Reforming Government with Information Technology:
The Korean Style?

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Introduction

The President of South Korea declared on November the 13th of 2002 the official launch of electronic government. Summarizing major changes, South Koreans can process 393 civil applications through the government portal website with the G4C (Government for Citizen) system, and can receive guidance about how to process more than 4000 civil applications, which constitute the total population of civil applications in Korea. With the G2B (Government to Business) system, those firms that want to supply the government with goods and services can go online to receive money, as well as to introduce and sell their products.

The budget for the public sector informatization has increased 23% on average during the past 5 years to result in the implementation of the 11 e-government initiatives. There is no doubt that the e-government program constitutes one of the major initiatives intended to change the government in recent years. However, the ideas of the 11 e-government initiatives were not new at all and had been loitering in the governmental agenda for many years before being implemented. Then, two questions could be raised: What do these e-government initiatives mean for government reform in Korea? How were things worked out to produce those e-government initiatives this time and why couldn't the e-government initiative be implemented earlier?

To answer these questions, this chapter will first describe the development of e-government policy from the era of building the Nation's Five Basic Information Infrastructures until today. It then proceeds to identify major features of the institutional structure and processes of the South Korean informatization policy. Finally, this chapter will investigate underlying forces at the macro, sub-system and micro politics level to produce these characteristics.

The History of E-government Initiatives in South Korea

The Plan for the Nation's Five Basic Computer Networks(NFBCN), established in 1984, can be regarded as the first major initiative for informatizing the government. With the plan, South Korean government tried to build information infrastructures in the areas of public administration, banking industry, education and research, and national defense and police (Moon Suk Ahn, 1999).

The history of informatization policy in South Korea could be divided into three periods, which are the period of centralized informatization (1984-1987), the period of fragmentation (1988-1995), and the period of efforts for coordination and integration (1996-present). The period of centralized informatization is best represented by the Coordination Commission for the Nation's Basic Computer Networks that is chaired by the chief secretary of the President. During the period of centralized informatization in the Fifth Republic, which was established by a military coup, the Coordination Commission was empowered to suspend ministries' jurisdiction over those five areas of computer network infrastructures, and carried out the Plan for the NFBCN in a centralized manner. The Coordination Commission was even able to proceed first with informatization investments without having to pursue clearances from the budget authority to get the budget adjusted later. So to speak, the Coordination Commission chaired by the chief secretary of the President operated above the rule of law in some instances (Ahn 1999, 621). However, as the chairmanship of the Commission was transferred to the president of the National Computerization Agency (1987), and as the Ministry of Post and Telecommunication became in charge of operating the Commission, informatization effort of the Korean government was quickly fragmented among individual ministries and agencies.

During the period of fragmentation, various informatization projects were carried out by each ministry without government-wide priority adjustment. Information sharing among ministries and interoperability of their systems were practically unachievable objectives during that period. Besides, excessive and duplicated IT investments were not hardly seen.

The enactment of Informatization Promotion Act (1995) and the establishment of Information Promotion Committee (1996) in the Prime Minister's office reflect efforts to overcome the fragmentation in government informatization. Table 1 summarizes major events in the South Korean history of informatization policy.

The South Korean government tried to recentralize and enhance the coordination in informatization policy after 1995 as informatization became a policy area of

Table 1   Major Events in the History of Informatization of the Korean Government

Date	Events
Feb. 1984	The Coordination Commission of National Basic Information Infrastucture was established
Dec. 1994	The Ministry of Information and Communication was established
May. 1996	The Informatization Promotion Committee was established
May. 1996	The position of information and telecommunication secretary was established in the Blue House
Oct. 1998	The CIO position was established in every ministry and agency.
Feb. 2001	The Special Commission on E-government Korea was established as an advisory committee for the President
July. 2001	The Act on Promoting Digitization of Administrative Affairs for Building E-government became effective.

Table 2 11 Major Systems for E-government

(unit: hundred million won)

	Project title (ministry in charge)	*Project period*	*Amount of Budget* (2001–2003)	*Contents*
Services for Citizen (G2C & G2B)	Reforming civil application using a single window portal (G4C) (MOGAHA)	2001. 10–2002. 11	296 (Fund*)	• system for utilizing 5 basic DBs (citizen, real estate, automobile, firms, tax) • processing of 400 civil applications and guidance for 4000 civil applications
	Integration of 4 major social insurance systems (social security, health insurance, labor, human resource)	2002. 3–2003. 1	130** (budget: 38) (Fund: 92)	• interoperation of the 4 major social insurance DBs • real time, integrated search service for citizen
	Home Tax System using internet (National Tax Agency)	2001. 1–2003. 3	193 (Fund: 193)	• online processing of tax related transactions for taxpayers
	integrated procurement system for every government organizations (Procurement Agency)	2002. 4–2002. 12	370 (Fund: 370)	• online processing of the entire procurement processes (from goods information to paying) • G2B portal
Improving Government Productivity (G2G)	National Financial Information System (Ministry of Finance and Economy)	2001. 3–2003	288 (budget: 32) (Fund: 256)	• real time management of national finance • Standardized financial information system, EBPP, integrated finance analysis system
	Comprehensive Informatization for Si, Gun, Gu (MOGAHA)	2001. 11–2002. 11	808 (budget: 512) (local budget: 266) (Fund: 30)	• informatization of 11 major public services (10 major services are already informatized) for improved citizen services • interoperating system for Si, Gun, Gu concerning 11 public services
	National Education Administration System (Ministry of Education and Human Resources)	2001. 10–2002. 10	741 (budget:33) (local budget: 408) (Fund: 300)	• education administration system for schools, local and provincial school district offices • comprehensive education administration system
	PPSS (Civil Service Commission)	2002. 4–2002. 11	145 (Budget: 6) (Fund: 139)	• standardized system for personnel management for the central and local governments
	electronic approval, EDI (MOGAHA)	2001. 1–2002. 4	34 (budget: 34)	• management of public document
Building Infrastructure For Electronic Government	electronic signature, electronic official seal (MOGAHA, MIC)	2002. 1–2002. 12	87 (budget:87)	• government-wide certification system for secured interchange of information
	Government-wide Integrated Information Network	2002.1–2002. 12	60 (Fund: 60)	• integrated information network and BPR for government organizations

* Informatization Promotion Fund
** budget for 2002
Source: E-government White Paper 2003, 94

high priority. Once fragmented, however, the undertaking of informatization could not easily be recentralized. Especially, jurisdictional conflicts over large informatization projects were not easily resolved. For instance, the undertaking of building the National Geographic Information System was claimed by the Ministry of Construction and Transportation and the Ministry of Home Affairs. The Intelligent Transportation System was claimed by the Ministry of Construction and Transportation and the National Police Agency (Lee, Yu, and Choi, 1997).

Part of the reason why ministries' jurisdictions over informatization could not be easily reclaimed lay in the facts that informatization increasingly became 'every ministry's business' and that most ministries found opportunities for expanding their 'turfs' in that business (Ahn and Choi, 2000). Jurisdictional conflicts were most easily seen between the Ministry of Information and Communication (MIC) and other functional ministries. Especially, the MIC and the Ministry of Government Administration and Home Affairs (MOGAHA) were in keen competition concerning the jurisdiction over e-government. The Act on Promoting Digitization of Administrative Affairs for Building E-government-henceforth, the E-government Act- that was finally passed in 2001 put the MOGAHA in the front seat while having the MIC play supplementary roles for the undertakings of e-government. However, the original version of the E-government Act as pursued by the MOGAHA was greatly compromised over the course of enactment (Choi, 1998).[1]

Meanwhile, the establishment of the Special Commission on E-government Korea provided a new momentum for inter-ministry e-government projects. Indeed, the Commission managed to build with general success the 11 major e-government systems. Table 2 summaries the 11 e-government systems.

Some Stylized Facts in the South Korean E-government Policy

More than 15 years have passed since the first major governmental computerization effort-i.e., the Plan for the National Five Basic Computer Networks- was initiated. As several informatization programs, such as the Basic Plan for High-speed Information and Communication Infrastructure (1995-current), the 1st Basic Plan for Informatization Promotion (1996–1998), the 2nd Basic Plan for Informatization Promotion (Cyber Korea 21: 1999–2001), and the 3rd Basic Plan for Informatization Promotion (e-Korea Vision 2006: 2002-current), have been established and implemented, some stylized facts have been emerging concerning the Korean e-government policy. These are stylized in the sense that they are recurring and most students in the policy area admit their truth values.

Firstly, e-government programs are normally established to be comprehensive in the sense that virtually all government organizations are supposed to undertake, or involved in, informatization projects. Indeed, every ministry and agency in the central government takes part in the Annual Informatization Promotion Action Plan. The Plan is reported to the Informatization Promotion Committee chaired by the prime minister. Besides, policy priority for informatization of the government is not at all low in comparison with other OECD countries, and the size of informatiza-

tion budget has kept on increasing. The following table summarizes recent increases in informatization budget (Table 3).

Secondly, e-government programs were usually set up and implemented in a fragmented manner in the sense that establishment of government-wide standards were lagging behind and many inter-ministry systems had very hard time being introduced. Inter-ministry coordination was done from time to time by the Blue House, but such coordination is by no means permanently institutionalized. Indeed, many of those e-government projects chosen by the Special Commission on E-government Korea are the ones the necessity of which has been widely recognized, but their actual adoption has been hampered by the lack of policy coordination between competing ministries. For instance, the G4C project was a ground of juris-dictional conflict between the MOGAHA, the MIC, and the Ministry of Planning and Budget.

Thirdly, e-government programs in Korea generally have had a tendency to emphasize better citizen services and operational efficiency as their prime goals. In the same vein, the information systems put in place have mostly been transaction

Table 3 Informatization Budget (1998–2002)

(unit: 100million win, %)

		1998	*1999*	*2000*	*2001*	*2002*	*Sum*	*Annual increase (1998–2002)*
1.	E-government	2,608	3,164	3,893	4,902	5,716	20,283	21.7
	• citizen service	676	981	1,230	1,592	1,613	6,092	
	• administrative efficiency	1,932	2,183	2,663	3,310	4,103	14,191	
2.	Information infra and informatization of industry	1,678	1,751	2,625	3,217	4,028	13,299	25.5
	• information network	752	897	1,507	1,599	1,148	5,903	
	• IT industry	901	826	1,076	1,084	1,808	5,695	
	• e-commerce	25	28	42	534	1,072	1,701	
3.	Informatization of culture, land, transportation	2,037	2,450	4,382	4,633	5,112	18,578	28.8
	• culture, knowledge utilization	472	620	1,562	1,134	1,213	5,001	
	• land, transportation	128	417	703	972	986	3,206	
	• environment, science & technology	1,437	1,413	2,117	2,527	2,913	10,407	
4.	Digital divide & dysfunction	828	1,198	1,255	2,277	1,258	6,816	21.5
	• digital divide	759	1,140	1,13	1,623	952	5,607	
	• dysfunction	69	58	122	654	306	1,209	
	Sum	7,151	8,563	12,155	15,029	16,144	59,012	23.1

Source: National Informatization Whitepaper 2002, 67

processing systems. For instance, the MOGAHA put forth as main components of e-government concept the one-stop or non-stop services to citizen, paperless, fast, and accurate public administration, provision of information to citizen, and IT literacy (MOGAHA 2000, 2). Similarly, the Special Commission on E-government Korea has defined electronic government as a government set up in the cyber space to provide better services for citizen. However, e-government can be defined in another way to point to a more serious reform to adapt to the new social and economic environments in the age of the 5th Kondratiev wave (Ahn, Choi, Chung, and Seo 2000, 40–44; Bellamy and Taylor 1998, 46–52).

And fourthly, partly related with the third point, there is a strong tendency of thinking informatization as building new systems, not changing the processes and structures of organizations themselves. Information technology *per se* does not create values. Values are created when the use of information technology is accompanied with appropriate changes in the organizational processes and structures (Bellamy and Taylor 1998, 51–53; Taylor 1986, 17–20). Changing organizational processes and structures could be painful endeavors. Meanwhile, when conceived as building new information systems, e-government may well imply more budget and expansion of jurisdiction. Thus, for example, as for the Public Procurement Service, informatization could rather mean adopting a new automated transaction processing system for handling electronic commerce than fundamentally revamping the procurement processes, say, from centralized to decentralized ones.

Why These Stylized Facts?

Comprehensiveness, fragmentation, orientation toward citizen services and operational efficiency comprise stylized facts about South Korean e-government policy. These characteristics may be found to some extent in other countries as well. Besides, they may in part result from properties of information technology. However, these do not prohibit political analysis of the stylized facts about the South Korean e-government policy. The South Korean e-government policy could have covered some limited areas, it could have been formulated and implemented in a very much coordinated way, and it could have been oriented more toward internal reform, had not been for the political structures and processes discussed below.

The factors conducive to the stylized facts can be examined at the levels of macro politics, subsystem politics, and micro politics. According to Redford (1969), macro politics is produced when the nation at large and the leaders of the government as a whole are brought into the discussion and determination of policy. Subsystem politics is the politics of the function, involving the interrelation of bureaus and other administrative operating agencies, the counterpart congressional committee structure, and the interest groups concerned with a particular area of program specialization. Micro politics is that in which individuals, organizations, and communities seek benefits from the larger polity for themselves.

*Macro political dimension of Korean e-government policy*

Government informatization started as one of the President's projects in the Fifth Republic. Besides, the presidential leadership is often sought when inter-ministry informatization is at stake. As such, the working of the macro political system provides an important clue to understanding the reasons why those stylized facts have emerged about the South Korean e-government policy.

Figure 1 graphically summarizes the components of the macro political system. Those components in the outer circle comprise inputs into the macro political system, while those in the inner circle serve as the instruments of conversion of demands into policy and action.

The macro political system decides subsystems to be created to deal with certain policy issues. It also decides the amount of resources to be allotted to subsystems. The functions of reviewing and auditing normally belong to the macro political system (Redford, 1969).

The role of the macro political system is especially important in explaining the stylized facts about the South Korean e-government policy. First of all, it is because of the heavy involvement of the macro political system that comprehensive informatization plans have been quickly put together to commit massive amount of resources in a relatively short period of time. The Public Administration Information Infrastructure, which was actually the first serious initiative toward e-government, started as a project directly administered by the chief secretary of the President in the Fifth Republic. Throughout the South Korean history of government informatization, the presidential leadership was in presence almost whenever inter-ministry informatization projects were actually implemented.

Figure 1   The Macro political system (Redford 1969, 108, modified by the author)
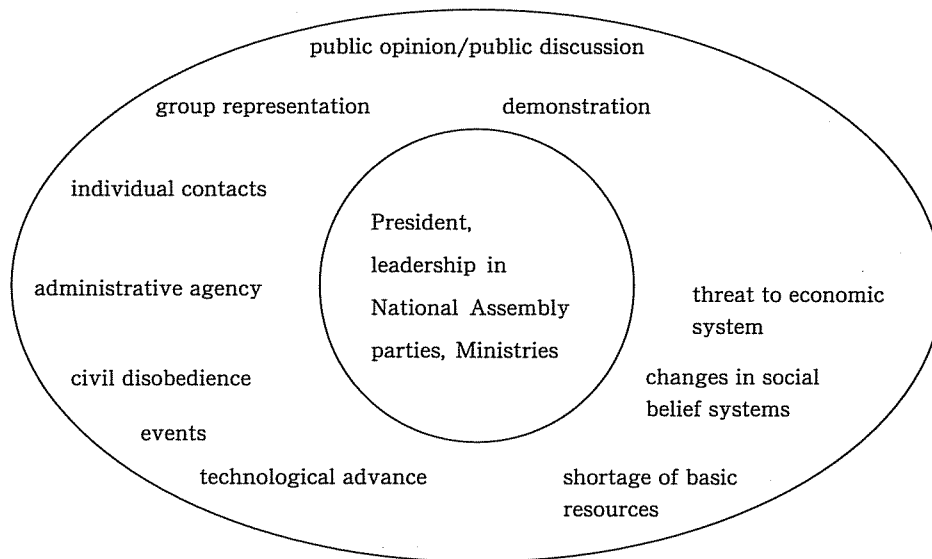
Secondly, the heavy involvement of the macro political system ironically con-
tributes to the fragmentation among the central government ministries concerning
informatization. As the macro political system lead the informatization effort, verti-
cal relationship between the Blue House and each ministry tends to be strengthened.
At the same time, horizontal relationships among ministries tend to be weakened.
The forming of the informatization subsystem is rather retarded at the expense of
the vertical relationships. In the mean time, the attention of the macro political
system tends not to stay long on informatization as it has to deal with other impor-
tant issues. When the macro political system does not pay much attention to
informatization policy and when the subsystem for the policy is not properly
formed, the effectiveness in the pursuit of informatization can fluctuate quite a bit.

Thirdly, in the case of e-government, the decision makers in the macro political
system have been quite susceptible to the input from the experts, so that the amount
of attention given to informatization of government have scarcely gone below a
certain level. Besides, it was this susceptibility of the macro political system that
made the South Korean e-government policy quite finely tuned up with the up-to-
date technological trends and best-practice forms of e-government found in some
advanced countries. For instance, it was in April of 1993 when the minister, Dong-
Yoon Yoon, of the Ministry of Post and Telecommunication officially announced its
intention to build the Korea Information Infrastructure (KII). As the minister man-
aged to report his plan to the President in January of 1994, he could form the
Taskforce for KII Plan in August of 1994 (NCA, 1997).

It was in the 1993 presidential election that Al Gore put forth the plan for build-
ing National Information Infrastructure (NII) in the U.S. One of important reasons
why the Korean government could catch up with other advanced countries in the
area of informatization is the existence of expert community that often have direct
access to decision makers in the macro political system. The expert community
largely comprises researchers in such institutes as the Korea Information Society
Development Institute, the National Computerization Agency, Electronic and Tele-
communications Research Institute, Korea Telecom, etc., as well as university profes-
sors. It was these institutes out of which the Taskforce for KII Plan was formed.
Besides, some university professors in the areas of public administration, business
administration, and computer science have maintained access to the decision makers
in the macro political system. Their memberships in committee organizations such
as Informatization Promotion Committee, Special Commission on E-government
Korea, Informatization Evaluation Committee, Informatization Strategy Meeting in
the Blue House usually serve as the channel for such access. So to speak, the expert
community in Korea has served as a gatekeeper for the arena of informatization
policy.

Fourthly, the macro political system established a subsystem that would exclu-
sively deal with policies for informatization and promotion of information industry.
The early stage of informatization of government was led by the Coordination Com-
mission on Nation Five Basic Computer Networks (CCNFBCN), which was chaired
by the chief secretary for the President, and the National Computerization Agency

(NCA), which was a technical organization empowered to implement the plan. Thus in those years-i.e., from 1984 until 1987-, informatization of government was directly administered by the macro political system without forming a subsystem that would routinely carry out informatization functions. However, the cost of not establishing a subsystem was not at all small. As soon as the chairmanship of the CCNFBCN was transferred to the president of NCA, centrifugal forces were quickly in play to demise the driving force for informatization.

The establishment of the Ministry of Information and Communication in December of 1994, Information Promotion Committee in May of 1996, and Informatization Promotion Fund, which comprised main component of the informatization subsystem, was a reaction to these disorders in information policy. The establishment of the subsystem helped reinstigate the driving forces for informatization. However, the formation of the subsystem has not gone without problems.

Subsystem & micro political dimensions of the South Korean e-government policy

Problems resulted from overlapping jurisdictions and inter-minstry competition have become important parts of the scene after the establishment of the informatization subsystem. The division of labor in the Korean central government is generally done based on functions. Meanwhile, the Ministry of Information and Communication was established to accomplish the objectives of informatization and promotion of information industry. Thus it was not indeed unexpected that there would be jurisdictional conflicts between MIC and other ministries.

A matrix form of command structure can often be used to deal with this type of jurisdictional problems. However, a problem in this case was that the MIC was just 'one of them,' and did not have authority needed to coordinate each ministry's informatization effort. Indeed, such an authority for internal management rested in the Ministry of Government Administration and Home Affairs. Until the passage of the E-government law, the turf competition went on between the two ministries, where one has authority but not money, and the other has money but not authority. More than that, as the evolution toward information society proceeds, informatization has become an important undertaking for every ministry and agency to escalate problems of overlapping jurisdictions between the specialized informatization organization-i.e. MIC- and other functional organizations (Ahn & Choi, 2000).

It was the Informatization Promotion Committee that was designed to coordinate ministry's informatization efforts. Indeed, the Committee is chaired by the Prime Minister to be the highest decision-making authority in the light of the Basic Act for Informatization Promotion. The Committee also has several subcommittees in the functional areas such as e-government and civil applications, social welfare, education, environment, etc. The subcommittees consist of representatives from relevant ministries and agencies. However, the Committee did not function properly as a coordinating mechanism to produce such values as information sharing, business process reengineering for expedited processing of civil applications, reduction of duplicated investment in IT, etc. (Lee, et al. 1998). The Committee has been held

only as a part of the cabinet meeting. Although it is chaired by the Prime Minister, the Committee is not provided with any substantial policy measures to induce inter-ministry cooperation. Having the upper-level committee that is deficient in exper-tise, authority, attention, and leadership, it also did not take long for the subcom-mittees to convene as annual rituals.

Concluding Remarks

It required the establishment of the Special Commission on E-government Korea (SCEK) for the inter- or trans-ministry e-government initiatives to get implemented. The SCEK is a temporary organization, consisting of secretariat from research insti-tutes (NCA and KISDI), 6 vice minister-level representatives from ministries and the Office of the Prime Minister, a representative from the Policy Planning Committee in the Blue House, and 7 civilian committee members, one of whom is in charge of the chairmanship.

It was the civilian chairman and the representative from the Blue House who played crucial roles to persuade and get the e-government projects going whenever they were stuck with parochial conflicts. Besides, civilian members, mostly profes-sors and CEOs of the research institutes, helped make sure inter-ministry agreement actually implemented, and encourage some pains-taking business process reengineer-ing jobs to be undertaken.

Inter-ministry competition and parochial conflicts seem to be normal conditions in the arena of e-government policy in Korea. And the involvement of the macro political institutions- especially, the Blue House- and the expert community mem-bers constitute some necessary conditions for anything to be done about inter- or trans-ministry e-government initiatives in Korea.

The South Korean history of e-government policy also shows that when the e-government policy was dominated by the subsystem and micro politics, strength-ened was the tendency of equating e-government initiatives with doing more new projects rather than reforming the ways public affairs are handled. Besides, citizen services and operational efficiency were often overemphasized during the period of dominance by subsystem politics while the importance of strategic uses of informa-tion technology to accomplish the organization's mission was downplayed. In order for e-government initiatives not only to get going, but to proceed in the right direc-tion, it would be necessary for the macro political system and expert community to provide guidance for e-government undertakings.

Note

1 The original version of the E-government Act by the MOGAHA spelled out establish-ment of the E-government Committee and the Taskforce for E-government, where the Ministry of Planning and Budgeting and the MOGAHA could play dominant roles. An intention was to separate out the e-government undertakings from the jurisdiction of the Information Promotion Committee, where, the MOGAHA regarded, the MIC played the dominant role as the secretary organization.

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