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KOREAN E-GOVERNMENT IN A SOCIAL MEDIA ENVIRONMENT

Prospects and challenges

M. Jae Moon

Introduction

E-government has been one of the most compelling and fast-growing areas in public administration in the last two decades. New information and communication technologies (ICTs), such as Internet and mobile communication technologies, have been widely introduced to improve the quality of internal administrative operations as well as public service delivery. With the continued advancement of ICTs and the evolution of e-government, many scholars have attempted to define the locus and focus of e-government studies in the discipline of public administration. In fact, increasing number of e-government studies began to appear in both general public administration journals and specialist journals after the Internet was developed and applied in the public sector.

With the advent of the Internet, the concept of e-government began to emerge and continued to improve the efficiency of internal administration as well as external online services for citizens. Recently, e-government has evolved thanks to the advancement and diffusion of social media, which enables ordinary citizens to share more information among themselves and interact actively with governments. The nature and scope of e-government has recently shifted to e-governance with the continued development of web 2.0 technologies (i.e. social media, tagging, mash-up, and RSS). Thanks to these technologies, e-governance or e-government 2.0 tends to emphasize information sharing, openness, connectivity, and interactivity. Web 2.0 technologies also offer citizens more opportunities to be part of the coproduction of public services because they not only enable participation in policy decision-making processes but also the co-production of public services.

Recently, Korea has been recognized as an exemplary country which has actively promoted e-government by establishing information infrastructure and introducing front- and back-office applications for ICTs in the public sector, based on strategically-planned roadmaps for national informatization and e-government. Korea developed its National Informatization Initiative in 1994 and actively pursued the effective establishment of information infrastructure, administrative informatization as well as the provision of e-government services. Korea ranked at the first place in the 2010, 2012, and 2014 UN e-Government Surveys, and the Korean government is actively searching for new ways to apply web 2.0 technologies. As social media spreads in
Korea, the government has begun to recognize its impact as an important communication channel.

This chapter first briefly reviews the current status of e-government studies in the discipline of public administration. Then we survey the background of the establishment of ICT infrastructure and Korean e-government. Examining the scope and nature of web 2.0 technologies, the chapter will also study the evolution of Korean e-government and its development in the social media environment. The strengths and weaknesses, as well as prospects and challenges of Korean e-government will be discussed. Some policy recommendations will also be offered.

The evolution of e-government and e-government studies

ICT has the potential to improve the quality of government (QoG) and empower citizens. It helps make governments more efficient, effective, transparent, and accountable by reengineering administrative processes, improving public service delivery, and promoting citizen engagement and participation in policy-making processes. In addition, to reap the economic benefits of ICT, many countries have actively introduced ICT to transform the public sector in both front- and back-office operations. By digitizing administrative procedures and providing public information and services to citizens via the Internet, E-government makes governments not only more efficient and effective but also more accountable and transparent.

E-government has evolved through a number of stages, from emerging stage, interaction stage, transaction stage, and transformation stage, or seamless integration stage (United Nations 2010; Moon 2002). Many countries are offering more online government services to citizens and businesses, including developing economies. The emerging stage refers to one-way communication based on the presence of a government website. E-government is limited, functioning simply as an e-brochure that provides public information to citizens, government officials and businesses. In the interaction stage, governments are equipped to interact and communicate with citizens and other social actors. In the transaction stage, governments provide citizens and businesses with various online services such as e-tax, e-procurement, e-licensing, and other systems. The last stage is the seamless integration or transformation stage, where many related online services and databases are integrated vertically and horizontally.

For example, the Korean government established the Social Welfare Integrated Management Network System to improve the efficiency and quality of social security administration, by integrating 16 social welfare service institutions and 17 other public agencies. This system allows the government to prevent duplicate benefit payments, fraud, and incorrect payments, as well as to effectively manage eligibility and benefit history information by integrating 31 different kinds of public data, including residency, land, finance, tax, and welfare.

Anderson (2009) provides empirical evidence of a positive association between e-government development and reducing corruption. It has also been found that citizens’ use of e-government helps restore and improve trust in government, as the provision of information improves citizens’ perceptions of the efficiency, transparency, and effectiveness of government and enhances their sense of participation and empowerment (Tolbert and Mossberger 2006; Welch et al. 2005).

Arguably, the origin of e-government studies traces back to various studies on the impact of computers on public organizations, when mainframe or personal computers were introduced to the public sector. The primary focus was to improve time and cost efficiencies in producing, processing and storing public data such as censuses, budget and payroll data. More recent and narrowly defined e-government studies began to be conducted after the Internet was developed.
Table 33.1 Three competing approaches of IT/e-government articles

<table>
<thead>
<tr>
<th>Phase</th>
<th>Managerial Approach</th>
<th>Political Approach</th>
<th>Legal Approach</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase III</td>
<td>83(15) (61.5%)</td>
<td>47(18) (34.8%)</td>
<td>5(5) (3.7%)</td>
<td>135(38)/116</td>
</tr>
<tr>
<td>(1996–2010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase II</td>
<td>84(7) (81.5%)</td>
<td>15(7) (14.6%)</td>
<td>4(2) (3.9%)</td>
<td>103(16)/95</td>
</tr>
<tr>
<td>Phase I</td>
<td>23(1) (79.3%)</td>
<td>4(1) (13.8%)</td>
<td>2 (6.9%)</td>
<td>29(2)/28</td>
</tr>
<tr>
<td>(1965–1979)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (%)</td>
<td>190(23) (71.7%)</td>
<td>66(26) (24.7%)</td>
<td>11(7) (4.1%)</td>
<td>267(56)/239</td>
</tr>
</tbody>
</table>

Source: Modified from Moon et al. (2014)

Note: The articles examined here are the ones published in six selected public administration journals including Public Administration Review, Administration and Society, Journal of Public Administration Research and Theory, Public Performance and Management Review, American Review of Public Administration, and Public Administration Quarterly. The total number of articles relevant to IT applications and e-government studies is 239 (seven articles on IT curriculum and two review and prospect papers are not included). In the last column, 56 is the number of themes counted twice because 28 articles have two themes (e.g., managerial and political). Thus, the number of themes (267) is equal to the total number of articles (239) plus the number of articles with two themes (28).

The study showed that the number of IT applications and e-government studies increased from 28 in Phase I (1965–1979) to 101 in Phase II (1980–1995) and 119 in Phase III (1996–2010). The proportion of IT applications and e-government studies to the total number of published articles in the selected journals also grew from 1.8 per cent in Phase I to 3.6 per cent in Phase II. The growth is noteworthy given the fact that specialized e-government journals began to become major outlets for e-government studies in the mid-1990s. As Table 33.1 (above) summarizes, the study also found that the majority of IT application and e-government studies (about 80 per cent) in earlier phases largely took a managerial approach to the impact of ICT applications on the efficiency and effectiveness of public organizations. However, an increasing number of studies have begun to take a political approach and pay attention to responsiveness, participation, representativeness and accountability.

**Background sketch of evolution of Korea e-government**

The development of Korean e-government4 traces back to the late 1970s when the government introduced the First National Computerization Project (1978–1982). The Second National Computerization Project (1983–1986) computerized conventional administrative works in government agencies. The two National Computerization Projects later evolved into the National Computer Network Projects, which began in 1987. Promoting computer networks among central agencies and between local and central governments, the First National Computer Network Project identified major public records (i.e., residence, real estate, employment, vehicle registration, custom services, and economic statistics management) and laid the

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4 Moon et al. (2014)
groundwork for the establishment of a nation-wide computer network system for their management. The Second National Computer Network Project (1992–1996) enhanced the utility of the administrative computer system to increase administrative efficiency and public service quality. In the meantime, in 1994 the government established the Ministry of Information and Communication and launched the Korea Information Infrastructure (KII) Plan. In 1996, the government developed the Master Plan for National Informatization Promotion, which aimed to achieve world-class informatization by 2010. The government implemented various projects (i.e., Cyber Korea 21, e-Korea Vision 2006, Broadband IT Korea Vision 2007, and u-Korea), and the plan was followed by the Master Plan for National Informatization Promotion in 2008, which continues to the present day.

Despite this long history, the current status of Korean e-government arguably originated from the vision proposed by the Kim Dae Jung administration in 1998. It proposed a national e-government plan of 18 specific projects in six major areas. The six major areas include the realization of public-oriented government services, business process reengineering for administrative efficiency, the promotion of information sharing among agencies, upgrading government information infrastructure, the enhancement of public officials’ ICT skills, and improving legal and institutional arrangements.

In 2001, the Korean government launched the Special Presidential Committee for E-government to plan, promote, and effectively implement e-government projects, including: G2C (Government to Citizens), G2B (Government to Business), G2G (Government to Government) and information infrastructure projects. The Committee highlighted 11 major presidential projects and monitored their progress closely: (1) a single portal for e-government; (2) an integrated information system for four social insurance systems; (3) an integrated e-procurement system; (4) an online tax system; (5) a financial information management system; (6) a local government information system; (7) an education management information; (8) a public personnel information system; (9) an online report and digital document management system; (10) a digital signature system; and (11) an integrated management information system. The 11 core projects were further developed into 31 specific projects belonging to one of four targeted areas including: business process reengineering, public service delivery, information resource management, and legal changes. These continued to advance in the Roh Mu-Hyun administration.

**Main drivers in Korean e-government**

There is a consensus that strong leadership, inter-agency collaboration, IT governance, and IT infrastructure advance Korean e-government. The Korean government pursued e-government projects through a centralized governance structure, in which the Special Presidential E-Government Committee worked with other related public agencies. Historically, Korean e-Government governance was led by committees in public institutions that coordinates related public agencies. Table 33.2 summarizes the leading organizations that drove e-government projects at different stages.

Currently, e-government governance includes various public organizations, including the Presidential Council for Information Society (PCIS), the Ministry of Government and Home Affairs (MOGAHA), and the National Informatization Agency (NIA). The PCIS (later changed to the Information and Communication Strategy Council chaired by the Prime Minister) reviews and provides the overall direction of Korean e-government while MOGAHA is the leading cabinet-level agency that makes related policy decisions. NIA is a government-affiliated research and policy institution under the supervision of the Ministry of Science, ICT, and the Future, which manages technical support and e-government projects. Different public agencies
Table 33.2 The stages of e-government development

<table>
<thead>
<tr>
<th>Stage</th>
<th>Beginning Year</th>
<th>Main Actors</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computerization Stage</td>
<td>1978</td>
<td>Computerization Promotion Committee</td>
<td>Computerization</td>
</tr>
<tr>
<td>Infrastructure Preparation Stage</td>
<td>1987</td>
<td>Information Network Coordination Committee</td>
<td>Establishment of Information Infra Networks</td>
</tr>
<tr>
<td>Infrastructure Founding Stage</td>
<td>1995</td>
<td>Informatization Promotion Committee</td>
<td>Super Information Highway</td>
</tr>
<tr>
<td>E-government Initiation</td>
<td>2001</td>
<td>Special Presidential Committee for E-government</td>
<td>11 Major E-government Projects</td>
</tr>
<tr>
<td>Implementation Stage</td>
<td>2003</td>
<td>E-government Sub Committee</td>
<td>31 major E-government Projects</td>
</tr>
<tr>
<td>Maturation Stage</td>
<td>2009</td>
<td>Presidential Council for Information Society</td>
<td>Coordination and Management of Informatization</td>
</tr>
</tbody>
</table>

Source: Modified from Internal Report, MOPAS (2012.2)

and local governments are also supposed to appoint a Chief Information Officer (CIO) in charge of e-government projects.

The budget has increased to develop new e-government systems as well as maintain existing systems. The budget increased from 23 billion Won in 2003 to 288 billion Won in 2007 (MOPAS 2012). This is more than a 12-fold growth in five years. However, the growth rate began to decrease after 2008 because governments began to slow down the development of new e-government systems, in order to focus on maintaining existing ones.

In the early stages, the government made investments in national information network construction. Between 1993 and 2004, the Ministry of Information and Telecommunication used the Informatization Promotion Fund for 11 major e-government projects. It was established under the 1995 Framework Act of National Informatization to support the foundation of ICT industry, ICT infrastructure, e-government, etc. The fund succeeded the National Informatization Support Fund (1993–1995), which was established based on the Act of ICT Research and Development of 1992. The Promotion Fund was established with contributions from the government (about 40 per cent), private telecommunication companies (45 per cent) and other miscellaneous sources (14 per cent), and it became an important financial resource for various initiatives, including e-government projects. The Fund was used to implement the Master Plan for Informatization Promotion (1996), Cyber Korea 21 (1999–2002), and u-Korea (2006–2010). The National Informatization Promotion Fund along with annually appropriated budget also made great contributions to the establishment of initial infrastructure, the ICT business environment and R&D. However, unlike the latter, the government was able to use the fund more flexibly and strategically. For example, the government spent USD 5.33 billion between 1994 and 2003 for ICT R&D (38 per cent), informatization promotion (20 per cent), ICT human resource development (18 per cent), broadband infrastructure and promotion (15.1 per cent), infrastructure for ICT industry (7 per cent) and standardization (3 per cent) (Suh and Chen 2007). The fund was renamed the Information and Communication Fund in 2004 and continued to play critical roles in the initial establishment of Korean informatization and e-government projects in the 1990s and 2000s.
The current status of Korean e-government

With its strong governance and leadership along with strategic plans and allocation of financial resources, Korea has rapidly advanced its e-government development. The country was ranked first in the 2010, 2012, and 2014 United Nations E-government Surveys, as shown in Table 33.3.

Many Korean e-government services have been internationally recognized for their quality. They include KISS (Korean Immigration Service System), KONEPs (Korean National E-procurement System), HTS (Home Tax Systems), uTradeHub (Korea’s National Paperless Trade Platform), KIPOnet (Korean Patent Online System), and UNIPASS (Online Custom Service).

Under the Park Geun Hye administration, the Korean government recently took the Korean 3.0 Initiative, which pursues transparent government, enabled government, and service-oriented government based on openness, information sharing, communication, and collaboration. The government implements the initiative as an extension of e-government in a sense that many of the Government 3.0 projects are ICT-based. The government is aggressive in opening public data to citizens and businesses not only to satisfy the right to know but also to promote public data-based enterprises. The government also tries to lower the walls among different agencies and units by promoting collaborative and information sharing systems in the public sector. The government actively searches various solutions to provide more online public services and promote online citizen participation in policy-making processes. In addition, the government attempts to find ICT-based solutions to various public problems by using new technologies including cloud computing technologies, Internet of Things (IoT), social media, and big data.

Advancement of Web 2.0 technologies and social media

This section summarizes and reviews the major characteristics of web 2.0 technologies. Since the term web 2.0 was first coined by Tim O’Reilly in 2005, web 2.0 technologies have begun to be widely used by many students and practitioners. Web 2.0 technologies include various ICT technologies such as mash-up, tagging, and RSS (Really Simple Syndication). Mash-up refers to technology used to collect relevant information for particular purposes while RSS technology helps to simultaneously update relevant information for subscribers. These

<table>
<thead>
<tr>
<th>Rank</th>
<th>2014</th>
<th>2012</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Korea</td>
<td>Korea</td>
<td>Korea</td>
</tr>
<tr>
<td>2</td>
<td>Australia</td>
<td>Netherlands</td>
<td>USA</td>
</tr>
<tr>
<td>3</td>
<td>Singapore</td>
<td>UK</td>
<td>Canada</td>
</tr>
<tr>
<td>4</td>
<td>France</td>
<td>Denmark</td>
<td>UK</td>
</tr>
<tr>
<td>5</td>
<td>Netherlands</td>
<td>USA</td>
<td>Netherlands</td>
</tr>
<tr>
<td>6</td>
<td>Japan</td>
<td>France</td>
<td>Norway</td>
</tr>
<tr>
<td>7</td>
<td>USA</td>
<td>Sweden</td>
<td>Denmark</td>
</tr>
<tr>
<td>8</td>
<td>UK</td>
<td>Norway</td>
<td>Australia</td>
</tr>
<tr>
<td>9</td>
<td>New Zealand</td>
<td>Finland</td>
<td>Spain</td>
</tr>
<tr>
<td>10</td>
<td>Finland</td>
<td>Singapore</td>
<td>France</td>
</tr>
</tbody>
</table>

technologies promote collective intelligence, participation, information sharing, long-tail customization, the role of prosumers (combination of producers and consumers), collaboration, openness, and user convenience.

A study (2010) conducted by the Pew Research Center indicates that 66 per cent of Internet users visit social networking sites. Interestingly, women are more social media users than men while (as expected) the younger generation is more active in using social media. This raises the important question of how social media affects the participation of different socio-economic groups.

The emergence and development of web 2.0 technologies enable governments to take advantage of collective intelligence, information sharing, openness and participation, and personalized e-government services (Lee 2007). Di Maio (2009) suggested that e-government continues to socialize and commoditize government services, processes, and data. Di Maio also believes that web 2.0 technologies and social media will make e-government more citizen-driven, employee-centric, continuously evolving, transformational, and interactive.

In an era of web 2.0 technologies and social media, e-government puts more emphasis on the quality of citizen participation, responsiveness, interactivity, and engagement. This suggests that its key feature is providing citizens with opportunities to create their own content and communicate with government officials and other citizens. Hypothetically, this is easily pursued but it is often not facilitated or promoted by government agencies, thanks to conventional bureaucratic culture. For example, a high school student developed a free bus schedule mobile phone application for the Seoul and surrounding region in 2009. Rather than appreciating and promoting self-initiated content creation, the regional government initially blocked the service; however, the government later reevaluated the application and even encouraged further citizen participation in designing applications.

Responding to the great emergence of social media, the Korean government also began to actively utilize it for citizen communication. The government recognized the importance of social media communication and online public relations, particularly since the rapid diffusion of smartphones after 2009. The first action was taken in 2011, when the Presidential Office (Cheongwadae) introduced a special presidential secretary in charge of online PR and new media applications. The Presidential office even appointed a Chief Online Communicator. A new unit called ‘Online Public Relations’ was established in the Ministry of Culture, Sports and Tourism. To respond to the demand for social media communication, the government established an official application where citizens can connect various social media including Facebook, Twitter, YouTube, Blog, and Me2Day with various government agencies. The Korean government also set its budget for new media applications from about US$20,000 in 2008 to US$200,000 in 2011. The size of the budget is not large; however, it has increased 10 times over the last three years. Park (2012) reported that the performance of SNS applications in government agencies remains very poor, despite the substantial increase in their budget. The utilization of SNS by government agencies is minimal and simply links each agency portal site to public announcements and other related social media. Actual communications with citizens in social media (i.e., tweets, and retweets) is rare. Agencies have poor content that does not draw citizen attention, they lack personnel (18 out of 42 public agencies have less than one member of staff in charge of social media) and several agencies have fewer than 10 tweets in their feeds.

It is interesting to examine recent statistics by the Pew Research Center (2010) on government social media users, defined as those people who use any government social media channels as summarized in Table 33.4. The report indicates that 31 per cent of Internet users are government social media users (counted as those who use at least one of these six activities:
Table 33.4 Government social media users in the US

<table>
<thead>
<tr>
<th>Government Social Media Users</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Watching a video on a government website</td>
<td>15</td>
</tr>
<tr>
<td>2 Receive email alerts from a government agency or official</td>
<td>15</td>
</tr>
<tr>
<td>3 Read blog of government agency or official</td>
<td>13</td>
</tr>
<tr>
<td>4 Follow a government agency on a social networking site</td>
<td>5</td>
</tr>
<tr>
<td>5 Receive text messages from a government agency or official</td>
<td>4</td>
</tr>
<tr>
<td>6 Follow a government agency or official on Twitter</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31%</strong></td>
</tr>
</tbody>
</table>

Source: Pew Research Center (2010)

(9% of social networking site profile owners: 7% of total tweets)

(1) watching a video on a government website; (2) receiving email alerts from a government agency or official; (3) following a government agency on a social networking site; (4) reading the blog of a government agency or official; (5) receiving text messages from a government agency or official; or (6) following a government agency or official on Twitter.

The proportion of those who follow government agency tweets or social media services is limited. Only five per cent of Internet users follow government social networking sites and only two per cent follow government-related Twitter feeds.

Though comparable information is not available for Korea, the proportion of government social media users does not seem to be high. The followers of government social networking sites and Twitter feeds might be as few as mentioned above.

The connectivity of social media with key politicians and opinion leaders seems to be much more active and its impact is greater than with government agencies. This is particularly true when so many politicians actively engage in social media during elections. For example, during the 2011 Seoul mayoral election, the social media connectivity and activities of candidate Park Won-soon was more active and intense than that of rival Na Kyung-won. A report by Twitmix (Chung 2012) suggests a relationship between social media communications and the election results by pointing out the numbers of tweets for Park and Na was 45,962 (54.07 per cent) and 39,034 (45.92 per cent), and the earned votes were 53.4 per cent and 46.2 per cent, respectively. The causal linkage between Twitter communications and earned votes is at best hypothetical; however, the point is still worth further examination in both volume and tone (negative versus positive) of social media communication content.

The impact of social media communication is maximized when a particular issue does not remain local. The Seoul mayoral election received national attention and became a nationally salient issue. Because of the boundless nature of social media, social media might be more powerful in a presidential election than in a general contest, where public attention is distracted by 254 election districts, though the contest between the ruling and opposition parties remains a national issue. This suggests that the impact of social media communication is closely associated with the salience and boundaries of a particular issue.

With the advent of the social media era, governments tend to emphasize openness and transparency because of more available communication channels and the public information demands of citizens. As stressed by the Obama administration, the Open Government Initiative highlights the significance of transparency, online public information revisions, citizen participation in policy-making processes, and collaboration with other agencies.
In addition to enhancing transparency by disclosing public information, citizen participation is also important to the Open Government Initiative. The Obama administration has begun an experimental crowdsourcing initiative, “Challenge.gov”, in which various departments ask for citizens’ help with policy problems. This is an attempt to move problem solving from traditional insourcing (problems solved by government itself) and outsourcing (problems solved by contracted entities) to crowdsourcing (problems solved by the public). Though the experiment itself is not entirely effective at this point, it shows the direction and possibility of crowdsourcing. It can open opportunities for citizens to offer any solution (including the creation of new smartphone applications) by using available public and private information.

Recently the UK government reduced and eliminated red tape using a crowdsourcing approach called “Red Tape Challenge”, which was launched in 2014 as a Cabinet Office initiative. The initiative’s website invites any citizen to openly discuss burdensome regulations. The opinions, comments, and debates on specific rules and regulations are reviewed by related agencies and used as important material for reform. The guiding principle is that the regulations questioned by citizens will be removed or improved unless they are justified by the relevant agencies. A recent report suggests that 3,095 regulations have been removed or improved, while 1,376 regulations have benefited businesses.3

Currently, the Korean government has not adopted a crowdsourcing approach like “Challenge. Gov” or “Red Tape Challenge”. However, there is an active search for citizen participation in policy-making processes and ideas. The number of policy proposals by citizens and public officials has increased, particularly since the mid-2000s. The proposals are often made via an official online proposal website, epeople.go.kr, and are managed by 303 government organizations, including the administrative units of central and local governments as well as public institutions. According to the MOPAS Statistics Yearbook (2012), the number of policy proposals made by citizens increased from 316 in 2001 to 154,168 in 2010. More than 3,209 proposals were actually adopted by the government. The policy proposals by public officials also increased from 22,577 in 2001 to 99,112 in 2010. Though the quantitative growth of policy proposals is quite dramatic, the current system is not a full-fledged crowdsourcing approach. The qualitative improvement in policy proposals and government responses to the proposals is also far from satisfactory. The Korean government needs to continue to introduce more sophisticated crowdsourcing approaches and make its e-government more participatory, collaborative, and open.

Conclusions

The Korean government has been a forerunner in e-government both in back-office and front-office (Korean Immigration Service System) applications of ICT. However, the Korean government faces a new set of e-government challenges in the social media environment, where more openness, interaction, participation, information sharing, and collaboration are demanded. The Korean government recently launched “Government 3.0”, similar to Obama’s Open Government Initiative. While Korea drove e-government successfully in the web 1.0 environment with strong leadership, effective e-government governance, infrastructure, and a technologically savvy population, the success of e-government in the social media and web-friendly 2.0 environment remains in question. E-government 1.0 can be obtained more easily than e-government 2.0 or 3.0, partially because the former can be achieved by establishment of hardware systems. The success of e-government 2.0 and 3.0 relies on software instead of hardware, as well as the quality of communication rather than the quantity of communication.
We have found that the government’s utilization of social media communication is currently limited; in addition, the quality of information and communication in social media is problematic. Public trust in government (public information and government performance) is closely associated with the quality of citizen participation and open government. Whether the success of Korean e-government 1.0 can be extended to 2.0 depends on the degree and quality of social and information connectivity in social media.

To advance to e-government 2.0 in the social media environment, as Ko (2011) has pointed out, the government needs to meet the rising demand of citizens for social media interactivity by conducting empathetic communication with citizens and providing continuous information that is trustworthy and useful. The government also needs to make additional efforts to promote more participatory, trust-based and information-sharing interactions in social media. The government needs to be cautious when it attempts to correct biased, incorrect, and cyber-cascaded information in social media. Unless trust in government is well secured, government actions could be perceived to be unnecessary interventions and an overreaction to social media communications. Both quantity and quality of citizen participation and social and information connectivity based on social media and other web 2.0 technologies will further shape future e-government and make government more open, connected, participatory, and collaborative.

Notes
1 Chung (2015) summarized a brief history of Korean e-government in his recently updated book. This section is written based on the information obtained from Chung’s book entitled The Theory of Electronic Government written in Korean.
2 For more details, see the information found in website for the Government 3.0 Initiative.
3 For more details, see the information found in the website for Red Tape Challenge (www.redtapechallenge.cabinetoffice.gov.uk/about/).

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Korean e-government in a social media environment


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