Government3.0 Strategy in Korea: As an Open Government

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ABSTRACT

Platform as a Service for government (PaaS) is a type of cloud architecture that will make it easier and cheaper for teams across government to host applications, services and components. Many countries try to transform their government to Platform government. In Korea, Government3.0 began in 2013 with the launch of the Park Geun-hye government. Government3.0 began as part of government innovation. However, the process involved a lot of confusion. Government3.0 is based on Web 3.0 and is oriented towards open government. Korea has been recognized as a leading country in e-government so far. Several success factors were derived in this process. The main success factors of e-government were strong leadership and clear vision and strategy of leader. Unlike the e-government sector, however, the future of Government3.0 will not be smooth.

Keywords: ICT Convergence, Governance, Government3.0, Collaboration.

1. INTRODUCTION

In June 2013, South Korea's Park Geun-hye has launched Government3.0 as part of government innovation. Government3.0 is emphasis on openness, sharing, communication, and collaboration. Under this new vision, the government is undergoing a paradigm shift to move away from a government-led approach to a more people-oriented approach (Moi, 2016).

Government3.0 is a new paradigm of government administration designed to support job creation and other creative economy programs while providing individually customized services to the populace by sharing public information with the public on the basis of comprehensive/unlimited opening of information and by inducing close cooperation among the government ministries by eliminating divisions between them.

2. THE ERA OF ARTIFICIAL INTELLIGENCE

The ICT convergence and AI are playing an important role in making a rapid transition from the information society to the smart AI information society. For the internet, due to the global activation of the mobile internet through the smartphone, the number of wireless internet users has surpassed the number of wire internet users. Such arrival of the era of mobile has inevitably accelerated the construction of the intelligent customized services such as M2M(Machine to Machine), and, thereby, has brought the arrival of the era of IoT(Internet of Things).

In such era of IoT, it is necessary to essentially include the AI technology that can be used to understand the situations and provide the customized services without requiring us humans to become aware or make efforts. In addition, through the construction of the ubiquitous network based on the sensing technology and location-based service, all things are being categorized into one information unit, and, thereby, are causing a phenomenon where information infinitely increases. (Oh & Jeong, 2010).

Such phenomenon where information infinitely increases has brought the arrival of the era of big data (Nia, 2016). In the big data environment, how information is understood and interpreted is more heavily considered than how much information exists. Accordingly, rather than to provide as much information as possible, it is more important to provide correct information and services suitable for the 'circumstances' that occur in real time through the intelligent search, social search and situation awareness computing. Under such circumstances, the AI technologies, such as semantic web, pattern recognition, intelligent search that understand the context of information and provide the customized services is becoming more important.

Significance of the 4th Industrial Revolution

The topic of the Davos Forum held in Switzerland in January 2016 was 'Mastering the Fourth Industrial Revolution'. The 4th industrial revolution is based on the ICT convergence. In the 4th industrial revolution, the products that apply new technologies, such as AI robot, IoT, mobile, 3D printing, driverless automobile, nano/bio technology will serve as the driving force of the social development. Such technical innovation will not only change the way the industries, societies and governments are controlled, but also revolutionarily change the way that the normal people live. Based on such 4th industrial revolution, we are approaching a new world that will fundamentally change the ways of our lifestyle and work environment. The scale, range and complexity of such changes will be completely different from what humankind has ever experienced before (Choi, 2015).

The 4th industrial revolution society is more of an 'intelligent society where all things are connected'. The CPS (Cyber-Physical System) will be constructed based on the integrated system that uses the IoT and AI to create a network between a cyber world and a virtual world (Lee & Jeon, 2012). Just as it is for the current smartphone, the hardware will update itself automatically as it accumulates and interprets data. In addition, the robot and AI will be combined and cause automation. Such AI processes languages and images based on the big data, and, thereby, makes complicated decisions as well.

Although the 4th industrial revolution is capable of rapidly increasing the efficiency and productivity, it received attention from the perspective of 'job shock'. At the Davos Forum, it was pointed out that the progress in the robot/AI will take away our jobs and intensify the unequal distribution of wealth.

Klaus Schwab, the chairman of the WEF, made a forecast and said "The 4th industrial revolution is advantageous to the people with the capital, talent and best knowledge. However, it is disadvantageous to the service employees. In the long-term, it may result in a collapsing of the middle class. This could be a very serious threat to democracy."

The WEF made a forecast through the future of jobs report that universalizing the robot and AI through the 4th industrial revolution will disappear 7.1 million jobs within the next 5 years in the 15 nations consisting of advanced nations and other nations with emerging markets. Only 2.1 million jobs will be newly created during this period (Hyung, 2016). In particular, the office/administration-related jobs(4.75 million) that related to repetitive task performances will disappear. In addition, the manufacture/production-related jobs(1.60 million), construction/mining-related jobs(0.49 million) and art/design/environment/sports/media-related jobs(0.15 million) will disappear as well.

On the other hand, a number of reports are pointing out that the AI and robot will take over the tasks that are currently being conducted by the humans, and thereby, create hundreds of thousands of unemployed people within the next 10 years (Choi, 2016). Moreover, a number of articles are pointing out the jobs at risk of disappearing through selecting the jobs suitable for the robots. As the AI continues to makes progress, it is obvious that a discussion for reducing labor forces may take place just like in the past, when the automation was initially applied. However, the aspect that is required to be more importantly reviewed is whether or not the government appropriately recognizes the paradigm of the society changes caused by the ICT development, and whether or not the government takes appropriate political measures (Kim, 2011).

Accordingly, in such AI-based smart intelligent information society, the ICT-based collective government innovation must be attempted for the government to recognize that its competitiveness can be reinforced and that it is important to take anticipatory measures (MSIP, 2014; 2015).

3. TRANSITION FROM INFORMATION SOCIETY TO SMART AI INFORMATION SOCIETY

Appearance of AI

The term AI was initially used by John McCarthy at the Dartmouth Conference held in England in 1956. A dictionary definition of the term 'AI (Artificial Intelligence)' when approached with the philosophical concept is an intelligence artificially made by humans or beings/systems with intelligence. Currently, it is also defined as a method for processing and studying information mainly based on the intelligence technology that uses symbolic processing (Han, 2016). In general, it can be defined as a series of attempts made on and technologies used on a computer to actualize human-like intelligence.

As it became possible to use machines to process calculations based on the appearance of the computer, the scholars involved in the fields of philosophy, mathematics, logic and psychology started to discuss the machines that carry out the intellectual activities of humans. This is where such AI got started. Then, a discussion for using such AI to construct a specialized system went on. However, based on the determination that it will not contribute to resolving complicated phenomena or social problems, the research was focused on the logical decision algorithms. In the 1980's a large scale commercial database was initially developed. In the 2000's, the computation technology made rapid progress, and it was determined not through intuitions,

but through the theories and experiments that such AI can be used to resolve problems in the real world. Accordingly, the AI field made rapid progress during this period.

AI-related Technologies

Currently, the fields of interest within the AI field range very widely, and the AI processing is required in almost all the ICT-related fields. A number of researches relating to AI have been conducted in a number of fields. However, most of such researches were conducted from the perspective of fragmentary technology or engineering. It is necessary not only to analyze the technical aspects of AI from the perspective of smart intelligent information society, but also to analyze the use status of AI from the perspective of law and system. Moreover, it is necessary to come up with a plan for introducing such AI-based ICT convergence to the administrative sector (Hwang & Oh, 2010).

4. KOREA GOVERNMENT3.0

Vision & Strategy

In the early days, the Government3.0 of Park Geun - Hye focused on opening the data. This Government3.0 brought the technology of Web 3.0. But it has more goals than technology itself, as shown in Figure 45.1. In the government of Park Geun-hye, the government is aiming for happiness of the people.
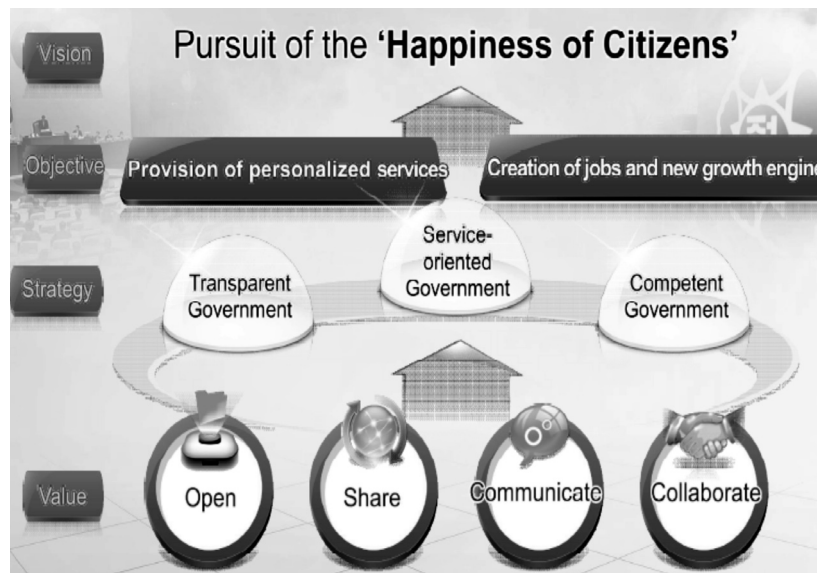

Figure 45.1: Vision & Strategy in Park, Geun-Hye Administration

All these efforts are supported by four core values such as openness, sharing, communication, and collaboration.

Government3.0 Initiatives

Figure 2 describes the details of three categorized strategies for the Government3.0 drive. First, Government3.0 is aimed at the service government. Together with this, a customized government is also aiming. The goal is to provide information to the people by using new information and communication technologies.
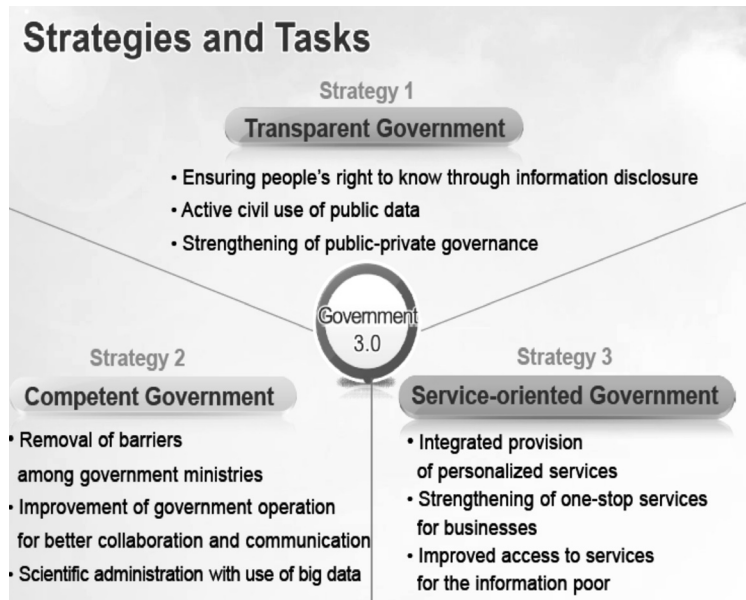
Figure 45.2: Strategies and Tasks in Park, Geun-Hye Administration

Furthermore, Government3.0 is aimed at a transparent government. So far the biggest problem in Korea is the corruption of public officials. Therefore, in order to cope with this, the government intends to disclose all the information it has in a transparent manner.

The third is to create a smarter government. This will be possible through collaboration among several ministries.

5. SUCCESS FACTORS FOR KOREA'S GOVERNMENT3.0

Korea did not become the world leader in e-Government overnight. Rather, the success was built over the course of three decades, and required multiple phases of e-Government development. What specifically though contributed to the success?

President's Strong Leadership and Strategic Approach

The President of Korea made special efforts to make government innovation a stepping-stone for other areas of growth and development. The President had a particular interest in Government3.0 projects and stayed abreast of changes and progress. This encouraged other high-level public officials to be actively engaged in Government3.0 projects. The Prime Minister's commitment was a major driver in Government3.0 project implementation. Subsequent presidents also showed their support and interest in government innovation and Government3.0 project implementation. Another critical success factor was the development of mid and long-term plans for national informatization. This included setting clear goals and taking actions based on a clearly defined strategy.

Constant Investment

Korea also established a monetary fund for national informatization promotion and invested in it continuously. Breaking away from the rigidity of the existing budget system, Korea ensured flexibility of

budget allocations for multi-year projects. This mitigated risk and responsibility issues which may have arisen naturally in the course of implementing brand new technologies in the public sector. Initially, informatization projects were likely to be rejected by government ministry or department heads who had little knowledge of the benefits and value of Government3.0. However, during these early stages of Government3.0 development, efforts to increase national acceptance were implemented using a unique system called 'settlement after investment'.

Well Organized Implementation Framework

All government ministries and departments are involved and share responsibilities for Government3.0 projects. Additionally, the Korean government organized an Government3.0 committee with members from the public and private sectors. Under the direct management of the Prime Minister, this committee developed a framework for systematic collaboration between government ministries.

Technical Support

During each development stage the Korean Government3.0 has introduced and utilized advanced ICT and Web3.0. Many organizations have contributed expertise in policy-making and technical areas. These include: the National Information Society Agency, which specializes in providing technical support for Government3.0. Government affiliated agencies, like the Korea Information Society Development Institute. Korea Internet and Security Agency and KT and other private companies.

Dynamics and Creativity of the Korean People

The Korean people's commitment to development, creativity in innovation and dedicated patriotism were critical factors in the success of Korea's national informatization. The Korean people eagerly accept cutting-edge ICT devices and equipment. They actively use broadband Internet, online government service and online financial services. This all led to raised awareness of Government3.0 initiatives and services and generated support for Government3.0 project implementation. Korea is working to become the world's true Government3.0 leader, by sharing its development process and experiences with other countries, by internally making improvements and by externally cooperating with developing countries for their Government3.0 development.

6. FUTURE DIRECTIONS

The Korean Government launched e-government 2020 initiative as an attempt to solve complex social issues, respond to rapidly changing ICT environment and prepare for future e-government instead of Government3.0.

The 2020 initiative will realize vision "Enjoy Your e-Government" through citizen experience services, intelligent government and sustainable digital new deal. For the future e-government to be sustainable, the government should challenge social barriers and discover new markets and economic opportunities.

Korea's e-government will continue to make efforts to improve not only its own systems, but it will also seek to impact and influence global e-government development (UN, 2010; 2012; 2014).

Political Perspectives-New Government Projects

The Park, Geun Hye government has been promoting policies through focusing on the Government3.0 that pursues to change the governance (Chung, 2015). In the process, Presidential Committee on National Informatization established by the Lee, Myung Bak government was abolished. Such abolishment of Presidential Committee on National Informatization can be seen as an action that eventually weakened the national informatization promotion system in the process for differentiating the current government from the past government (Chung, 2012b).

However, the problem is about justification and function. As the Park, Geun Hye government was established, it announced that no committee will be newly established because the committees were loosely operated in the past government. Accordingly, Although the Park, Geun Hye's government abolished Presidential Committee on National Informatization, it newly established 3 committees that relate to informatization within two years from the government's establishment. Since the establishment of E-Government Committee, the Park, Geun Hye government has been currently operating 4 committees. It is uncertain whether or not such committees will be maintained in the next government. Provided that every government establishes a new committee that relates to informatization to temporarily promote tasks and become abolished, it will be difficult to expect the policies to secure permanence.

Accordingly, we must take it as a lesson that the US E-Government promotion system is maintained to promote consistent policies regardless of the regime change. Politically using the informatization promotion system will end up creating a vicious circle where the system will be repeated abolished every time the regime change is accomplished (Lee, 2015).

In addition, what is more important is the information of the policies. Currently, a number of people are unaware of the difference between Government3.0 and E-Government (Myeong & Heo, 2012: Lee, 2012). In particular, the personnel who played a role in Presidential Transition Committee prior to the established of the Park, Geun Hye government stated that Government3.0 is unrelated to E-Government, and that Government3.0 not only is based on more of a superior concept, but is also an innovative method for running the government. Accordingly, this caused a problem.

In conclusion, of course, Government3.0 is not the same as E-Government. However, Government3.0 cannot make success without the help of E-Government. Government3.0 is just a means for using the information technology to support the objectives and strategies set by the Park, Geun Hye government. Accordingly, it is certain that Government3.0 will be abolished in the next government. As described, as far as informatization is concerned, substituting in a political perspective will make it impossible for any policies/organizations to be maintained.

In the past, the Lee, Myung Bak government approached E-Government through recognizing it as achievement of the Roh, Moo Hyun government. Accordingly, from the perspective of being differentiated from the past government, the Lee, Myung Bak government insisted that it is no longer necessary to succeed to the E-Government policies. Likewise, it is likely that the next government will not succeed to the Government3.0 policies set by the Park, Geun Hye government, and, therefore, such Government3.0 policies will not be sophisticated into the Government 4.0 policies. Accordingly, in this case, it is likely that the system will return to the broad principle known as E-Government.

As far as the promotion of Government3.0 is concerned, President Park, Geun Hye has been demonstrating a quite outstanding leadership. She led the discussion from the start to the end during the Government3.0 Promotion Plan Presentation held in June 2013. She also participated in the Government3.0 Experience Festival held in 2015 and 2015. However, since the confusion caused by the concepts between Government3.0 and E-Government are not organized and the first-line public officials are not functioning properly, it is unknown whether or not the performance will be visualized. Actually, President Park has been encouraging the ministries to disclose information, but even the most basic data that represent the ministries are not posted on the official website of the ministries. Such information disclosure level falls significantly behind in comparison to the Roh, Moo Hyun government.

More over, some of the local governments in which a member of the opposition party serves as the head recognizes Government3.0 as a political project planned by the Park, Geun Hye government rather than as an administrative innovation that uses information technology. Accordingly, Government3.0 is either barely introduced or serves as a barrier to activation. The reason for this is because the personnel who promoted the Government3.0 polities appeared as occupation forces, and, thereby, caused the lower level public officials to create hostility. Because such forceful atmosphere was maintained throughout the early stage, regardless of how much education on Government3.0 is provided, it is difficult for the front-line institutions to welcome Government3.0. Accordingly, applying a political rhetoric to the ICT-related policy may serve as a huge burden in the later period.

ICT-based Future Strategy Convergence

Governance signifies the interaction and network that are established among government/citizen/market while solving the social problems. It also signifies the activities, processes, methods and systems that relate to governing (Chung, 2012a: 214-215). Namely, it signifies not only the citizen participation that determines how the authority is exercised in the process for managing the public goods and services provided by the nation, but also the government's ability to establish and enforce the policies, laws and systems. Such governance increases the citizen participation and responsibility, and enhances the national competitiveness through controlling the political stability, government effectiveness, regulation quality and corruption.

In the future, the key factors to the AI-based smart administration management are participation and openness. In the field of public administration, diverse discussions on the future administrative organization have been made since long ago (Lee & Others, 2012). In addition, the future government model was defined as the intelligent E-Government. The intelligent E-Government was divided into the interactive government, informative government and integrated government (KIPA, 2010; 2011). It is ICT that plays the most important role in the citizen participation and communication within such future government. ICT will expand the government efficiency and citizen participation through the smart governance, and also reinforce the national competitiveness through playing an important role in transparentizing the decision making process and controlling the corruption.

Accordingly, instead of relying on the hard power through investing in the preexisting ICT equipment and infrastructure, it is necessary to establish a smart governance innovation strategy in order to introduce the smart AI having infinite potentials to the governance. In particular, it is very suggestive that the communication and social integration are not very active in Korea although Korea has developed diverse social network services as a leader in ICT.

Accordingly, It is necessary for the next government to establish a new government ministry based on the ICT convergence that includes AI in order to innovate the governance. Such ICT-based government innovation unit to be newly developed must not only improve the current comprehensive foresight function, but also upgrade the ICT convergence-based government innovation strategy into the Presidential Agenda, and, thereby, set it as one of the government projects.

After naming this ministry as Ministry of National Revolution Planning (provisional name), it would be necessary to secure the organization independence and ICT convergence-related expertise and long-term sustainability. To secure its organizational independence, this ministry must be established as an institute directly responsible to the President, and it must absorb the preexisting ICT Strategy Committee and E-Government Committee. In addition, to secure its expertise, it is necessary to sufficiently gather experts from diverse ICT-converged fields. In detail, it is necessary to operate this ministry through cooperating with the current National Information Society Agency, National IT Industry Promotion Agency, National Computing and Information Service, Future Strategy Center and Public Information Sharing Center to newly establish or transfer the systems and functions. To secure its long-term sustainability, it is necessary to establish legal/institutional systems for maintaining this ministry regardless of the regime change. To make this happen, it is necessary to revise the related provisions specified in not only the Government Organization Act, but also the Electronic Government Act, so that the Minister of National Revolution Planning (provisional name) can be designated as the national CIO to lead the central ministries, local government and CIO Committee.

7. POLICY ADVICES

The study shows that Government3.0 has been implemented not by citizen centric approaches but government centric without citizen's participation in the whole process of Government3.0 initiatives. In Korea, many policy makers thought that Government3.0 will play a key role in expanding national competitiveness. Therefore, Government3.0 initiatives were selected as a remarkable presidential achievement. The lessons from the Government3.0 initiatives in Korea can be summarized as follows.

The Government3.0 system is progressing, however, it still has a long way to go to reach full interactive online service delivery. Currently, the overall progress in the Government3.0 initiative is not closely related to governmental reform. Therefore, Government3.0 initiatives in Korea are not just a President Park's administration issue, but an evolving administrative reform whose vision and strategy through citizen centric is trying to adapt to democratic governance. In terms of Government3.0 services, it is necessary, first, to step up accessibility to information. Using the customizable service functions of portals, users should be able to individualize government information and services as they wish, thereby achieving enhanced service convenience. Second, administrative work and the horizontal and vertical connection of e-Government systems should be consolidated.

GOV.UK has been designed with transparency, participation and simplicity at its core. It will always be based on open standards, and is unapologetically open source. This architecture ensures its integration into the growing ecosystem of the Internet. Inevitably, innovation will follow, driven from within and without.

Currently, Government3.0 in Korea is regarded as the data policy of Park Geun-hye government rather than government innovation. The reason is that this policy is still a political rhetoric in the Park

Geun-hye administration. The Park government did not succeed to the policy of the previous government. Therefore, the next government will not succeed the policy of Park Geun - hye. Therefore, sustainability can not be guaranteed without the permanence of policy. However, regardless of the name of the policy, the open government policy will continue in Korea.

Acknowledgment

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