' compliance with the tax law. ETAX account holders are provided with a wide range of use-friendly electronic services to enable them to discharge their tax obligations conveniently.

- Maximize the convenience of taxpayers by providing customized service, called "My e-TAX Service" and enable timely processing of administrative work via electronic and online processes
- Improve payment rate and effectively access and manage the storage of electronic bills
- Increase the rate of tax payment with user-friendly processes

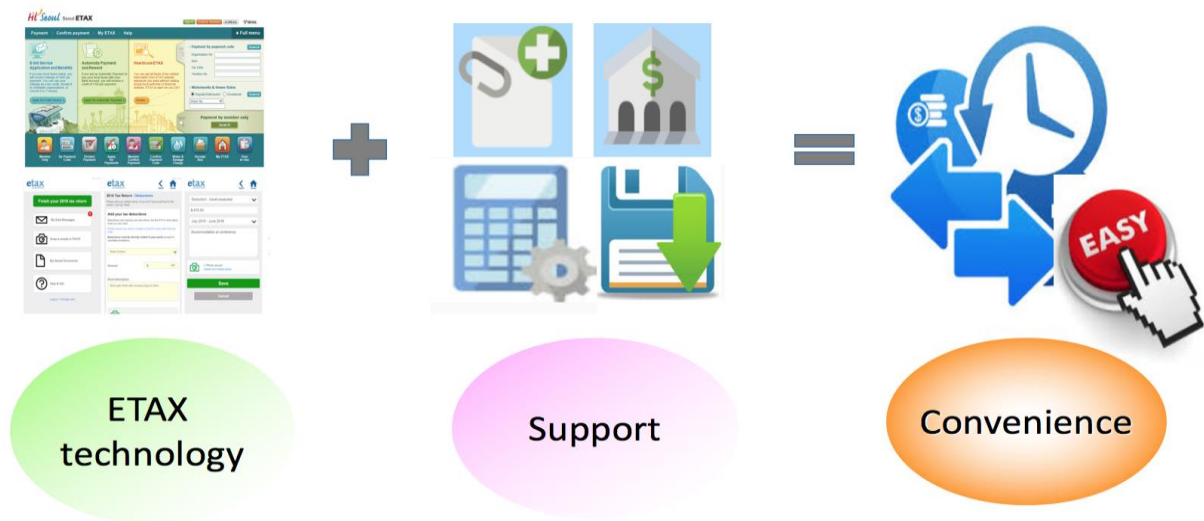


Figure 4-6. User-friendly Electronic Tax system.

1.3. VISION OF ETAX

The online tax payment service is to pursue transparent tax system, well-organized management, and informatized strategy for taxpayer to manage their tax accounts online. ETAX gives the customers of the Inland Revenue Division online access to their tax accounts and related information. In order to achieve the goal of transparent and trusted system of fair taxation, it needs to establish competitive and creative process, to build slim and seamless process, to provide integrated and interfaced process, and to assure citizen participation and community process. In other words, the online tax payment service strengthens the value of creative capabilities for citizens by implementing a certain policy that can enhance the competitive of SMG. The system of SMG is developed by flexible and creative organizational structure. Second, the online tax payment service provides a rapid civil service by reducing the repeated procedures based on information-based technology. For instance, 'One Click' provides clear process without disconnection. Third, the network with other division and department ensures the efficiency through the sharing of relevant information and collaboration system between relevant agencies. Fourth, the online tax payment service provides the customized services using a variety of information.

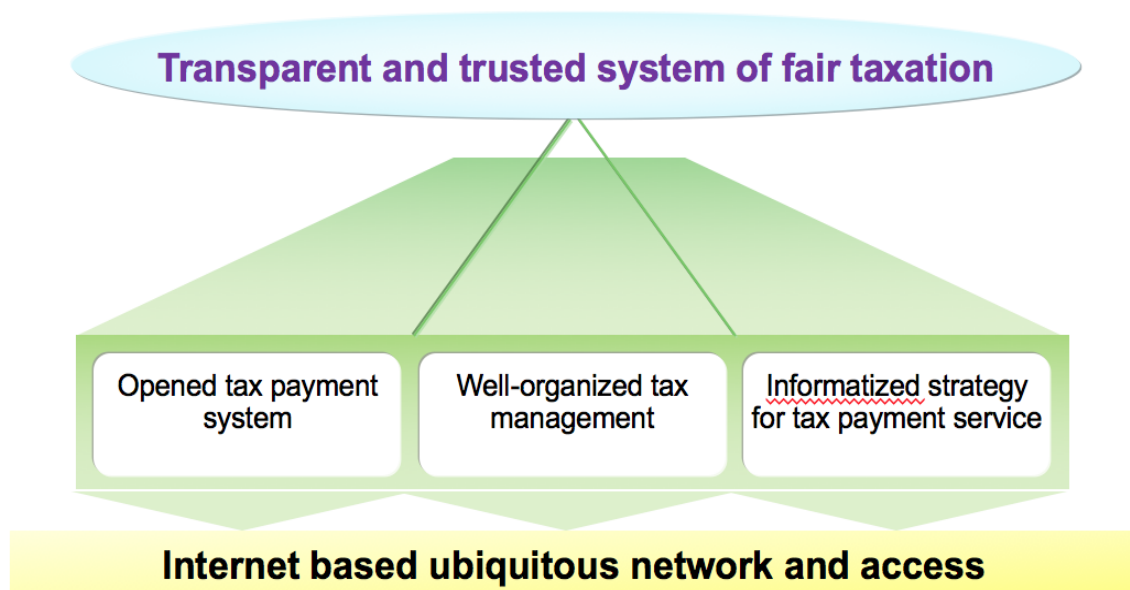


Figure 4-7. Vision of Electronic Tax system.

2. THE OPEN TAX COURT

The ‘Open Tax Court’⁴ is the determinations by the Seoul Government to change the investigation system of tax-related petitions by taking into account the viewpoints of citizens. The traditional closed examination process created much distrust and dissatisfaction among citizens regarding local taxes. The SMG launched a system in 2008 to provide pro bono legal counsel to citizens who wish to file an objection regarding local taxation.

Open Tax Court System empowers the petitioner to participate in the discussion process. Official from the tax division of the city will be given the role of defending the citizen, thus resulting in the development of a more transparent tax administration system. The entire hearing process is open to the general public thereby achieving higher level of transparency.

⁴ Source: <https://seoulsolution.kr/content/open-tax-court?language=en>



Figure 4-8. The Open Tax Court.

Source: http://www.taxtimes.co.kr/photo_view.htm?bigcode=2&middlecode=8&r_id=119182

EFFECTIVENESS OF OPEN TAX COURT

From 2008 to 2012, the Open Tax Court has deliberated on a total of 1,490 cases, among them, 169 cases were ruled in favor of the citizens. In 2011 alone, KRW 5.9 billion was returned to the taxpayers.

By making the examination process of local tax objections open to the public, while also providing the petitioner with the opportunity to participate and give a personal statement, the city has tried to ensure maximum transparency in the provision of remedies to citizens. Furthermore, in order to attain objectivity and credibility in an examination, the Local Tax Examination Committee, whose role is to make the final decision regarding objections, was made up of lawyers, accountants and tax accountants and an incumbent judge was made to head the committee to lead the objection examination process.

The official who is responsible for the local tax levy attends the session in person to explain and justify the reason for the taxation before an audience, which includes general citizens. By having a member of the city's tax department (special tax advocate) speak in defense of the petitioner, district government officials have become more cautious when imposing local taxes. These measures have resulted in a 24.8% decrease in improperly imposed taxes in two years and seven months. The satisfaction level of petitioners rose to 96.8 points out of 100.

In sum, the effectiveness of the ‘Open Tax Court’ does not come from pursuing remedies after taxes have been levied, but eliminating improperly imposed taxes by the government. This is an example where government is trying to redefine its role and quality manager. Through institutional innovation to secure the preciseness, fairness and credibility of local tax administration, the open system promotes public participation and is a model for good governance by local governments.

2.1. THE TRIAL STRATEGY

The ‘Open Tax Court’ was formally adopted as a city initiative as part of the developmental plan for the ‘Local Tax Judiciary System for Citizens’ on April, 2008. It was implemented based on four strategies which is worth examining in this section:

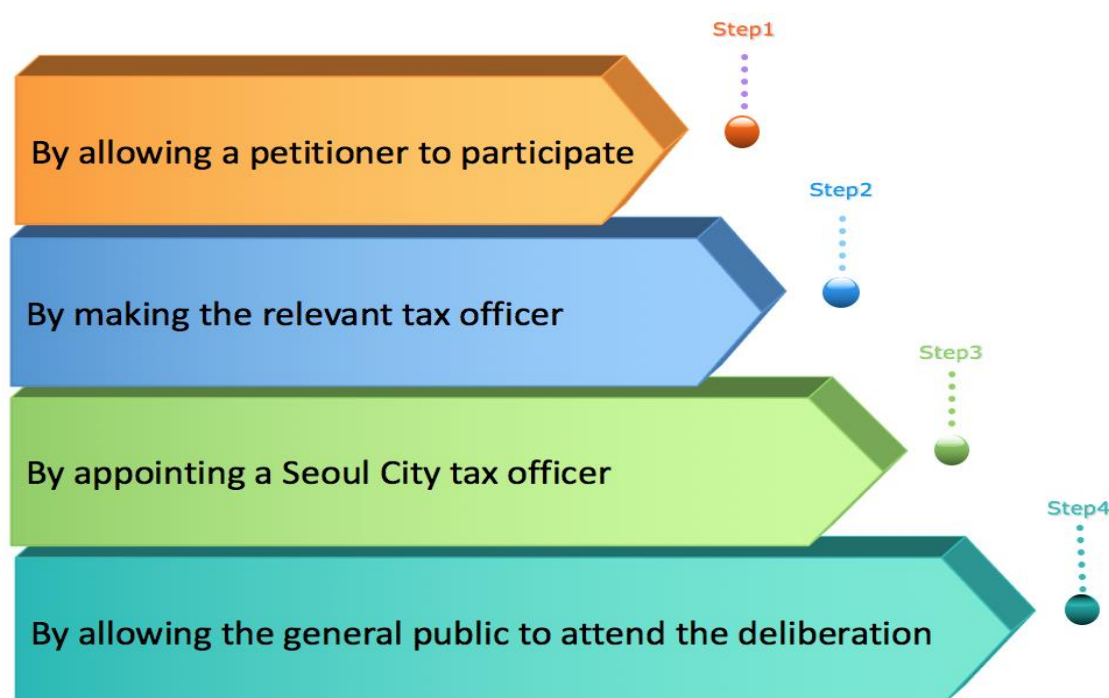


Figure 4-9. The Open Tax Court Trial Strategy.

- **First**, allow petitioner to directly participate and put forward their statement during the local tax objection process. This has secured transparency in the examination process, fairness in ruling and contributed to the elimination of public distrust toward tax imposition.
- **Second**, request relevant tax officer to attend the session. This allowed the city to rectify any mistakes and eliminate falsely imposed taxes.

- **Third**, appoint a tax officer to the defendant, with expertise in tax administration, as a ‘special tax advocate’ on behalf of a citizen. This allowed the financially-challenged citizens in their efforts to pursue remedies.
- **And finally**, allow the general public to attend the open deliberation. This provided citizens with chances to learn about tax, which has contributed to heightening their understanding of taxation policies.

Source: <https://seoulsolution.kr/en/content/transparency-open-tax-court?language=en>

2.2. THE OPEN TAX COURT’S OBJECTIVES

Traditionally, the local tax law required the Local Tax Examination Committee to conduct documentary examination when a citizen filed complaints regarding local tax. Also the whole process was not open to the public. Accordingly, it was not possible for petitioners to verify whether or not their petition had been properly reviewed by the deliberation committee. The Open Tax Court system reduced the burden of citizens who filed complaints regarding wrongfully imposed local taxes. Thus, more complaints were submitted regarding the examination of local taxes, because citizens became more distrustful of the fairness and credibility of the process. In order to address this problem, the SMG opened the process to the public and provided citizens with local tax experts. The objectives of the Open Tax Court are shown in the following illustration.

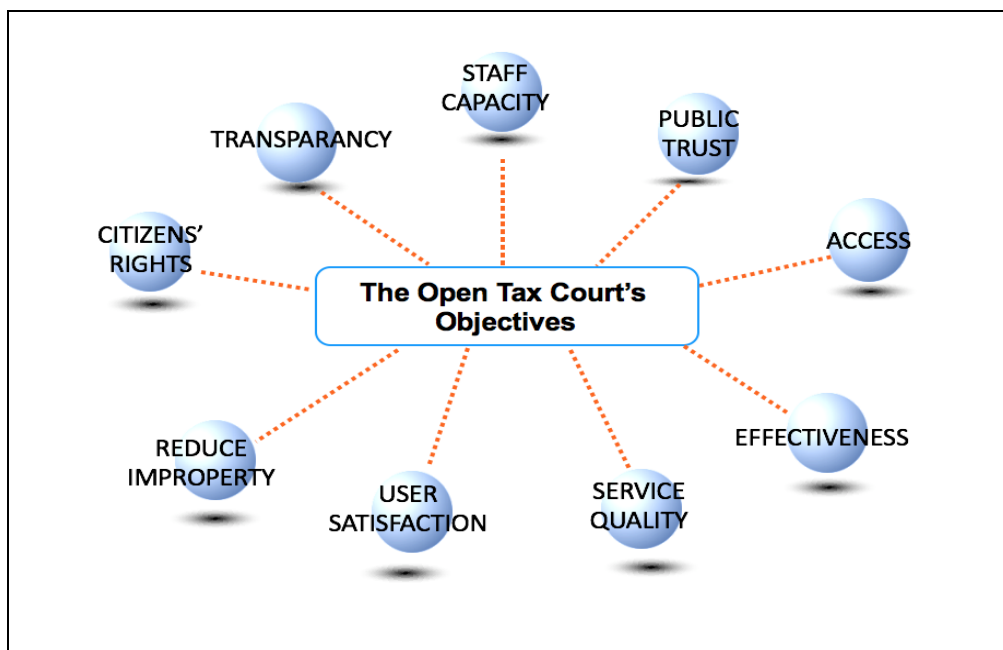


Figure 4-10. The Open Tax Court Objectives.

2.3. THE OPEN TAX COURT'S BENEFITS

The Open Tax Court System allows citizens to receive help from local tax experts, without the burden of having to pay huge cost to file complaints. With an incumbent honorable Judge as the new Chairman of the Local Tax Deliberation Committee, the citizens are guaranteed a fair and transparent hearing process.

There are few advantages to having an Open Tax Court. First, external committee members, such as lawyers and tax accountants, were usually paid fees when they attended the closed, documentary examinations in the past. In making the examination sessions open to the public, experts have volunteered to participate in the process, so there is no additional cost. Second, there is no need to hire additional staffs to run the committee as the current tax staff members are overseeing the 'Open Tax Court.' Wrongfully imposed taxes were either reduced or eliminated. Citizens also benefited from 'pro bono advocate' who had expertise in local taxation system. Local tax experts who worked in the SMG cooperated by working as pro bono advocates to assist taxpayers.

2.4. THE OPEN TAX COURT'S OBSTACLES AND OVERCOME METHOD

The local tax hearings are held every three weeks and the schedule and venue are posted on the internet website (www.seoul.go.kr) to foster greater involvement by the citizens. Two of the major distinguishable obstacles are: one, the difficulties deriving from objections within the organization, and second, resolving conflicts through persuasion and education.

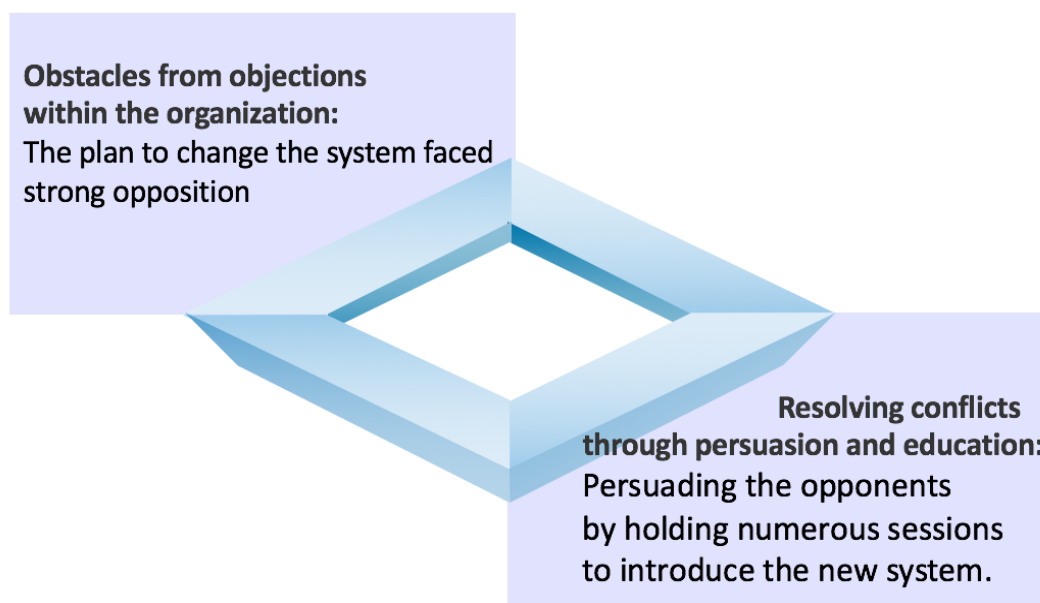


Figure 4-11. The Open Tax Court's Obstacles and Ways to Overcome Them.

Source: <https://seoulsolution.kr/en/content/transparency-open-tax-court?language=en>

Difficulties Deriving from Objections Within the Organization

Even in such developed countries as Germany and Japan, a closed, documentary examination system is in practice, which does not allow the general public to attend hearings. This system was also adopted in Korea regarding citizen appeals against falsely imposed taxes. The plan to change the system faced strong opposition as it would create greater workload to city employees. But more importantly, the practice of a city official defending a civilian was not stipulated in the law.

Resolving Conflicts Through Persuasion and Education

Staff members who were against the system were persuaded by the city officials. Numerous sessions were opened to introduce the new system and to stress the importance of restoring the credibility of the taxation system. Explanations were given out to inform the staffs that even though the system was not stipulated in the law, it did not violate the law because the measure was beneficial to citizens. Thanks to these efforts, the city government succeeded in drawing support from its employees.

At present, the employees of district governments are more favorable to the system in that it provides them with the chance to openly verify the validity of their decision on tax imposition.

2.5. THE OPEN TAX COURT'S POSITIVE RESULTS

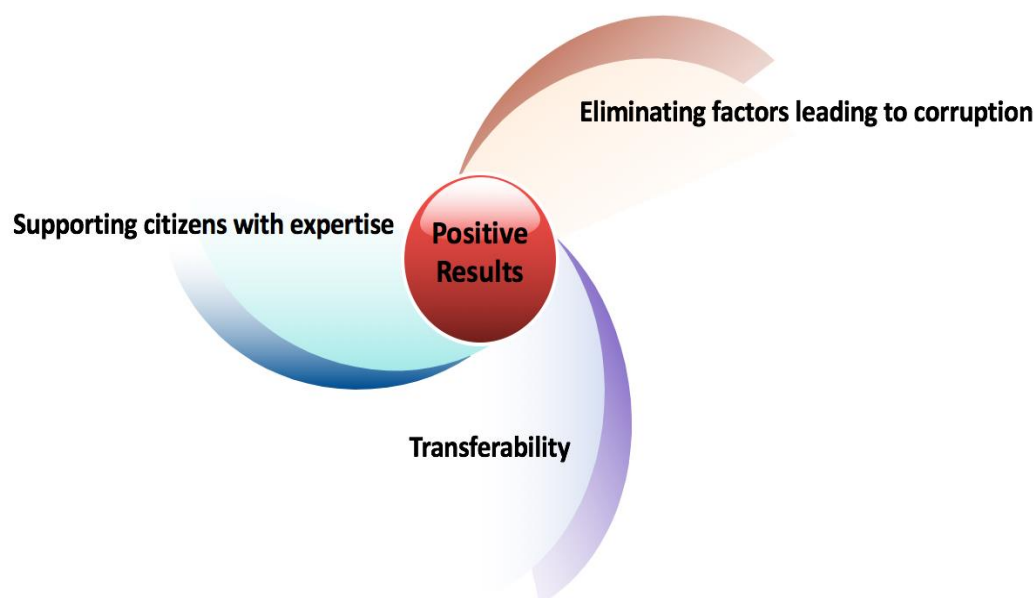


Figure 4-12. The Open Tax Court's Positive Results.

Supporting Citizens With Expertise

The SMG had one of its employees in its tax department act as a pro bono ‘special tax advocate’ for petitioners. There is absolutely no cost of hiring an expert and this has eliminated the barrier for low-income citizens. The Open Tax Court has been held 32 times to examine 173 petitions from April 2008 to November 2010. Sixty or 34.7 percent of the 173 cases were accepted and KRW 1,087 million has been returned to citizens.

Elimination of Factors Leading To Corruption With A Transparent And Open Tax Administration System

By changing the closed examination process to one that is transparent and open, the validity of tax imposition can be openly contested in public. The relevant tax officer is allowed to rectify any falsely imposed taxes, and this system has led to the elimination of factors that once led to corruption. As a result, Seoul ranked first in a 2010 transparency evaluation survey of 16 cities and provinces in Korea that was conducted by the Anti-Corruption and Civil Rights Commission.

Transferability

The ‘Open Tax Court’ is a system that is aimed at providing remedies to citizens in a more creative and active way, moving away from the previous framework of closed examination management to a more open system which encourages citizens to actively participate in the post-tax process. The system has been benchmarked by such governmental agencies as Korea’s Prime Minister’s Office, the Tax Tribunal Office, the National Tax Service, the Customs Service Office and the Patent and Trademark Office, and local governments including the Busan Metropolitan Government. The ‘Open Tax Court’ has also been introduced to international tax officers in Uzbekistan.

Chapter 5

World e-Government Organization (WeGO)



Prepared by: Dr. Aroon Manoharan & Eunmi Choi

Seoul Metropolitan Government (SMG) launched an international organization in 2010 to enhance cooperation and exchanges between urban city governments worldwide with the objective to share e-Government best practices and pursue sustainable urban development based on e-Government.

The World e-Government Organization (WeGO) would play an important role for the whole international community. WeGO attempts to help stakeholders in a number of member cities to successfully adopt e-Government initiatives. It is the hope of this international organization, by providing information services to currently marginalized region in the world and by creating policies that reflect the nuances of each city, that cities are able to better connect with their citizens and overcome the digital divide concerns.

With the creation of WeGO, Metropolitan Governments in developed and developing countries would be better equipped to pursue the goals of systematic information management, transparent administration, citizen participation and communication through the Internet, and provide efficient information service for citizens. Therefore, this report focuses on the collaborated efforts in the creation of a new international organization aimed at achieving digital equity, and at providing the means and tools to accomplish better governance in light of recent technological developments.

1.BACKGROUND

Global Collaborations of the World e-Government Organization (WeGO)

Seoul Metropolitan Government (SMG) pursues the goals of systematic information management, transparent administration, citizen participation and communication through the Internet, and provides efficient information service for citizens.

SMG has been acknowledged as the best city for IT as a result of developing and operating initiatives including Information Policies – Mobile Seoul (m.seoul), Big Data, 120 Dasan Call Center, Oasis, a free WiFi network, and a GIS portal. A proactive agenda is necessary to lead e-Government in the world. SMG has regarded that such an international organization – WeGO– is required in order to mutually cooperate with local governments, share e-Government practices, and pursue sustainable urban development based on e-Government.

WeGO plays an important role for the whole international community. A focus on providing information services on the ground and creating policies that reflect the nuances of each city ensures that cities are able to better connect citizens with the services that they require, utilizing methods that address digital divide concerns.

WeGO is an organization that has helped a number of cities implement e-Government programs since its founding. The organization has generally helped stakeholders in a number of member cities successfully adopt e-Government initiatives. The organization has done a tremendous amount of work in fostering the spirit of collaboration between the public and private sectors, along with establishing connections between individuals in a number of different cities.

WeGO has a bright future and a number of potential paths to further ensure that the organization is able to continue providing technical training and evaluation tools for any city that wishes to establish, monitor, or replace their e-Government systems.

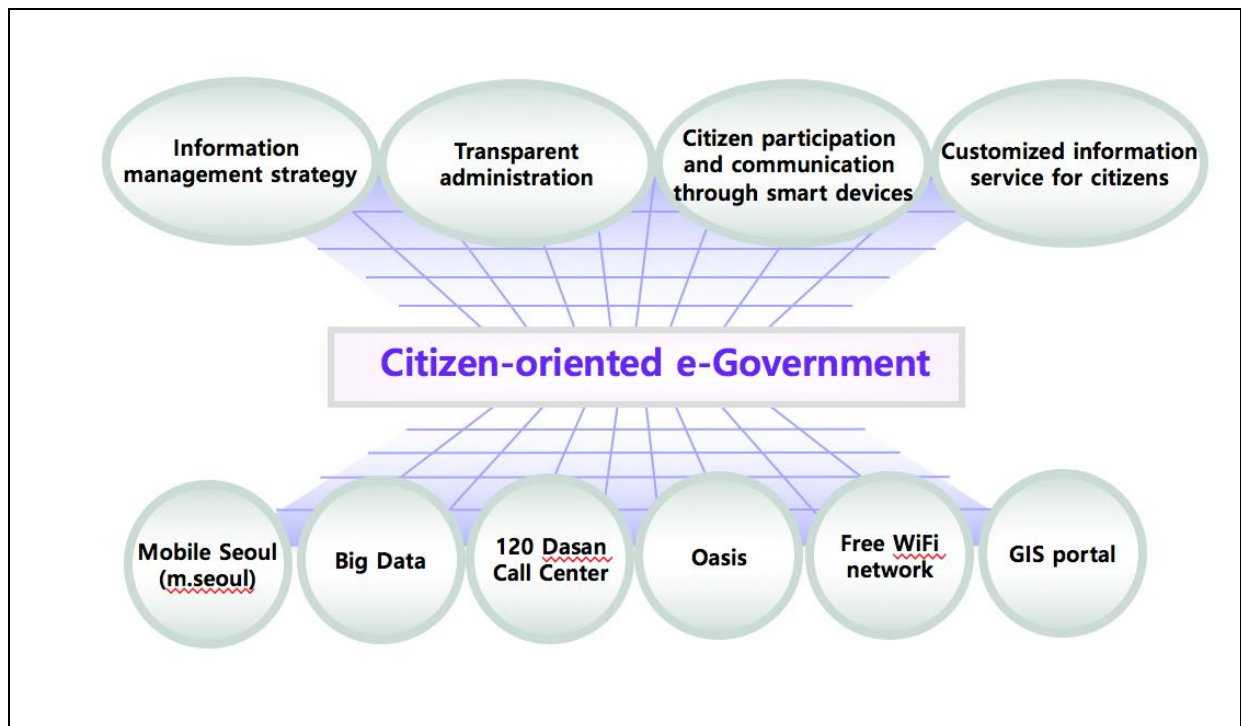


Figure 5-1. A Citizen-Oriented E-Government and the World's Top Smart Seoul of SMG

In July of 2008, Seoul hosted the World e-Government Mayors Forum with the participation of 33 city mayors and representatives from around the world.

At the Mayors' Forum, the participating leaders unanimously agreed to establish an international organization for cooperation and exchanges between urban e-Governments worldwide.

By adopting the Seoul e-Government Declaration, Seoul was to hold the World Cities CIO (Chief Information Officer) Forum from 28 - 30 September 2009, a preliminary meeting to discuss the establishment of the prospective e-Government organization in 2010.

The statute of WeGO was adopted in the Inaugural WeGO General Assembly 2010, and then the positions of President, the Vice President, and the members of the Executive Committee were filled by election.

Table 5-1. Timeline Of The World E-Governments Organization Of Cities And Local Governments (WeGO)

Year	History
2008	World e-Governments Mayors Forum
2009	World Cities CIO Forum
2010	The Inaugural WeGO General Assembly 2010 in Seoul
2011	WeGO Signs MOU with the United Nations WeGO Signs MOU with the World Bank The Executive Committee Meeting 2011
2012	The Executive Committee Meeting 2012 The 2 nd WeGO General Assembly 2012 in Barcelona
2013	The Executive Committee Meeting 2013 Opening of the WeGO Asia Regional Office Chengdu
2014	Opening of the WeGO Europe Regional Office, Ulyanovsk Region Opening Ceremony: The WeGO Secretariat Moves to its New Office WeGO signs MOU with the National Information Society Agency (NIA) of Korea The Executive Committee Meeting 2014 The 3 rd WeGO General Assembly 2014 in Chengdu
2015	WeGO signs MOU with the United Cities and Local Governments Asia-Pacific (UCLG ASPAC) The Executive Committee Meeting 2015 in Ulyanovsk Region
2016	An appointment of New Secretary General of WeGO, WeGO signs MOU with the Export-Import Bank of Korea (KEXIM) WeGO signs MOU with the Korea Local Informatization Research and Development Initiative (KLID) The Executive Committee Meeting 2016 to be in Beyoğlu

Source. A Timeline (2016) , Retrieved from <http://www.we-gov.org/WeGO> at a Glance



Figure 5-2. Inaugural WeGO 2010

2. GOALS AND IMPLEMENTATION STRATEGIES

The fundamental goal of WeGO is to improve citizens' quality of life around the world

By promoting e-Government toolkits and framework

WeGO provides cost-efficient and easy-to-use e-Government tools with countries for promoting their e-Government systems. While having partnership with the National Information Society Agency (NIA), WeGO offers an open source e-Government Framework which includes general techniques for infrastructure and development tools via the WeGO eGovFrame and IT consultants.

The City e-Government Diagnostic and Solution (CeDS) Online Platform enables cities to self-assess the maturity level of their e-Government system. The CeDS Online Platform was established and developed by WeGO, World Bank, and SMG and is accessible by city representatives.

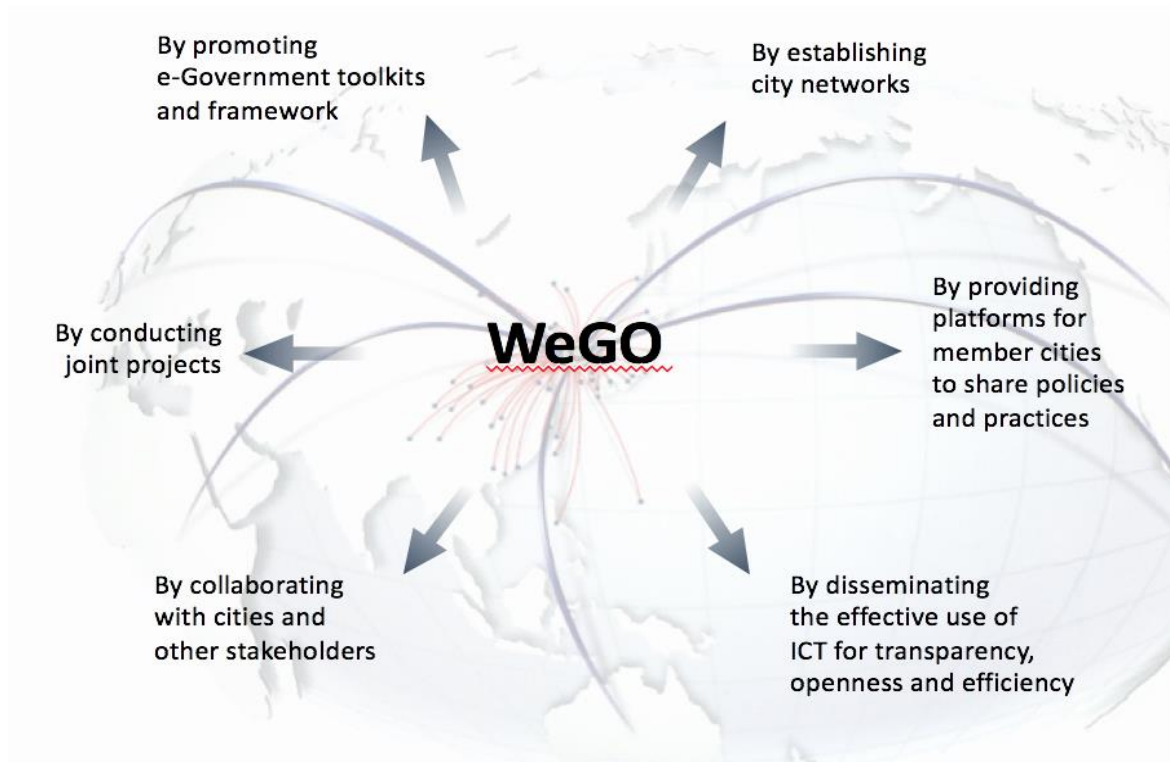


Figure 5-3: WeGO's goal

Source. SMG. The Inaugural General Assembly of the World e-Governments Organization 2010.

By establishing city networks

The WeGO links members to international organizations, including the United Nations and the World Bank, through a wide network of partnerships. WeGO's network also includes leading IT experts and professionals from governments, development agencies, academia, civil society, and the private sector.

By conducting joint projects

WeGO organizes joint projects among members.

By providing platforms for member cities to share e-Government policies and best practices

WeGO has been operating the popular WeGO e-Government Training Program for WeGO members since 2011 in Seoul, Korea. Since 2014, WeGO has been expanding its training programs via the WeGO Regional Offices in Chengdu, China, and the Ulyanovsk Region, Russia. Also, the advanced member cities share best practices from other cities' e-Government systems when they operate meetings or online forums.

By collaborating with cities and other stakeholders

WeGO communicates with public officials, provides consultation, explores private company sponsorship, and assists cities when they seek funding from international organizations.

By discovering and disseminating the effective use of ICT (Information and Communication Technology) for transparency, openness, and efficiency

WeGO provides consulting services in collaboration with IT consultants to help member cities evaluate their current e-Government status and accomplish realistic e-Government strategies.

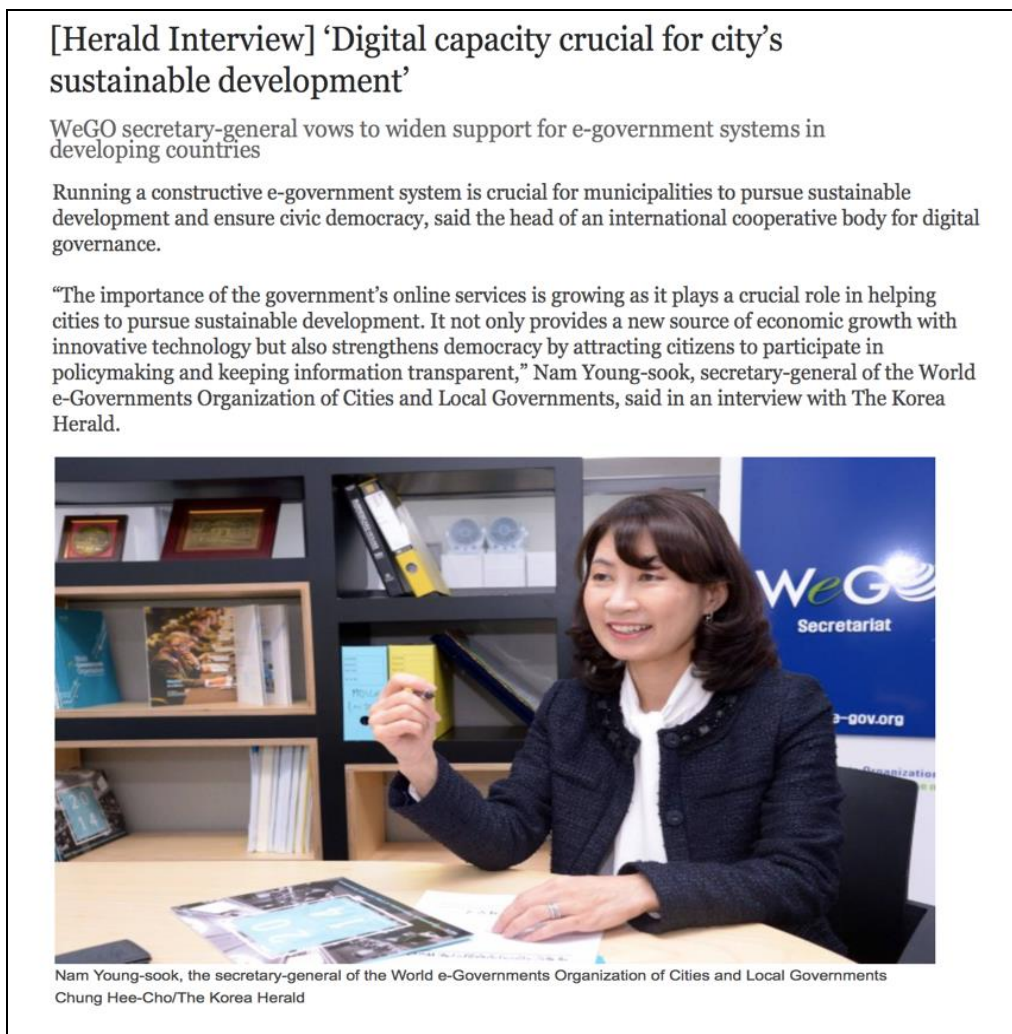


Figure 5-4. The Korea Herald (2016), ‘Digital capacity crucial for city’s sustainable development’,

Source. Retrieved from <http://www.koreaherald.com/view.php?ud=20160224000950>

3. IMPLEMENTATION AND ITS EFFECTS

3.1. ORGANIZATIONAL FUNCTION OF WeGO: IMPLEMENTATION⁵

WeGO is first and foremost composed of and governed by its Member Cities and Friendship Members. Cities and local governments automatically become associate Members when they submit their application forms and acquire Full Member-status when their membership application is formally approved by the Executive Committee. The Friendship Member category was implemented in 2014 to allow any regional government association working in e-Government to join WeGO.



Figure 5-5. WeGO Organization

Source. Governance (2016), Retrieved from <http://www.we-gov.org/Governance>

1) GENERAL ASSEMBLY

The General Assembly plays an important role for decision making at the top-level of WeGO and consists of all WeGO members. The Assembly also approves and confirms the important agenda of WeGO. The major decision making of the Assembly consists of a) amending the WeGO Statutes, b) financial support for projects and programs, c) consultation for cooperative projects among cities, d) election of the President City and the Executive Committee members, e) confirmation of the next host city of the General Assembly, and f) other crucial agendas related with WeGO structure and operation. The WeGO held a regular session of the General Assembly every three years; the third General Assembly of WeGO

⁵ Source: <http://www.we-gov.org>

was held in 2014 in Chengdu, China and the fourth General Assembly will take place in Ulyanovsk Region, Russia in 2017.

2) “PRESIDENT EXECUTIVE, VICE PRESIDENT AND VICE PRESIDENT CITIES”

The President City is selected at the General Assembly. The role of the President City is to administer and represent WeGO. The Vice President Cities, which include the Executive Vice President City, are composed of more than five cities whose general duty is to assist the President. The Vice President Cities are nominated by the Executive Committee and appointed by the President City. The host of the next General Assembly is automatically appointed as the Executive Vice President City, while the President appoints the Vice President Cities by considering equal geographical distribution. The President and Vice Presidents serve a three-year term and can be re-elected or re-appointed, respectively.

3) EXECUTIVE COMMITTEE

The role of Executive Committee is to assist the operations of WeGO and support WeGO projects and activities. The Executive Committee consists of twenty or fewer cities, such as the President and Vice President Cities. The committee may call for special meetings instead of the annual regular meetings. Members of the Executive Committee are elected in the General Assembly, and are expected to serve a three-year term with possibility of re-elections.

4) SECRETARIAT

The Secretariat, which is an administrative supporter, has a responsibility for (a) supporting development and revision of the statute, (b) performing research and analysis on relevant topics, (c) designing and implementing WeGO projects and programs, (d) devising an annual plan, making budgets, and closing accounts, (e) managing WeGO members and regional offices and attracting new members and partners, (f) reporting on the financial management of annual membership fees, voluntary donations from members, and any other sources of revenue, (g) providing organizational support for all WeGO meetings, and (h) managing the elections of titled positions and the Executive Committee.

5) REGIONAL OFFICES

The Secretariat, also responsible for implementing WeGO projects, belongs to a regional office of the WeGO. The regional office manages WeGO members in the respective region. The role of regional offices is to (a) support exchanges and collaboration between the WeGO Secretariat and its members within the region, (b) manage members and protect new members within the region, (c) provide a networking and knowledge-sharing platform by

organizing regional programs such as training programs, seminars, and conferences on e-Governance, and (d) develop partnership with local organizations, with the final goal of expanding the global network of WeGO.

A WeGO Regional Office may be set up in Asia, Europe, Africa, the Americas, the Middle East, and Oceania. The Regional Offices recently selected by the Executive Committee through a bidding process are the WeGO Asia Regional Office, Chengdu in China and the WeGO Europe Regional Office, Ulyanovsk Region in Russia (Seoul Metropolitan Government, 2014).

3.2. THE RIGHTS FROM WEGO: EFFECT 1

The Statute for the world e-Government organization of cities and local governments

The cities and local governments attending the Inaugural General Assembly of the World e-Government Organization of Cities and Local Governments will all take great advantage of sharing experiences and discussing other matters of interest on the margin of the Assembly. It is to bridge the digital divide between and among cities worldwide through the exchanges and cooperation in e-Governments, to improve administrative transparency and efficiency by sharing knowledge and practices on e-Government, to enhance the online public services and increase citizens' online involvement, and to achieve the mutual prosperity by building international network on ICT between and among cities in the world (Seoul Metropolitan Government, 2010b).

Therefore, the cities and local governments attending the first General Assembly of the WeGO recognize the necessity to lay the foundation for a model of sustainable development to integrate information technology into an entire administration, recognize the Seoul e-Government Declaration adopted on July 8, 2008 at the World e-Government Mayors Forum, accept what is agreed on September 29, 2009 at the World Cities CIO Forum, and wish to preserve the quality of life of city and support sustainable city development through the shared experiences in e-Government practices and by making contributions to the international city community.

Seoul City to keep e-government body leadership



Seoul Mayor Park Won-soon delivers a welcoming speech Tuesday at the WeGo general assembly meeting in Barcelona, Spain. (Seoul Metropolitan City)

Seoul City was on Tuesday once again elected as the chair city of the World e-Governments Organization of Cities and Local Governments (WeGo), an international cooperative body for cities and local governments committed to sustainable city development by fostering collaboration among e-governing cities.

Attending the general assembly meeting of WeGo in Barcelona, Spain, Mayor Park Won-soon delivered a welcoming speech as the chairman of the organization in front of 1,000 city leaders and officials from international bodies such the United Nations, OECD, and World Bank.

Figure 5-6. The Korea Herald (2012), Seoul to keep e-Government body leadership

Source: Retrieved from <http://www.koreaherald.com/view.php?ud=20121114000843>

1) Part I of the Statute: General Provisions

The Statute is to provide support for the establishment of foundations related with the structure and operation of WeGO, and to achieve sustainable city development of e-Government by applying legal provisions for each member city.

2) Part II of the Statute: Membership

The membership is divided into full member and associate member. Any city wishing to join or withdraw from the Organization shall submit a form to the Secretariat.

3) Part III of the Statute: Organizations

As mentioned above, the General Assembly shall be the top-level decision-making body of WeGO and have the power to decide several issues including amendment to the Statute and project expenses. Then, WeGO shall consist of the president city and the vice president city. The Executive Committee of WeGO shall provide the functions of the Organization and support services for the projects. The Secretariat of the Organization shall perform the functions and duties assigned to it by the General Assembly and by the Executive Committee.

4) Part IV: Finances

Each member of WeGO shall pay the annual membership fee and the president city shall be in charge of expenses required to operate the regular and special sessions of the General Assembly. Membership fees vary depending on the population of the city/local government and the membership of the country. The International Monetary Fund's GDP adjusted for purchasing power parity is used to calculate membership fees along with the population of the city.

5) Part V: General Rules

A quorum of WeGO shall consist of more than one-third of the total members, which each full member city shall have one vote.

6) Part VI: Miscellaneous Provision

This Statute shall come into force upon approval of the member cities participating in the first General Assembly in 2010.

3.3. WE GO'S GOVERNMENT FRAMEWORK (EGOVFRAME) PROJECT: EFFECT 2

WeGO, in cooperation with its Technical Partner, the NIA offers a comprehensive Technical Training and Service Program for helping its member cities develop Web and mobile e-Government applications based on the WeGO eGovFrame.

The WeGO eGovFrame is a standardized as well as open source software framework developed in order to help governments develop efficiently and operate e-Government applications. The WeGO eGovFrame is composed of four software environments, which are development, runtime, operation, and management, as well as hundreds of reusable common components of e-Government systems. The framework provides mobile web UX Functions and Mobile Device API for both web-based mobile services and hybrid mobile apps.

The ultimate goal of the WeGO eGovFrame is to (a) bolster IT investment efficiency by increasing the productivity as well as reusability of the e-Government application software, (b) enhance the e-Government service quality and the competitiveness of the SMEs through the upward standardization of the information, which can be possible through opening the specialized and advanced development framework to the SM-sized SI companies and sharing it with WeGO members, and (c) develop an infrastructure for the advancement of the national informatization, by accelerating the adoption of integration-centered technologies as well as providing a standardized methodology for the e-Government service implementation.

3.3.1. WEGO eGOVFRAME TECHNICAL TRAINING AND SERVICE PROGRAM

The WeGO eGovFrame Technical Training Program is a complimentary 4-day program exclusively offered to WeGO members with two options for locations, which are the home country of the participants or Korea. The dates of the training are flexible, decided according to the schedules of the WeGO Secretariat, NIA, and the participant city. Participants can also be granted remote technical support service after the training program. They can schedule service time with the eGovFrame Center if any further assistance with applying the WeGO eGovFrame is needed. Also, the WeGO eGovFrame is a free tool which is updated on a regular basis.

Officials from the City Government of Addis Ababa visited Seoul in 2015 in order to attend the WeGO eGovFrame Technical Training and Service Program. Addis Ababa is currently trying to applying the WeGO eGovFrame to their city.

3.3.2. TARGET PARTICIPANTS OF THE WEGO eGOVFRAME TECHNICAL TRAINING PROGRAM

The WeGO eGovFrame Technical Training Program is targeted specifically to software developers of the WeGO member cities. Immediate-level of knowledge of Java programming and web programming is required. Knowledge of other frameworks may be helpful to understand the WeGO eGovFrame (ex. Spring, iBatis, MyBatis for Data access, Struts, Spring MVC for MVC framework). Any WeGO member cities planning on building new e-Government applications are recommended to enroll in the WeGO eGovFrame Technical Training Program to best utilize the open source software framework.

3.3.3. BENEFITS OF THE WEGO eGOVFRAME

Efficiency: Reduced Time and Costs

The framework provides general technical infrastructure for software applications, which allow developers to focus on writing code that best helps citizens with the provision of

services. The eGovFrame⁶ also makes the software development process simpler by providing standardized tools for developing software, utilizing built-in decisions about fundamental architecture and design issues. Developers can create new applications based on previous work, while new hires can easily follow the underlying logic of the program. Productivity can be improved by using the eGovFrame. In addition, the reusability of common components of e-Government application systems can be improved through the standard framework.

Quality: Increased Satisfaction of Governments and Citizens

The eGovFrame toolbox improves the quality of software applications by providing technical code for generic services which most applications need, where developers tend to make errors when creating wholly new code. This framework enhances the interoperability of e-Government systems and information-sharing among government agencies via standard inter-system integration interface. If the conflict between different agencies' applications is reduced, the overall quality of service provided by e-Government tools can be increased.

Independence from IT Company Vendors: Enhanced SME Competitiveness

The eGovFrame has effects on dependency on vendor's technology for maintenance of software applications that are based on vendor's proprietary network. This decreases the overall costs that a city will spend in the creation, maintenance, and replacement of e-Government applications. The framework improves SME competitiveness when sharing open source framework as well as providing developers with free, cutting-edge, and easy-to-use technology. Moreover, a greater quality of applications and a decrease in the price of applications will occur by decreasing the costs to enter design.

3.3.4. EGOVFRAME SUCCESSES

The Ministry of the Interior of Korea gathers information in terms of the eGovFrame framework. From its initial rollout in 2010 to 2014, over 3,000 individuals were trained by the tool and the eGovFrame system has been downloaded nearly 400,000 times and has been used in 502 e-Government projects.

⁶ Source: <http://www.we-gov.org>

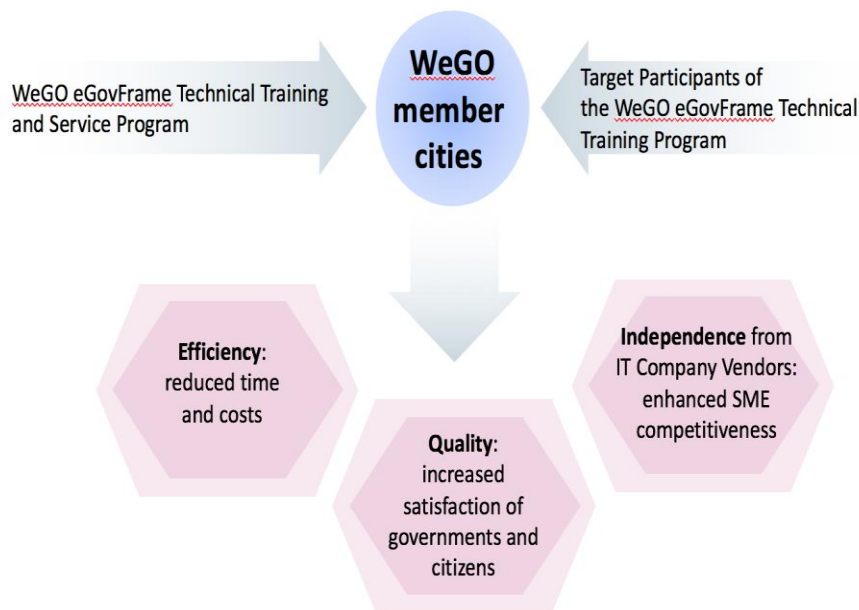


Figure 5-7. eGovFrame Project

Source. Comprehensive Technical Training and Service Program on the WeGO e-Government Framework (2016), Retrieved from http://www.we-gov.org/WeGO_eGovFrame

3.4. WEGO CONSULTATION PROJECT: FEASIBILITY STUDY (F/S) PROJECTS: EFFECT 3

Since 2011, WeGO has provided e-Government consultation services through Feasibility Studies (F/S) on city e-Government development for WeGO members. This technical assistance program is designed to help members assess their current e-Government status and provide cities realistic and concrete e-Government strategies.

The goal of this project is to enable partner countries to assess the current e-Government (national level and/or local government) status, and to propose a set of e-Government strategies and follow-up projects that have the greatest potential of success. A feasibility study on Spatial Data Infrastructure (SDI) is to discover potential facilities such as networks, pipelines and electricity in urban areas. The feasibility study concludes by proposing a future e-Government model, promoting e-Government best practices, and cooperates with the World Bank Toolkit Project to increase a city's potential success (Seoul Metropolitan Government, 2010a).

WeGO annually selects one or two WeGO member cities for the F/S projects pursuant to a Call for Letters of Intent. Interested cities and local governments are encouraged to submit a letter of intent to the WeGO Secretariat to apply for an F/S project and to indicate their interest, readiness, and willingness to participate in the project. In particular, the WeGO Secretariat looks for the following elements in an applicant city:

- The applicant's commitment to developing its own e-Government system in an inclusive and sustainable manner,
- The alignment of the FS project with the Government's ICT strategies and vision,
- The willingness to participate in the project as a project partner by providing local support to the Project Consultants,
- Indication of how the project would be sustainable beyond its completion, and
- Indication of the applicant city's commitment to the post-project implementation.

Table 5-2. Categories of Feasibility Study (F/S)

Category	Descriptions
EA (Environmental Analysis)	<ul style="list-style-type: none"> ○ Overview ○ Overall policies and strategies ○ Stakeholders analysis ○ Constraints and issues to address
TA (Technical Analysis)	<ul style="list-style-type: none"> ○ Current ICT status ○ ICT situation and request for the project ○ Technical design and approach
LA (Legislation and Regulation Analysis)	<ul style="list-style-type: none"> ○ Legal and regulatory analysis ○ Institutional analysis ○ Suggestions regarding the legal, regulatory and institutional framework for the project
RC (Recommendations)	<ul style="list-style-type: none"> ○ Project overview and components ○ Priority of the projects ○ Budget planning ○ Schedule ○ Monitoring and evaluation
FA (Feasibility Assessment and Economic Analysis)	<ul style="list-style-type: none"> ○ Demand analysis ○ Project rationale ○ Valuation of benefits and costs ○ Monitoring and Evaluation

- ***Environmental Analysis***

Environmental analysis looks into the targeted city's general environment to gather a better understanding of current status through research in order to collect and analyze overall geographical, political, economic, and socio-cultural information.

- ***Technical Analysis***

Technical Analysis consists of four parts – requirement analysis, current ICT status analysis, SWOT analysis, and constraints – in order to understand current ICT status and requirement for each city department through the results of interviews and surveys.

- ***Legislation and Regulation Analysis***

Through Legislation and Regulation Analysis, the F/S finds a platform for citizen access to public information, statements for public rights, and the principles of transparency, participation and collaboration in public administration.

- ***Recommendations***

The Recommendations section is divided into five stages – analyzing factors issues, finding problems, matching task definition, establishing goal model, and describing specific tasks to perform strategic planning. It is based on the existing analysis information and survey data for future models.

- ***Feasibility Assessment and Economic Analysis***

The purpose of the Feasibility Assessment and Economic Analysis is to verify and to confirm the feasibility of this project based on the net present value, F/C analysis in order to find the discount rate matching the costs and benefits of the internal revenue.

3.4.1. THE RECENT FEASIBILITY STUDY (F/S) AND PLAN

In 2015, WeGO offered the F/S Project on “*Civic Participation-based Systems (CPS)*” to WeGO members. As the main beneficiaries, Hanoi (Vietnam) and San Fernando La Union (Philippines) received a six-month consultation on the feasibility of adopting a CPS, with a focus on efficiently collecting and managing citizens' complaints.

With the expansion of the Project scope, a demo-version of the actual CPS was developed by WeGO's IT Consultants and delivered to the beneficiaries. In addition to the main beneficiary cities, WeGO also provided the actual CPS to three additional WeGO members Quezon City (Philippines), Pokhara (Nepal), and Bharatpur (Nepal). The WeGO F/S Project 2015 was the first F/S Project with practical outcomes, which transcended beyond a feasibility study and into the awarding of an actual system.

In 2016, WeGO will focus on studying the feasibility of implementing an ‘m-Government System’ for WeGO member cities, which were selected following the priority of thematic areas collected from WeGO members in the beginning of 2016.

In March of 2016, WeGO signed an MOU with the Export-Import Bank of Korea (KEXIM) with the aim of acquiring funding for additional feasibility studies for member cities. From this analysis, a set of possible opportunities will be provided to local governments. The funding will also facilitate the education (via workshops and seminars) of municipality and regional leaders. The agreement between the EXIM Bank of Korea and WeGO means that the e-Government system of Seoul could be shared to developing cities. The Export-Import Bank of Korea will review the WeGO Feasibility Project Plan and finance additional projects in subsequent years.



Figure 5-8. WeGO MOU with the Export-Import Bank of Korea

Source: <http://www.we-gov.org/WeGO>

3.5. WeGO'S CITY E-GOVERNMENT DIAGNOSTIC AND SOLUTION ONLINE PLATFORM (CeDS): EFFECT 4

The City e-Government Diagnostic and Solution⁷ (CeDS) Toolkit was conjointly developed by WeGO, the World Bank (Urban Sector), the SMG, and IT consultants from 2012 – 2013. The toolkit is the first version and is unique, given that it focuses on the e-Government agenda of local, rather than national, governments. The CeDS was created based on an intricate Excel spreadsheet. It enables city officials with limited ICT knowledge to evaluate the status of their city's e-Government maturity level and conceptualize Master Plans for city

⁷ Source: <http://www.we-gov.org>

e-Government without consulting experts from outside. Pursuant to an ongoing partnership with the World Bank, WeGO has developed the cost-efficient and user-friendly “City e-Government Diagnostic and Solution Framework” (CeDS) online platform, which focus on a local government agenda. WeGO provides the CeDS online platform and advisory services through the WeGO website with exclusive access for WeGO members, without using the Excel spreadsheet any longer.

The CeDS focuses exclusively on cities with the main goal of enabling city government officials to evaluate the status of their own cities’ e-Government environment, assess key gaps, identify actionable items, and conceptualize Master Plans for city e-Government without consulting external experts. The CeDS has the following characteristics: 1) citizen-centric model, 2) holistic, cross-sectional approach, 3) local ownership, 4) comparison with past scores and other WeGO members’ scores, 5) clear action items, and 6) match-making.

In 2014, WeGO embarked on converting the original Excel-based CeDS into an online data platform with more sophisticated data analysis, easier-to-use features and interactive elements. You may access the CeDS Online Platform at <http://wego-ceds.org>.

Along with the CeDS, WeGO has collaborated on the Smart City Maturity and Benchmark Model with the TM Forum. This model evaluates the current level of progress in adopting smart city technologies, provides greater insight about the conceptualization, adoption, and maintenance of e-Government tools by all relevant stakeholders, propose a maturity model that sets goals for cities to achieve at regular intervals, and includes best practices for 225 indicators evaluated in the model.



Figure 5-9. City e-Government Diagnostic and Solution Online Platform

Source: <http://wego-ceds.org/actions/Main.action>

Table 5-3. Status of City e-Government Diagnostic and Solution Online Platform

The CeDS status	Corresponding Cities
Cities that have signed up for a CeDS Account	<ol style="list-style-type: none"> 1. Dhaka North, Bangladesh 2. Dhaka South, Bangladesh 3. Hanoi, Vietnam 4. Hebron, Palestine 5. Jakarta, Indonesia 6. Khartoum State, Sudan 7. Nairobi, Kenya 8. Quezon City, Philippines 9. San Fernando La Union, Philippines 10. Seberang Perai, Malaysia 11. Ulaanbaatar, Mongolia 12. Makati, Philippines 13. Tashkent, Uzbekistan 14. Seoul, Korea
Cities that are currently filling out the CeDS	<ol style="list-style-type: none"> 1. Seberang Perai, Malaysia
Cities that have filled out the CeDS	<ol style="list-style-type: none"> 1. Dhaka South, Bangladesh 2. San Fernando La Union, Philippines 3. Tashkent, Uzbekistan 4. Hanoi, Vietnam 5. Quezon City, Philippines 6. Makati, Philippines

3.5.1. THE CEDS STRUCTURE

The CeDS Online Platform consists of the following sections:

- **Main Dashboard:** A snapshot of your city's diagnostic scores along with the average of WeGO member cities' scores.
- **Introduction:** A brief overview of the CeDS and how it is structured.
- **Guidelines for the CeDS Investigation and Diagnosis:** A set of guidelines that should be read prior to doing the CeDS Investigation. The guidelines provide users with instructions to complete the analysis, and ensure that the data collected by the CeDS is accurate and will be of use to the administrators of the member city as well as other WeGO users. The guidelines indicate that member cities will be able to conduct CeDS investigations four times a year. This section indicates the minimum collection of stakeholders – officials from the planning, finance/budget, IT department, and vice mayor/executive – that should be present and contribute information when the CeDS is conducted.

- **CeDS Investigation and Diagnosis:** The actual self-assessment and diagnosis part of the CeDS online platform, consisting of three investigation sheets -- the “Investigation of e-Government Maturity” and “Investigation of Current e-Government Systems” and the “Progressive Systems Map”. The Investigation of e-Government Maturity focuses on the overall environment in which e-Government programs exist. Factors including the level of resources available, the government institutions in play, and the institutions and rules establishing policy. The Investigation of Current e-Government Systems evaluates the e-Government institutions currently in place in a member city, comparing their overall quality to model systems⁸.
- **CeDS Final Report:** The final report consists of three diagnostics reports the CeDS provides
 - 1. Diagnostic Report I: Overall e-Government Maturity
 - 2. Diagnostic Report II: Specific e-Government Maturity by 6 Internal/ External Dimensions
 - 3. Diagnostic Report III: Current e-Government Systems Maturity and Systems Identification
- **Forum:** The forum is a space where users can get announcements from CeDS and ask questions to the WeGO Secretariat. Access to the forum is allowed only to active WeGO members.
- **e-Government System Modules:** The CeDS provides a set of best practices which aims to provide the administrators with the actual resources for the city e-Government planning. The modules are pre-designed e-Government protocols and programs that allow city administrators to immediately utilize in various policy areas.

3.5.2. BENEFITS OF THE CEDS

- The CeDS provides ready-to-use diagnostic tools for identifying key gaps and policy items. Through both the citizen-centric maturity model and a set of international best e-Government practices, it tries to offer citizen-focused tool, rather than technology-only focused perspective
- Cost-effective outcomes and user-friendly composition
- Increased ownership of e-Government initiatives by worldwide cities
- Recommendations for developing concrete action items with long-term roadmap for enhancing a city’s e-Government policy maturity
- Open sources: Shared best practices and experiences among WeGO members and simple identification of benchmarking partner cities

⁸ Source: <http://wego-ceds.org/actions/>

- Network: a set of areas for development partners (e.g. World Bank) to focus on providing services to member cities
- Technical Support: Based on the CeDS results, it will be easier to access to e-Government expertise and assistance for cities
- Systematic Manual: Practical step-by-step instructions for e-Government progress through the modules that focus on the most urgent needs for e-Government services

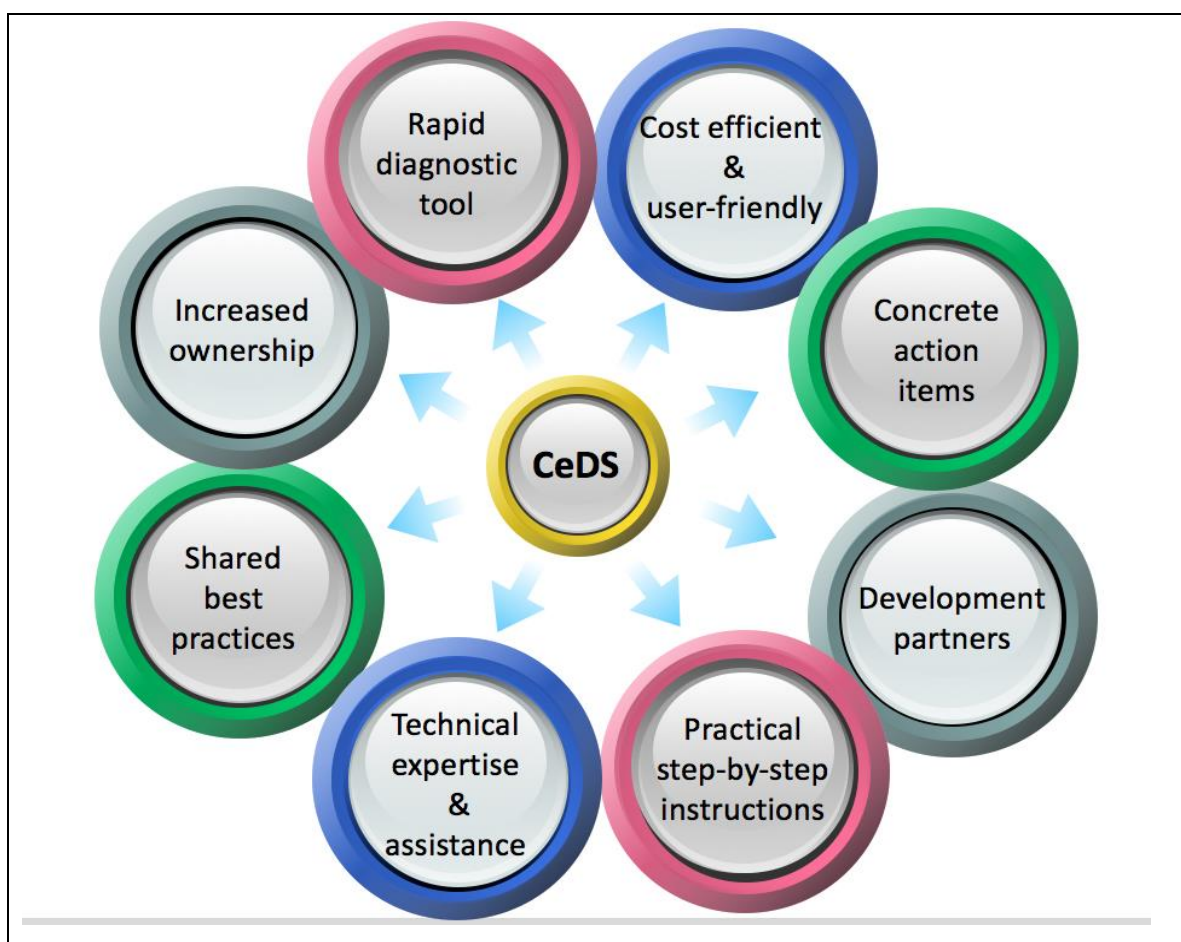


Figure 5-10. CeDS's benefits

Source: http://www.we-gov.org/CeDS_Online_Platform

3.6. WeGO'S GOVERNMENT TRAINING: EFFECT 5

Capacity building is a crucial component of WeGO programs. Member cities are instructed in order to advance digital capacity and bridge the digital divide. WeGO e-Government Training Programs offer WeGO members rich learning opportunities to promote the use of information technologies in public administration and foster collaboration among cities as well as other stakeholders (SMG, 2015).

WeGO's capacity-building programs include the popular e-Government as well as additional on- and offline training programs organized by the WeGO Secretariat and WeGO Regional Offices. Apart from these, WeGO partners with different organizations to diversify the training programs that it offers: for example, WeGO, the Global Academy of the National Information Society Agency of Korea and the Asian Development Bank (ADB) co-organized an inaugural joint workshop on Smart City and e-Government in Jeju Island, Korea in May 2016, which is expected to turn into a regular program in addition to the "Seoul Program."

3.6.1. THE SEOUL PROGRAM

Since 2011, WeGO has been offering the popular "Seoul Program" on a yearly basis – an e-Government training program in partnership with the Seoul Human Resource Development Center – in Seoul, Korea. The Seoul Program consists of diverse lectures introducing best e-Government practices and policies, interactive discussion sessions, and site visits to e-Government facilities as well as cultural excursions. The 2016 iteration of the Seoul Program, which was conducted in May, focused on Big Data, Internet of Things (IoT), Intelligent Transportation Systems (ITS), and Cybersecurity based on the best practices of WeGO President City Seoul. In addition to learning from experts from Seoul and the private sector, the participants learned from each other as they presented their cities' representative e-Government technologies. The training program was complemented by technical tours to the Bukchon IoT Living Lab, Seoul Data Center, Seoul Transport Operation and Information Service (TOPIS), and the S-PLEXCENTER, as well as cultural visits to the Bukchon Hanok Museum and the Han River cruise.

The topics of training programs from previous iterations of the Seoul Program are (a) improving e-Government and citizen communication through SNS, (b) building e-Government efficiency in provision of services through policies including a shift towards a paperless office, (c) e-Government and security topics, including information security and privacy protection, (d) e-Government and administrative reform, (e) e-Government and civil-based applications (e.g.) e-Tax, (f) e-Government implementation, (g) negative effect of information access and solutions to problems including internet addiction and cyber-crime, (h) ICT infrastructure, (i) promotion of industry through e-Government, and (j) stages of government evolution.



Figure 5-11. WeGO Seoul program

Source: <http://www.we-gov.org/WeGO>

3.6.2. WEGO PARTNERS' PROGRAM

WeGO collaborates with its partners to develop e-Government Training Programs in the form of workshops, excursions, and webinars, among others.

The WeGO e-Government Training Program offered by the city of Chengdu, China was held in late May 2014 at the Nordic International Management Institute and provided attending members with an intensive course on leadership education. Building on WeGO's strong partnership with the World Bank, WeGO has collaborated with the "Smart Cities" series of the World Bank Institute's successful webinar program. The webinars were conducted in June and December, 2014. The first webinar surrounded the importance of analytics in city management. By collecting big data from citizens, city leaders are better able to understand the desires of their populace, deliver services in the most beneficial way, and influence public policy. The second webinar organized in collaboration with advisors of the Ulyanovsk Region, (Russia) in December focused on how to use the self-assessment tool CeDS.

The Jeju Workshop

Special attention should be given to the "Jeju Workshop", a new program developed by WeGO, Asian Development Bank, and the Global Academy of the National Information Society Agency of Korea in 2016. The program, consisting of a number of enriching sessions,

does not only cover success stories of different stakeholders in Korea and abroad in building a Smart City but also outstanding issues concerning the complexity of the relation between e-Government and Smart City and their interrelation with the Sustainable Development Goals. The sessions are led by prominent experts in e-Government and Smart City from a variety of stakeholder groups, including international organizations and finance institutions, national entities of Korea, local governments, academia, and the private sector.

In addition, participants have the chance to attend the Jeju Forum for Peace and Prosperity which is one of the most prestigious conferences in Asia and visit technical facilities and major attractions of the Jeju Island.

Following the successful completion of the workshop, WeGO plans to hold the workshop on an annual basis.

3.6.3. WeGO REGIONAL OFFICES' PROGRAM

The WeGO Regional Offices in Asia and Europe have been organizing to provide special training courses for WeGO members. Through this program, WeGO is providing webinars for effective sharing of ICT knowledge worldwide. In order to best meet the requirements of member cities, WeGO has founded the Europe Regional Office in the Ulyanovsk Region (Russia) and created the Asia Regional Office in Chengdu (China). WeGO regional offices' goals are mainly two-fold - the first goal is to provide educating programs to member cities in their respective areas, which will inform members about best practices, connect leaders with local and international organizations. Second, to increase interests in WeGO membership for those cities and areas that are not yet joining to WeGO networks.

The WeGO Regional Offices in Asia and Europe are established in order to help WeGO member cities access on-demand technical assistance. Through the program, WeGO member citizens able to adopt e-Government plans more easily under the regional system. The technology-heavy focus of WeGO means that members can learn about innovations and receive assistance remotely. Maintaining a physical presence at a number of conferences, WeGO is able to network with local representatives and provide a greater chance for their member cities to succeed with e-Government initiatives.



Figure 5-12. e-Government Training through Webinar

Source: <http://www.we-gov.org/WeGO>

Asia Regional Office

Since its establishment in 2013, the Asia Regional Office (ARO) of WeGO has conducted two training programs for WeGO members and non-members with respect to ways of e-Government development. The first program in May 2014 introduced attendees to the e-Government programs utilized by Chengdu as well as an adoptable framework for the digital smart city system. The second program in July 2015 invited a larger contingent of WeGO member cities (5 instead of 2) and non-members (a contingent 20, up from 15 in 2014). Information security topics were a major focus of the 2015 program.

Europe Regional Office

The Europe Regional Office (ERO) of WeGO was officially opened at the international IT Exhibition CEBiT in Hannover, Germany in 2014. The ERO annually co-organizes in cooperation with multiple stakeholder large IT conferences, such as Stachka! (“Strike!”) and “Ulcamp”, providing attendees with information concerning the organization and connecting with government and private sector representatives as well as increasing collaboration between IT representatives from Russia and neighboring countries. Webinars are also regularly conducted by the ERO and those held in 2014-2015 focused on how the Ulyanovsk

Region has increased the transparency of government in a variety of areas including public utilities and healthcare through its open data policies.

3.7. WeGO AWARDS: EFFECT 6

The WeGO Awards is an international e-Government competition that culminates with the Awards Ceremony held in conjunction with the WeGO General Assembly. The inaugural WeGO Awards began in 2012, when 47 applications were received; a second Ceremony received 68 applications, while the organization will hold its 3rd ceremony in 2017. More than just an awards ceremony, the WeGO Awards is a testament to WeGO's commitment to finding the best e-Government practices around the world and sharing them with its members. WeGO members and non-member cities wishing to highlight their e-Government achievements on an international scale may join.

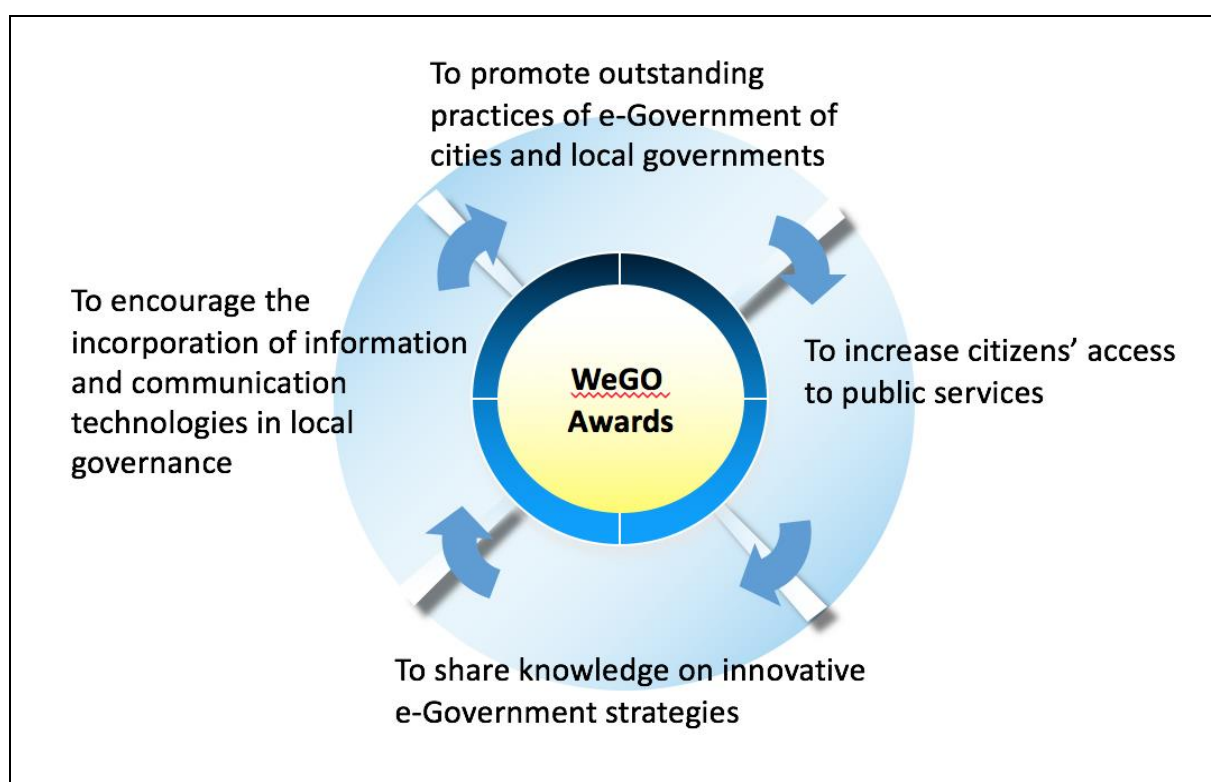


Figure 5-13. WeGO Awards' goal

Source: http://www.we-gov.org/WeGO_Awards

The WeGO Awards aim to encourage outstanding practices of e-Government of municipal governments as well as public organizations and agencies around the world. Through this regular international competition for good evaluation, the WeGO Awards aim to promote the incorporation of ICTs in local governance for the enhancement of government efficiency.

Moreover, the ultimate goal is to increase citizens' access to public sphere and actively share the know-how on creative e-Government adoption strategies.

3.7.1. WEGO AWARDS CATEGORIES

The WeGo Awards are given to outstanding municipalities in terms of e-Government adoption based on five evaluation criteria below (Retrieved from WeGO Awards homepage: http://www.we-gov.org/WeGO_Awards):

Services

- Projects that improve the quality of administrative services and urban competitiveness by allowing citizens to apply for civil requests online.
- Projects that promote effectiveness of public services.
- Projects that provide high quality services to citizens.

Efficiency

- Projects that improve the administrative efficiency by computerizing all the administrative tasks, sharing public information, and promoting comprehensive and real-time management of information and resources.
- Projects that introduce knowledge management to improve administrative efficiency in member cities.

Open City

- Promote civil participation by opening public information in an active manner.
- Projects that improve the level of urban openness by promoting civil participation, administrative transparency, and open data.

Urban Management

- Projects that use the latest technologies to build comprehensive urban management systems for security, mobility, convenience, and environment.
- Projects that promote efficient urban management in security, disaster, transport, safety, environment, energy, welfare, and culture.

Digital Divide

- Projects that use technologies to ensure equal access of citizens to information and communication services, regardless of the gap in income level, age, geographic location, and educational attainment. While the prominence of smartphones has provided reliable Internet access to a considerable portion of the populace historically without internet access, the digital divide framework proposes that a lack of experience online has created separation between parts of a city's populace. Specifically, those that were early adopters of the Internet

are able to easily find information about government resources. Citizens that are novice internet users will have a more difficult time locating government tools online. A related concern comes in the experience available between traditional computer users and those solely accessing government websites on a cellular device. There have been considerable advances in the computing ability of smartphones over the last few years, but many phones are unable to render scripting technologies (e.g. Javascript) that are required to submit requests, pay bills, and conduct activities on e-Government services.

- Projects that care for and ensure the easy access of the marginalized citizens to information are eligible for a WeGO Award.

3.7.2. EVALUATION PROCEDURES

PHASE 1: ONLINE APPLICATION

Individuals and projects wishing to nominate a project for a WeGO Award have to submit a recommendation by the stated deadline. Each project that is submitted for consideration will be checked to determine whether it meets the terms and requirements of the WeGO Awards.

PHASE 2: FIRST ROUND EVALUATION

In the stage of first round evaluation, all the proposals are evaluated by the professional judges based on the five criteria of WeGO Awards above. In terms of the measurement, the judges rate from score 1 (lowest) to 10 score (highest) for the criteria respectably.

The five top-rated submissions in each category will be selected to move into the next phase of the evaluation process.

PHASE 3: SECOND ROUND EVALUATION

In addition to the first round evaluation, all the proposals are opened for the awards voting. Then, the top two proposals with the highest number of votes are selected and determined as the winners of the Best and Outstanding e-Government Prize.

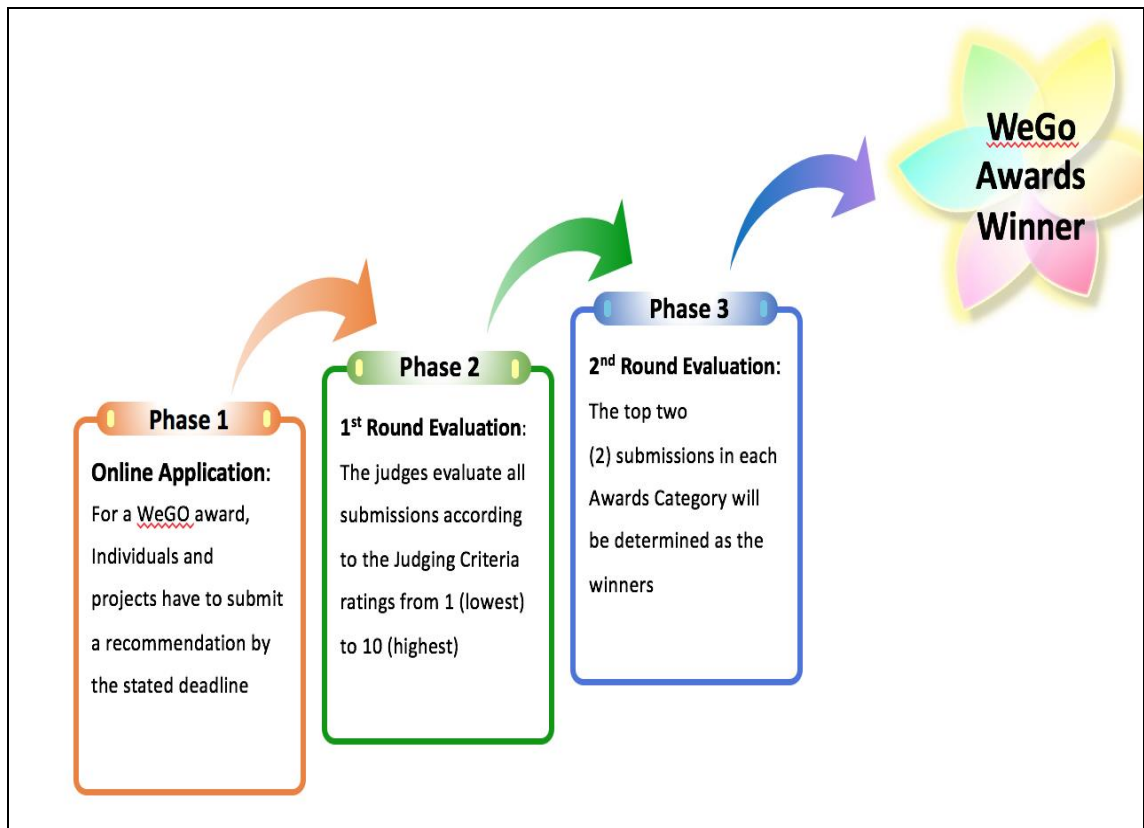


Figure 5-14. WeGO Award evaluation process

Source: http://www.we-gov.org/WeGO_Awards

3.7.3. BENEFITS FOR WEGO AWARDS WINNERS

WeGO specifies further benefits for WeGO Awards on their website as follows ([http://www.we-gov.org/WeGO Awards](http://www.we-gov.org/WeGO_Awards)):

- Winners can obtain international recognition and honors for their work on e-Government. Receiving an award from an international organization lends credence to the organization conducting the program. This validation may lead to an increase in the budget of the group or a further expansion of the scope of the program.
- Winners are widely promoted through WeGO's communication channels, including the WeGO website, e-Newsletter, and Social Networking Sites. Through this publicity function, the successes of WeGO Awards winners may lead to greater amounts of networking. Increasing the amount of connections that an organization has may lead to greater efficiency in their programs through skill sharing. As non-members are eligible to win awards, this publicity can provide some of the benefits that full membership in the WeGO will provide.
- Winners can publicize their achievements at the WeGO Awards on their official documents and websites.

- Winners can share their knowledge and ideas with an international public. Winners and runners-up alike will learn about different projects. This has positive benefits in terms of making new connections, viewing alternative solutions to problems, and understanding the unique qualities that are in place in other areas.

3.8. FUTURE PLAN OF WeGO

In addition to organizing two digital capacity building programs in Seoul and Jeju, and co-organizing the 1st International Forum on Urban Policies for the Sustainable Development Goals in Seoul and facilitating WeGO members' participation in the IoT-oriented Global City Team Challenge Expo in Washington, DC, WeGO is preparing to carry out a number of important activities. The current future goal of WeGO is to solidify the partnership with the International Telecommunications Union (ITU) by managing sessions on smart city-related topics at the 2nd Asia-Pacific Regional Forum on Sustainable Smart Cities and e-Government in Phuket, Thailand.

WeGO's future plans are regularly discussed at the "WeGO Executive Committee Meeting". The meeting is held with 20 WeGO Committee members and stakeholders. In partnership with the World Bank, UCLG ASPAC, UN-Habitat, and UNESCAP, WeGO is planning to actively and substantively participate in Habitat III, the United Nations Conference on Housing and Sustainable Urban Development, which will mark the adoption of the New Urban Agenda, which is pivotal for cities' and local governments' development worldwide. Together with its valuable members, the organization will bolster its presence at the global premier smart city event -- the Smart City Expo World Congress -- in Barcelona, Spain in November 2016 by hosting a WeGO Pavilion and joining the main congress sessions. The year of 2017 is another turning point for WeGO. The 4th WeGO General Assembly will be held in Ulyanovsk Region, Russia, where key agenda items relating to WeGO's organizational management and strategic growth, including the formulation of an updated WeGO Mission and Long-Term Strategic Plan and the creation of a new Corporate Membership Category, are to be discussed and the 3rd WeGO Awards will be highlighted. Apart from that, WeGO will continue running its regular programs, pursuing joint collaboration with the UN, the World Bank, ITU, ADB, and others, providing knowledge-sharing platforms, and conducting a number of research projects.

WeGO is led by the SMG and pursues the sustainable development through exchange between WeGO member cities and mutual e-Government cooperation among cities around the world since the SMG officially launched in 2010.



Figure 5-15. Master Plan for Global Digital Seoul 2020

The City of Seoul announced a master plan to suggest a long term vision for the digital side of Seoul on February 23, 2016. The ultimate direction of the Digital Seoul program is influenced by citizen stakeholders, alongside representatives of interests throughout the world.

One of the major visions is for the city of Seoul to lead the world in implementation of e-Governance institutions and for the Digital Seoul to be utilized as a framework for countries around the world. Seoul city continues to share this excellent digital experience with the world through WeGO.

The positive experience that member cities have with WeGO consistently bolsters Seoul's global status and leadership. In addition, Seoul entirely supports WeGO to enlarge the exchange of cooperation with international organization, with a goal of linking digital technologies and e-Government service provision throughout the world.

4. CHALLENGES AND OPPORTUNITIES

ANALYSIS OF WeGO'S INFLUENCE AND SUGGESTIONS FOR THE FUTURE

The presence of WeGO has increased the amount of e-Government policies and the overall quality of these policies in and beyond the organization's membership rolls. A focus on providing consultants on the ground and creating policies that reflect the nuances of each city ensures that cities are able to better connect citizens with the services that they require utilizing methods that address digital divide concerns.

4.1. ANALYSIS OF WeGO'S INFLUENCE OF AND SUGGESTION FOR THE FUTURE

The policies of the SMG have placed the city at the forefront of e-Government service provision. As a leader in the creation and evaluation of e-Government policies, Seoul holds an unparalleled educational position. A number of these policies, including Seoul's Big Data-based Administration and Mobile Voting App, can be modified and adopted to the member cities of WeGO. While the influence of WeGO is large amongst cities in the developing world, the organization has not made many inroads amongst cities in the developed world.

The organization experiences a number of barriers to increase enrollment by cities in the developed world, but there are steps that WeGO can take to address these concerns. Increasing the number of regional offices to better cover the developing world (e.g. establishing offices in Africa and Latin America) would provide confidence to WeGO members and non-member cities alike that e-Government policies that are offered by the organization will increase the overall efficiency of service provision in administrator's own cities.

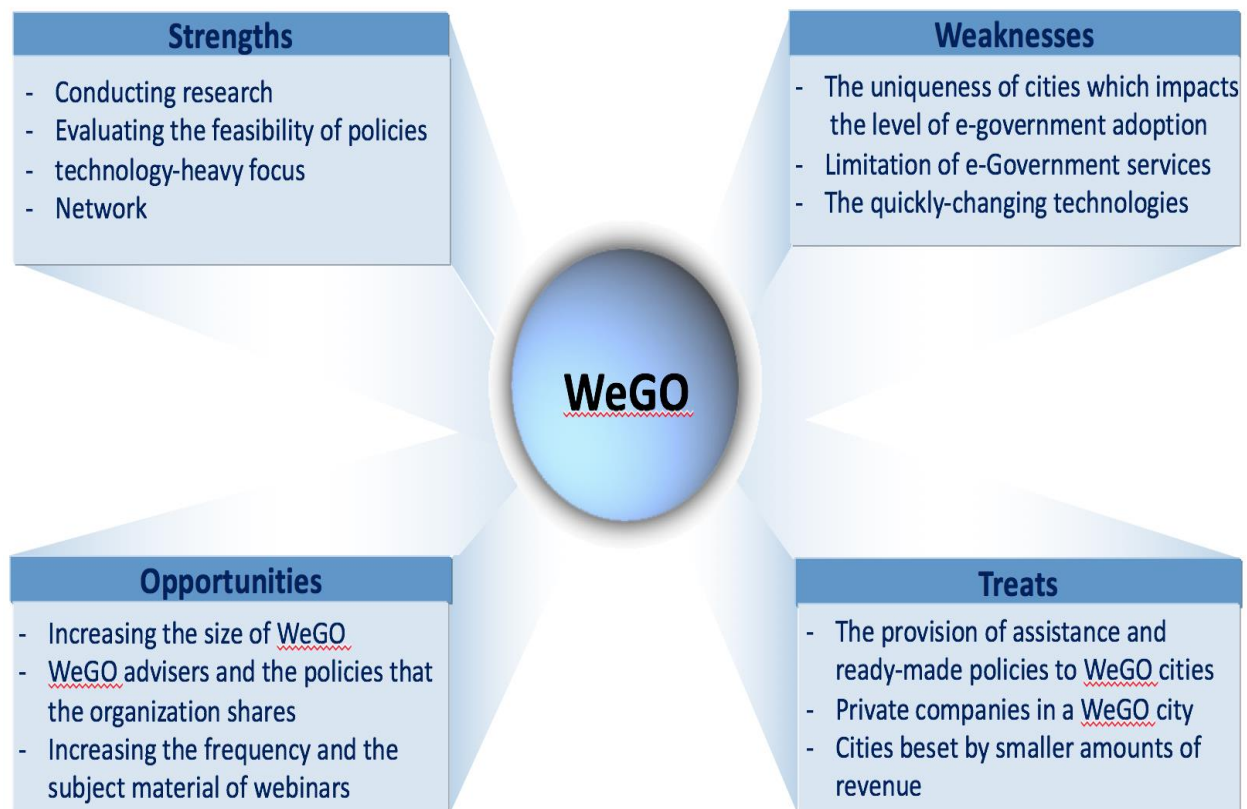


Figure 5-16. WeGO SWOT Analysis

Strengths

The biggest strength of WeGO comes in the maturity of the programs that the organization recommends. The SMG conducted research and evaluated the feasibility of policies,

removing options that were not practical. After policies were adopted, SMG has continued to collect data which is available to member cities. Utilizing this data, WeGO member cities are able to address implementation concerns with their own programs in a fashion that the SMG was unable to foresee. The presence of the Asia and Europe Regional Offices allow for member cities to receive targeted assistance that will increase the chance that plans they adopt from the organization will be established successfully in their area.

The technology-heavy focus of WeGO means that members can learn about innovations and receive assistance remotely. Maintaining a physical presence at a number of conferences, WeGO is able to network with local representatives and provide a greater chance for their member cities to succeed with e-Government initiatives.

Weaknesses

The availability of smartphones and internet-capable technologies allows a considerable portion of citizens in the developing world to access the internet. While this is a starting point, the mere presence of a connected citizenry does not translate to a government that will readily adopt e-Government solutions.

The political culture of cities impacts the level of e-Government adoption and the progress cities will have in utilizing these technologies. Digital divide concerns may represent a limitation to success utilization of e-Government services by a citizenry, but another importance concern is how individuals conceptualize the process by which services are received. Political culture concerns are particularly relevant at the early stages of e-Government adoption.

While WeGO invites collaborators to facilitate the adoption of policies similar to those enacted in the SMG by member cities, each city possesses idiosyncrasies. These unique factors (e.g. demographic, structural, and environment concerns) increase the uncertainty that new policies will be as effective when adopted by further cities.

Another issue of concern surrounds the quickly-changing technologies that are utilized in the design, maintenance, and replacing of e-Government services. When adopting technologies on a lagged basis, member cities benefit from a decreased cost in research and development but may suffer in the quality of the services that are provided to citizens if more efficient technologies are adopted in the interim.

WeGO collects exemplary cases of policy models by international organizations, becoming a noticeable example to other municipalities. However, adopting the suggestions of WeGO is of relatively smaller use to more technologically advanced cities as the organization is narrowly focused on undeveloped cities.

For WeGO membership to be perceived as of great import by more developed municipalities, the organization should partner with representatives of highly-developed cities (e.g. New

York City, Geneva), which would be able to provide education to members that have e-Government programs implemented to a degree better than Seoul.

While WeGO has opened regional offices in Asia and in Europe, the organization has not established a regional office in Africa. Cities on the African continent have a wide variety of experiences, but with 24 full members of WeGO in Africa, a regional organization in these areas would allow for distinct policies to be established which would fit member cities in the area better than policies created in Chengdu or in the Ulyanovsk region.

Opportunities

Increasing the size of WeGO further strengthens the possibility that organizations and program administrators will be able to network. Through the promotion of best practices, WeGO makes it easier for leaders in member cities to find an example that has a better chance of working for their unique set of qualities.

Citizens in member cities may not have the patience or the ability to contribute funds a number of times to an e-Government program, and may be turned off from desiring e-Government services if the resulting program fails to materialize or does not provide benefits to the degree that citizens desire. Through WeGO advisers and the policies that the organization shares, WeGO provides individual members with a greater chance to succeed.

Further expansions to the services that WeGO offers can benefit cities at all stages of development. The organization makes sufficient uses of best policies and traditional online services including newsletters and forums, but greater adoption of Web 2.0 tools for member use will facilitate networking between members. Increasing the frequency and the subject material of webinars will increase the organization's overall visibility and provide member cities with greater knowledge about new e-Government tools and measurement analytics. Bolstering the number of seminars held remotely would allow a greater number of WeGO members the ability to express their interests.

Threats

There are threats that may arise from the provision of assistance and ready-made policies to WeGO cities. By making services more efficient (allowing companies to receive licensure online, decreasing average fuel costs through a shift to online billing), private companies in a WeGO member city may provide services cheaper than those in WeGO member cities that are not as far along in the policy adoption. While the goals of WeGO are to facilitate greater networking among cities, the failure of businesses in member municipalities may lead to greater instability in these cities. As individuals and companies pay taxes to the city government, the reduction in these funds due to the failure of firms can lead to negative externalities.

Cities beset by smaller amounts of revenue may decrease funding to e-Government programs or close them outright. While the importance of e-Government services are undeniable, there is a chance that administrators will maintain funding levels for objectives that have a more tangible component (e.g social welfare, road maintenance, water purification).

The experience of SMG indicates that the government is familiar with improving confidence to international markets, which helps policy-makers in other WeGO member cities decide whether they adopt any of the policies that the SMG proposes.

5. CONCLUSION

WeGO is an organization that has helped various cities implement e-Government programs since its founding. The attempt of the organization to standardize the process by which city governments move from offline to online service provision allows cities at early stages of development a blueprint by which they can move towards a full complement of e-Government services.

The presence of governance institutions, regional offices and an awards ceremony increases the level of involvement by WeGO member cities and increases the overall visibility of the organization's activities. The eGovFrame and CeDS technologies offered to WeGO member cities allows for greater collaboration between a city's leadership and technical advisors, representing a considerably different experience for developing cities when compared to other international organizations, which may offer a top-down program or conditional loans. The work done by WeGO to this point has been generally positive, but the organization must continue to increase its reach to continue to remain successful.

WeGO works with city governments that are looking to adopt e-Government tools or increase the utility of the applications that are active. To further the organization's stated aims to bolster the prevalence of e-Government service provision through the world, WeGO must work with local organizations to inform local populations about the versatility of e-Government tools. While there is a tendency for cities to have a static website with information concerning licensure and the contact information for mayors and local officials, this represents the furthest that many cities achieve when it comes to providing online services to their citizens.

By establishing programs in cities to educate populations about e-Government and the benefits that these tools can provide, WeGO would do as much for promoting the e-Government cause as the webinars and conferences that the organization offers. Previous WeGO work has focused on those stakeholders that are familiar with e-Government institutions; future work by the organization must increase to those cities and areas that have not conceptualized these tools as essential.

The best practices of the SMG are important to cities that have not successfully implemented e-Government programs to any substantial degree, but are of considerably less value to cities that have progressed further in the functionality of e-Government tools than the SMG.

Along with approaching populations that have not perceived e-Government services as important, WeGO must attempt to bring more developed cities into the fold in the future. The major stumbling block for the organization at this point is making WeGO membership a valuable proposition for developed cities like London, Paris, and New York City. A memorandum of understanding between major cities and WeGO would benefit the organization considerably, as the presence of highly-developed cities in the organization would entice moderately-developed cities to join the organization. With a greater amount of experience in a number of policy areas, a larger WeGO would be better able to provide efficient policies to member cities.

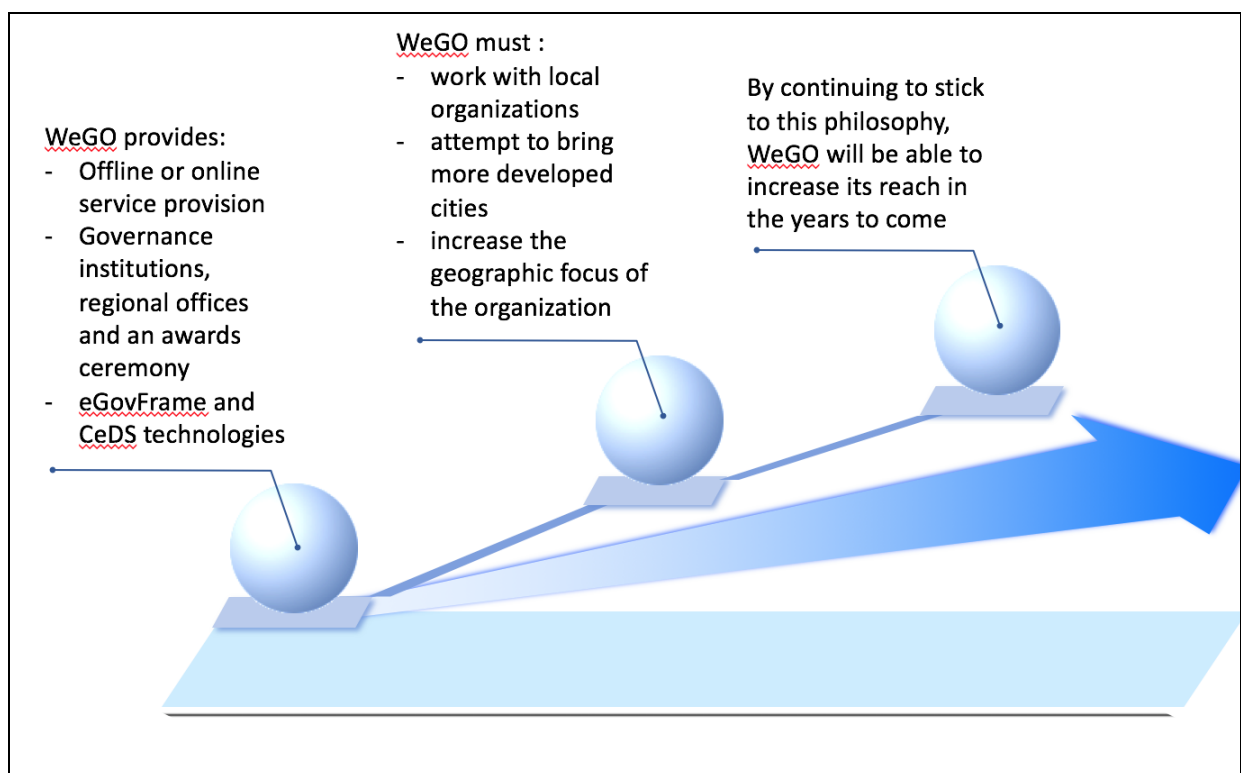


Figure 5-17. Improving WeGO

WeGO must continue to allow stakeholders in member cities the ability to modify and otherwise shape their adoptions of best practices. What worked in Seoul may not work in a WeGO city owing to differences in governance, stakeholders, economic vitality, or a wide number of other factors that are unique to each city. By continuing to involve a city's representatives at the same level as WeGO technical advisors, the organization increases the chance that the policies that they promote will be successfully implemented. The focus on providing WeGO members with skills (e.g. big data and CeDS education) through webinars

and conferences further increases how the organization is perceived by member and non-member cities alike. While the Seoul government has progressed considerably in the adoption of e-Government policies, the orientation of WeGO has been one of equals, all working toward the goal of a better-served citizenry. By continuing to stick to this philosophy, WeGO will be able to increase its reach in the years to come.

The WeGO of the next few years must also increase the geographic focus of the organization. The creation of regional offices in China and Russia allow for greater finesse in terms of the policies that are offered to member cities in the area, but the more Asian focus of the organization may be perceived as a negative for cities in Latin America, Eastern Europe, and Africa. Working towards the creation of additional regional offices in the years to come will increase the member rolls of WeGO as well as allowing for more accurate policies to be offered to member cities in each of these regions. Successful implementation of e-Government programs by these member cities will further increase the authority of WeGO. The presence of a greater number of regional offices could lead to policy specializations by each regional unit; one unit may focus on the creation of public health-specific e-Government services, another may work towards the adoption of tools allowing citizens to make complaints against government officials, and a third may be tasked with establishing systems that allow local contractors to read, inquire about, and submit proposals for public works.

WeGO is an organization that has generally helped stakeholders in a number of member cities successfully adopt e-Government initiatives. The organization has done a tremendous amount of work in fostering the spirit of collaboration between the public and private sectors, along with establishing connections between individuals in a number of different cities. The organization has a bright future and a number of potential paths to further ensuring that WeGO is able to continue providing technical training and evaluation tools for any city willing to establish, monitor, or replace their e-Government systems. In the near future, WeGO must attempt to increase the involvement of developed cities, educate citizens and government officials in those areas without any e-Government processes, and increase the number of regional offices to better serve stakeholders in regions outside of Asia and Europe. WeGO should continue to focus on the same organizational philosophies that have guided the organization through its early years of existence.

Chapter 6

Conclusion

Lessons from the Seoul Metropolitan Government e-Government Study

This study attempts to examine the Seoul Metropolitan Government's consistent efforts in achieving what was once only possible on the design board. The study has shown that service innovations as the result of e-Government can evidently be put to various uses.

Under the principle of transparency, sharing and communication, the SMG has shown that e-Government can gradually lead to new service concepts, new channels of communication and new service delivery system, and sometimes even to the creation of new public services. In essence, what the government is trying to achieve is to revolutionize the current service delivery systems so that values are created during the interaction between the government and its citizens. The vision encapsulated in the Global Digital Seoul 2020 attempts to shift the e-government development model from that of citizen-oriented to that of citizen-led development in all arrays of the government provided services. When citizens are allowed to participate in the decision-making process, not only is democracy ensured but also create new social values. Not only that, efficiency is increased from the synergy among the stakeholders, thereby improving productivity and even increasing citizen satisfaction. The SMG's e-Government policy has set out to achieve just that.

Despite the rapid growth of e-Government study, few studies have approached the matter from a practical viewpoint of policy recipient in terms of applicability and attainability. In this vein, this study examines the SMG's exemplary e-Government policies and looks at the main characteristics that make the Seoul case so powerful. In sum, this study has found that the SMG's e-governance initiatives are designed to provide better and more timely public service contents to all citizens from different socioeconomic backgrounds, open diverse communication channels with its citizens to address declining public trust towards governments, and engage citizens and empower communities through participation and knowledge sharing. The seven exemplary cases selected have illustrated the essential components of responsive e-Governance for implementing the innovative public

administration efforts during all phases of information technology development and social growth.

The reasons behind this phenomenon are subject to future academic research. However, what is undeniable is that through the integration of infrastructure and technology-mediated services, citizens are actively participating in the public policy making process and there has been huge social learning in the process, in terms of civic duty and civil rights, and governments are actively pursuing reforms to keep up with the progress, thereby bringing about further institutional improvement. More specifically, the integration of public services and technology through e-Government has not only improved the delivery of government services, but improved governance and the institutional framework, and has ultimately led to the creation of sustainable value for the citizens, City Government employees, and other stakeholders.

As seen in the Global Digital Seoul 2020, the SMG seems quite accurate in reading the mega-trends of the digital technology era, as it prepares itself with the necessary tools to analyze Big Data, finalize GIS infrastructure set-up and open up mobile-based information communication provisions for the public. In addition, in 2014, the SMG has collaborated with the World Bank and the Export-Import Bank of Korea to policy export the Seoul's Smart Complaint System to the City of Bombay. With the creation of WeGO in 2010, the SMG has been at the center of an international cooperation effort to improve e-government and share knowledge with other international cities to reduce gaps between haves and have-nots in the digital divide. There is no arguing that the improvement of digital information capacity would lead to sustainable development and improved efficiency and effectiveness of public administration. The various consulting and tools-set services that WeGO provides, including the Annual WeGO Awards, will become an international forum where cities and municipalities can share knowledge and experience with each other to upgrade their e-government capacities.

In sum, in order to emulate Seoul's e-Government policies, potential cities need to keep in mind that sustainable services mentioned in this study require all parties to actively partake in the innovation. The government needs to come up with better incentive systems to motivate not only the citizens to participate but also the public employees to engage in the e-Government reform campaign. For example, the success of Seoul's ETAX system and the Open Tax Court required the support and active participation of the local tax administrators and their staffs to facilitate the hearings and public discourse of tax reform measures.

However, this study also reveals the obstacles and the shortcomings of e-Government in the Seoul case. Despite the fact that centralized-comprehensive approach in developing e-Government was effective in launching the project in its initial stages, the huge dependence on government-led initiatives has practically left individual private actors clueless as to how to contribute to the overall city's development efforts. Therefore, the SMG and other governments alike need to strike an appropriate balance between centralized governance and market-oriented partnerships to allow various actors to contribute to service improvement and sustainable value creation efforts, and accelerate the rate of reform within the cities. It is recommendable that other cities consider this option at the early stage of their e-Government development venture.

Lastly, decision makers and policy advisors need to keep in mind that e-Government is not a panacea of all socio-economic problems. The governments still need to take into account the various social issues, including the lasting problem of the digital divide between different regions and generations, and need to physically engage all stakeholders to come up with a comprehensive strategy that reinforces effective coordination and management in dealing with the social-economic problems. That does not mean that e-Government is merely a technological tool for governance. Rather, it is a platform to instigate further engagement from all citizens, also to provide an easily assessable platform for all participants to deliberate and engage in active discussion. Only then can cities and local governments achieve what they have planned to achieve through e-Government. This study hopes to pass these useful insights to managers all across the world and to provide a point of comparison to guide other cities in the planning and implementing of e-Government policies.

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