

# Building E-Government to Improve Governance

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## I. IT Efforts and E-government in Korea

E-government (electronic government) has evolved from the information technology (IT) and particularly from Web-based technology. As the development and application of information technology has changed society into the information society, so has the E-government, information technology applied government advanced rapidly.

During the past couple of decades the Korean government had been among the most aggressive in terms of IT use and production. The IT efforts in Korea have policy origins in the national computer projects of the late 80's. They focused on the deployment of high-speed communications network and transformation of vital government records such as resident registration and vehicle records into a digital format. The objective is creating a smaller and more efficient government, improving daily life of citizens, and laying the foundations for the development of IT industries.

Since the mid 90's, IT projects have become more broadly a response to the national information infrastructure (NII) initiatives in the developed countries such as the U.S. and Singapore. Korea has been very responsive in catching up with national competitiveness through the applications of IT.

The government has articulated a vision of developing the information society as a means to achieve future national goals: transparent society and improved quality of life for the public. Information infrastructure, in particular the Internet has been paid national attention as a key enabler of transformation.

IT is a powerful tool for enhancing citizen engagement in public policy-making. Despite the limited experience to date, some initial lessons for citizen involvement in decision making are emerging. For example, submission of public opinion on a particular policy issue is very popular in many of the government websites, and various levels of governments reflect them in the process of policy decision making.

National attention on IT applications in Korea reflects the belief in the government and the general public that the core technologies for E-government would be powerful forces for efficient administration producing competitive advantage in the developing global information society.

The objective of the national computerization project of the late 80's was to take advantage of IT to improve competitiveness in the world market. From the

beginning, E-government initiatives had been based on an established desire to exploit IT in enhancing efficiency and transparency in government. There was also a fear that a failure to build an information infrastructure would hurt the Korean government to the point that it might not be able to compete in the global context leaving the nation behind developed countries.

The emerging 'information revolution' was regarded as equal in importance to the 'industrial revolution' which took place more than a century ago. It was believed that Korea would have been able to avoid the economic and political devastation of the first half of the 20th century if it had shown more attention to the industrial revolution.

This concern extended not only to production industries such as computers, telecoms, components, and semiconductors, which might be left behind by the global production system with a subsequent loss of export and import substitution opportunities. But there was also concern that user service industries would not be able to gain quick access to the latest technologies and become less competitive. The IT efforts and E-government initiatives in Korea at the beginning resembled those projects in the advanced countries such as US and Singapore. IT applications were placed at the center of national attention in order not to duplicate the errors we had committed at the age of industrial revolution.

The experience of Korea is of interest in case studies of implementing E-government, not only because it is among the group successfully diffusing Internet infrastructure preparing the base for E-government, but because the challenges it faces may be of relevance to other newly informatizing countries.

## II. Emergence of E-government

### 1. Challenges Facing Government in the Internet Era

Information revolution has had an influence on every aspect of society and government areas as well. It is recognized that computer and web-based technology could effectively solve various problems of existing government than any other means. In the background of such understanding, there lies in technological features of fast data processing, enabling information communication beyond the limits of time, space, and some environmental

changes requiring those features as well.

There are many challenges facing government in the era of information revolution. First of all, as democracy matures, administrative opportunism of public officials and authoritative management of government face public resistance. Second, as the level of citizen awareness heightens, standards, expectations on government services, and the delivery system are all elevated. Third, after the Cold War era global economic competition intensified and the role of government focused on the function of a supporter. This was a shift from controlling and monitoring business activities to promoting entrepreneurship and creativity. Fourth, with the trend of globalization caused by computer and internet explosion, E-government was promoted by a governmental response to an evolution of one global information community. Last the features of government are changing from regulation, control and formal procedure to emphasis on results and responsibility.

As a result of changes on social environment, the general public as well as private enterprise are to point out the problem of a fat bureaucracy. The demand for change enables solutions to the problem, to improve the quality of administrative service and enhances international competitiveness. This is the time E-government takes shape in the form of applying information technology to internal business processes of government and service delivery system.

### E-government: New concept of Public Administration

Advanced countries are carrying out active strategies for customer-oriented government to cope with the Internet era to maintain the positions of leading countries in the 21st century. A model to examine is the United States which in a 1993 report titled, *Gore Report On Reinventing Government, Creating a Government That Works Better and Costs Less*, proposed to eliminate outdated bureaucracy and to innovate all public service processes to satisfy people.

The idea has been characterized by the New Public Management (NPM), emphasizing the result-oriented performance in the public sector. The idea has also been developed based on the viewpoint that market competition and privatization improves government responsiveness and efficiency, providing the rationale for the business model in the public sector. In the NPM model, citizens are treated as customers with governmental agencies expected to become more business-oriented and innovative. As a means to meet that proposal the above

report introduces the concept of “Electronic Government”. As banks developed the concept of “Electronic Banking” to give more convenient service to customers, so government developed “E-government” to give more convenient public services to the people the customers of government.

In Korea, the term “E-government” first officially appeared on a governmental policy report in 1996. In 1995 the Korean government established “Informatization Promotion Act” to accelerate information society, and the next year proposed 10 priority tasks. The first of those was the E-government project that regards people as customers. The purpose of government is to serve and benefit the people. The concept of E-government is to serve a highly developed public service which was not possible in existing government to the people.

Under these circumstances E-government is effectively making reforms in government organizations and service delivery through information technology. It is important to secure maximum administrative efficiency and develop the interfaces of providing various information and public services anytime and anywhere.

## 2. Information Sharing and Government Portal

The components of E-government include building administrative databases, information sharing, interchanging electronic documents, establishing administrative information networks, on-line service application, and the delivery of services. The core components are information sharing and government portal. Information sharing enables administrative processes to be integrated, thus government appears as one unity. Citizens are able to reduce the number of trips to the government offices as well as the number of verification documents to submit when applying for a particular service. Government portal is a single window which enables government services to be presented in a systematic way following a certain type of sequence such as life events of human beings and businesses.

### Information Sharing

Information sharing is an essential element in E-government implementation, enabling re-engineering and integration of government business processes. Since

the early stage of E-government implementation, information sharing across government has been long considered to be the most important element leading to electronic government in Korea.

One-stop administrative services are being realized by connecting databases which used to be a difficult task. Besides, since it has been possible to share information without regard to data format, obstacles due to the lack of compatibility and standards are disappearing. Moreover realization of information sharing is easier with the help of web-based technology. So at the present time, the issues on information sharing lie more in attitude of organizational culture and information as a way of power sources than in the technology side. It is pointed out that the failure of information sharing results from organizational egoism.

Government officials should change the conception that department which has information on residence registration or taxation, very frequently requested by others, has higher status than the user-department by way of exclusive possession. It is because, in the customer-oriented aspect of government, the data on citizen belongs to the public not to an individual government department.

### Government Portal

As a core element of E-government, government portal is to provide citizens and businesses with an easy access to information and services individual government agencies produce. Traditional government websites were composed of related sites like a directory or menu, usually based on the organizational structure of government. This approach was enough from the viewpoint of web presence of government. However, the early website was not easy to use since its structure was not based on who is responsible for any particular service or information.

The discussion in Reinermann (2001) shows the need to pay attention to life-event portals which focus on certain life situations like birth, marriage, retirement, building a house, and starting-up a business. Previously web applications used to be simple collections of links to related web sites. Government portals were designed and organized based on the structure of governmental bodies, not on the stream of life-cycle events for the sake of user convenience. Instead of focusing on what each government agency intends to deliver, we need to focus on what citizens want to achieve.

Through the system of information sharing, governmental databases can become interactive and interface across organizations. Information and services can be aggregated and presented to citizens as life events. An integrated government portal is supposed to be a key instrument in providing better and more customer-directed government services and information.

Life-event portals are designed in such a way to offer direct access to forms and applications, relevant laws and regulations, government programs, and persons in charge. The purpose is to overcome the complexity of the delivery process of government services, transforming the function of government web sites from simple presentation of information to applications of delivering services. Citizens are able to access services without having to know which department handles the service. Portals are adopted from a functional point of view rather than an organizational view. Instead of a list of departments to click, citizens find a list of services to click.

### III. Two Cases of E-government for Better Governance

#### 1. G4C (Government for Citizens) System

The G4C (Government for Citizens) is representing the E-government activities in Korea in the sense that the Internet applications in the most interactive areas between government and citizens are targeted. The G4C system aims to establish an electronic channel for government services to the public along with the system for sharing information among agencies. This project was carried out by the Ministry of Government Administration and Home Affairs (MOGAHA) in cooperation with related agencies such as Ministry of Information and Communication, Ministry of Planning and Budget, Ministry of Construction and Transportation, National Tax Services, and the Ministry of Court Administration in the Supreme Court. The project was launched on November 2001 following the reengineering works for administrative processes.

Since the completion of the project, November 2002, a number of government services and information have been delivered very conveniently to those who have access to the Internet facility and administrative efficiency and productivity are to be improved as well. By easily interacting with government and accessing

public information, official documents and administrative proceedings, citizens are better informed and more willing to participate in the government process, leading to digital communities and more participative models of governance, where citizens are able to be more involved in related decision making process.

The size and complexity of government form a major barrier for anyone trying to access government services and information. One of the most compelling arguments for E-government is to provide seamless services, arranged not from a bureaucratic viewpoint but by subjects or a certain sequence of events such as human and business life. There had been no single window in place where people can get comprehensive information on the procedures and criteria of civil service applications. As a result, the inconvenience increased. Also, lack of infrastructure for information sharing among governmental bodies and related laws and regulations had led to the waste of resources and low efficiency in the administration.

The main functions of the G4C are carried out by sharing information frequently requested for administrative processes. Most of government services request citizens to submit various verification documents such as a certificate for citizenship, ownership of land, and vehicles. They are required to identify whether applicants are eligible for a particular service. The number of documents requested is different depending on the type of services. Citizens need to make tedious trips to government offices to have them issued in one place and turn in them to another.

The basic idea of the G4C project is to share information verifying the applicant's eligibility among government agencies, thus reducing the number of documents submitted and trips to government offices.

## 2. Government Administration Innovation System

So far IT application of internal management of administrative agency has focused on electronic document systems. Government businesses have been carried out mainly through electronic document system along with connected systems such as local government information system, GePS(Government electronic procurement system), and personnel management system. Government Administration Innovation System supports more systematically management of government works by connecting administration functions directly with

management functions based on IT. This system consists of 4 subsystems including government administration management system, business reference system, customer relation system, and performance management system. This system classifies every unit of business of administration according to function and then makes database for business reference system on which the government business management system is based. Government officials manage businesses based on business related information, including budget, laws, regulations, and other businesses concerned with related government agencies.

The system integrates customer relation system for customer-oriented management and performance management system for monitoring the status of business progress and result-oriented evaluation made by customers. The system is invited to pursuing government innovation more actively through E-government than anytime before. This system had been initially developed by the Executive Office of the President. President Roh decided government innovation is one of the most important policy agenda and changed the work process of the Blue House based on IT applications. As a result of these efforts the Blue House started to use the innovation system designed through totally reengineered work processes in early 2004. Customization to business processes of individual ministry produced Government Administration Innovation Systems.

The system developed in the Blue House has a nickname *EasyOne*, translating into “knowledge garden in cyber space” when pronounced in Korean. *EasyOne* is named after the Garden in the Blue House. The idea of *EasyOne* system was mainly from President Roh himself who is regarded as one of the top experts in his government in the areas of IT applications. He is a strong supporter for E-government in driving government innovation. It is recognized that the president often relies on *EasyOne* in carrying out his businesses.

The *EasyOne* is classified as a decision support system, managing the whole process of policy life cycle. At the initial stage of policy development, a working level government official in charge of the issue drafts policy documents which include summary of policy proposal. Then sources of information are referenced to provide an indication of whether or not the document is open to the public. The document drafter also specifies how the document goes through to the top decision maker. Those on the decision line review the document, some issuing the approval, and others simply stating opinions. The document moves horizontally and vertically on the system according to the path specified. All of the opinions and decisions are recorded on the system to improve the

accountability of individual involvement. This system is a brand-new E-government system and most closely related to the real contents of government innovation as well. It is expected that it restore the results of E-government, evaluated little in terms of government innovation.

## IV. E-government Issues to Improve Governance

### 1. Coordination

Achieving coordination among relevant ministries in the process of network deployment and service provision is perhaps the greatest challenge in E-government initiatives. Various ministries have varying levels, kinds of risk, and incentive to consider; it is doubtful that any one scheme will meet the needs of all the ministries. This problem is recognized, and in an attempt to alleviate it, a high level steering committee had been formed at the inter-ministerial level to resolve controversies among government agencies involved in E-government initiatives in Korea.

The appearance of E-government has increasingly led into a direction of reengineering and integration of some government processes mainly based on sharing information and common business processes. Successful information sharing, integration of service, and processes across organizations is dependent on how involved agencies effectively overcome the barriers that exist in legislation, governance and resource allowances. Individual agencies have different missions, objectives, and business processes. Achieving the maximum benefits of proposed E-government initiatives requires stakeholders to act from a whole-of-government perspective. Individual IT efforts should fit into the overall objective for the whole government. Ad hoc issues need to be compromised among agencies at stake as they come up in driving E-government initiatives. It is difficult to persuade them to give up some elements of control in order to maximize overall returns for government, requiring an efficient coordination mechanism.

The policy-making process has frequently been interrupted by bureaucratic rivalry among ministries with a stake in particular issues. IT applications in the government usually cut across a number of national policy domains from finance,

tax, welfare, education, service delivery to the public, laws, regulations, privacy protection, and IT infrastructure. The process of legislating E-government Act of 2001 and deciding the ministry in charge of constructing the Integrated Center for Government Computer Resources illustrates this problem in Korea.

It is clear that effective coordination can take place centrally, and that policies will be most effective when coordinated to implement a clear set of action programs in the plan of E-government. Many of the action programs convey and reinforce a sense of importance and priority of the E-government. They focus on what and why: motivations for the E-government are represented in the vision and objectives. But we tend to be left with some vague issues of how, when, and by whom implementation will occur. Development of the E-government initiatives must be guided by coordination among the parties at stake on how networks and services are to be designed, constructed and maintained in balance with the existing infrastructure and the current mechanism of service delivery.

## 2. Supply Push or Demand Pull?

Demand policy interventions have been widely regarded as more important than supply interventions in stimulating new technology innovation and applications. The risk of misallocation of government budget is high when the demand side is not understood. Nevertheless supply-side issues have often taken policy priority in technical projects requiring central coordination. At the beginning of national IT project of the late 1980's, there were many critics who raised questions about the usefulness of the high cost hardware and network facilities envisioned in the E-government plan. They pointed out that the project planning focused mainly on the supply side, without considering sufficiently the established or potential demand and the resulting services not being used as anticipated.

The key question emphasizing the demand side of the project is: What kinds of services are worth the huge investment required by the E-government programs? This question comes from the possibility that we may create an expensive solution for which there is no corresponding problem. Unfortunately, this poses a dilemma. A number of IT-related projects appear to have created demand that essentially makes it impossible to predict the demand until the supply is available.

On the other hand, proponents of the plan often point to the Korean

government ambitious plan of the 1960's to build the first expressway between Seoul and Pusan. There had been strong objections to the project based on the prediction that no such big transportation needs were expected. However, the strategy on the supply side worked: transportation had grown up too quickly to meet the demand without expanding the capacity. The story strengthens the position of supply-siders that funding for new services cannot be based only on demand prediction.

It would be more appropriate to mention that supply and demand forces work together in the adoption and diffusion processes of new service innovations. The dynamics of interaction between the forces themselves change depending on circumstances such as the relative state of technical knowledge, the availability of complementary and substitutive factors, the character of the needs of society at any one time, and the effectiveness of the market at translating needs into clear demands.

The idea of supply-siders played to a theme of national competitiveness that motivated the Korean government IT policy of the late 1980's. It was advanced early on by the key players of NAIS (National Administrations Information System) programs. The government sees a necessary leadership role in the development of application services which are provided to citizens first to create demand. Since the initial stage, the E-government projects have been very active in the generation of service applications.

The supply-sider strategy has been reflected in the funding mechanism. At the initial stage of the NAIS project which began in 1987 about U\$ 200 million was earmarked in advance for the project. This allowed the rapid start-up of building databases and networks by avoiding bureaucratic processes over funding. While the special funding mechanism had been criticized as breaking the basic principles of national budget system, it played a great role in preparing the groundwork for the government IT projects since then.

### 3. Funding and Payoffs

While in the early stage of IT projects, there were many people realizing the potentials of IT use and implications on efficiency and competitiveness, those especially in charge of public resource allocation still could not find visible evidences of government IT investment enough to convince of the usefulness of

IT applications. In order to circumvent this dilemma, the President of Korea recognizing the vision of IT leaders in the late 1980 decided to break the normal budget process setting US\$200 million aside exclusively for E-government projects. The pre-assigned money for the E-government project, NAIS, was a major source of success in its first stage (1987-1991), while the forced return to the normal budget process signaled weakening government support, leading to the delayed implementation of the second stage (1992-1996) projects.

The direct funding mechanism arranged in the *Informatization Act* of 1996 in Korea was another example of strong support for E-government programs, overcoming the difficulties coming from rigorous budget process. The funding mechanism was introduced when there was no successful producing of explicit empirical relationships between IT investment and productivity improvement. The Act provides a strong legal basis for making public IT investment as necessary to the success of E-government programs. The Act prescribes the establishment of a large enough Fund to support public IT investments along with specification of uses and sources.

While public sector organizations are investing to help increase the productivity of specific areas and increase the quality of services, the relationship between productivity payoff and technology investment remains a frequently discussed concept by political leaders and government budget officials as well as academic people. Governments have come under increasing pressure to demonstrate the benefits and the return on the significant investments in E-government projects.

As in the case of most development projects, the value of E-government lies in the way it enables improvement in the process of interacting between customers and government. E-government produces technical benefits such as improved processing time or better information provision, in consequence a range of business benefits like more efficient processes and higher quality services. The difficulty comes from the fact that many benefits from IT investments are non-financial, invisible, intangible, for example, taking a form of improvement in efficiency and convenience. It is difficult to persuade those at stake with E-government projects by balancing such invisible benefits against financial measures.

Research had begun to show the payoffs from IT investment in quantitative terms especially in the private sector. This led to the discussion of the so-called productivity paradox. The paradox comes from the empirical fact that no one

could find evidence that the billions of dollars organizations had spent on IT in the 1980s' and the early 1990s' was having any effect on productivity. Robert Solow, 1987 Nobel Laureate in economics known as coining the concept of productivity paradox, wrote in a newspaper article that "You can see the computer age everywhere but in the productivity statistics."

There have been many attempts to explain the paradox. One of them is the hypothesis on the time lag. New technologies don't automatically raise productivity. It takes time to figure out how to reorganize operations in order to fully reap the benefits of the new technologies. According to this hypothesis, government has been especially slow to realize the potential of digital technology. Another way to account for the paradox concerns on the measurement, indicating that problems exist in the measurement of IT as an input to the production as well as of the output of the service sector.

#### 4. Promotion of Government Innovation

Following the global trend of public management reform, the Korean Government has prompted various reform programs since the early 1990's. E-government has been considered as an effective tool to transform the governance structure in an innovative way. Rather than just focusing on introducing IT, governments must decide on, guide, and control the transformation of administrative procedures in such a way that IT realize the full potentials towards the process restructuring.

In light of government reform to improve governance until now, however, E-government efforts have not been tightly integrated with the improvement of government business processes or with the overall redesign of them. It has been carried out by bringing separate government units just online resulting in public services that do not live up to expectations. With these lessons in mind it is time to actively implement E-government projects that are closely connected with government reform.

One of grand-scale ambitious projects for this purpose is the implementation of a Government Administration Innovation System covering all government departments. The project is expected to lead profound and thorough changes in government internal businesses and services for citizens.

E-government is an effective tool to respond to the challenges facing the

modern government. This belief is based on the nature of the IT, in particular, Internet, enabling the government to carry out businesses in an integrated manner. Information sharing is one of the core elements that lie at the heart of the IT capability of encouraging integration. Integration generally occurs in clusters of government organizations with common functions or the same service set, providing important implications on the government innovation. Since the very early stage of the IT applications on the public sector there has been a focus on how to produce an efficient way to conduct administration. For example, most government IT projects go through the business process reengineering (BPR) before the actual implementation starts. BPR usually takes several steps such as analyzing business processes targeted at the goals of organizations, removing the duplicate processes, and streamlining the way of working. According to the experience described in the cases, all the ideas delivered in the BPR have not been placed into the implementation stage of the project, leading to the low performance of the E-government from the innovation perspective. There are many reasons pointed out.

Here are a few examples. Removing the duplicate or streamlining the business processes implies cutting the job opportunities, inducing the resistance of stakeholders. Those accustomed to the traditional way of working have few incentives to agree with the changes. There are usually so many organizations involved in reengineering a process that it becomes a trouble to derive an agreement. Strictly enforcing the principles of BPR should be a main strategy in the future E-government activities to have the maximum potentials. There is a need devise incentives for government employees, and structures to coordinate among the government agencies at stake in a particular process.

## 5. Encouragement of Citizen Engagement and Participation

The willingness of Citizens to participate in the government policy making process has gradually increased as a result of widening opportunities of interaction between governmental agencies and the general public. This has been partly contributed to by the development of democratic pressures, and by the popular use of Internet technology, leading to the easy access of various government organizations. E-government initiatives should be able to meet the desire of citizens to be part of decision making, and to monitor operating

processes, in realizing transparent administrations.

Online citizen engagement in policy making is new and examples of good practice are scarce. Advantages of the innovations being introduced in the form of polls for the issues, the decision of which produces less sensitive social impacts, taking place, for example, and in the individual ministry websites. In order to derive a best practice model of participation, we should take care of how technology enables an individual voice to be heard and not be lost in the mass debate from a public viewpoint. In the meantime, there is challenge of how to respond appropriately to individual opinion from a government perspective.

Successful online participation requires that citizens have information on public issues as much as possible and government officials be aware of opportunities and limits of the Internet for citizen engagement in policy making. There is also an issue of reducing the digital divide to deal with the exclusion problem in the political process. The challenge is to develop tools for online engagement that provide citizens with an opportunity both to participate in, and to understand, collective decision making and to develop the skills for active citizenship (OECD, 2003).

Addressing public participation and engagement leads into the discussion on electronic democracy. It is apparent that many elements in the E-government are related with the issues on E-democracy. They include provision of government information, online poll taking place at the government websites, and submission of individual opinions on a particular policy. They are about taking full advantage of IT to enable open dialogue between policymakers and civil society, making contributions to the development of democracy by keeping citizens informed and engaged.

E-government in Korea has already passed the point of stage, “informing” citizens, but has a long way to go to actively “engage” citizens, implying a direction of E-government efforts in the future. In this direction, we should not only develop the technical systems to encourage citizen participation, but arrange the institutional and regulatory environments. For example, there is a need to arrange a rule by which not a single opinion is lost in taking care among the mass of engagements.

In order to meet the requirement for the future direction of E-government, the Roadmap to E-government (2003 - 2007) includes a project to construct a “Portal System for Citizen Participation” to encourage E-petition, policy proposal, and public debate on the forum. Ambitiously enough to realize the democracy on the

cyber space, even E-voting system has been proposed in the Roadmap to be in use in the General Election by 2012 under the direction of the National Election Commission.

E-voting has been attracting considerable attention recently. This fact is based on interest and attention devoted to E-government which provides a tool for the development of direct democracy, enabling citizens to participate in the government decision making. Interest in E-voting is also founded in problems with domestic election system.

The National Election Commission has expressed its concern on the low rate of participation by constituents in the various types of election, having serious impact on the level of representational validity the constituency. The low rate of voting is in part due to the lack of flexibility with respect to timeframes and physical accessibility of balloting stations.

To make a good practice of electronic participation, especially in E-voting, there is a need to overcome various challenges from cultural, organizational, and technological perspectives. Increased public distrust of high technology voting may end up with a big trouble in the election. Critics of E-voting argue that the technology creates a black box that allows no independent verification of votes unless a validation tool like a paper receipt system is used.

## V. Conclusion

According to the experience described in the cases, all the ideas delivered in the BPR have not been placed into the implementation stage of the project, leading to the low performance of the E-government from the innovation perspective. Answers to this problem are summarized as follows.

First of all, removing the duplicate or streamlining the business processes implies cutting the job opportunities, inducing the resistance of stakeholders. Second, those accustomed to the traditional way of working have few incentives to agree with the changes. Finally there are usually so many organizations involved in reengineering a process that it becomes a trouble to derive an agreement.

One of the ambitious E-government projects tightly coupled with government innovation is the implementation of Government Administration Innovation System which integrates government-wide business functions and policy life

cycles, based on the BPR of each government department. The system is expected to restore the results of E-government, evaluated as little from the perspective of government innovation.

Although the electronic services have been made available, the adoption of those services by citizens and businesses remains to be another issue. Citizens are unlikely to use the services electronically provided unless they see real benefits from doing so. While continuing to expand and upgrade E-government systems, a serious criticism is faced that the acceptance of the E-government services by the public has been much lower than it should be, thus the value of money spent on the system not reaching the maximum potential.

Despite maturity in E-government at some levels, the challenge comes from the point of public view, for example, in the number of Internet users that have actually visited government web sites to obtain government information and services. Low take-up rate implies that citizens do not feel that they are at the center of government administration.

It is important to move to realize actual promises of E-government in various sectors of applications by focusing on the issues on government innovation, public engagement and participation, and how electronic services are promoted to have citizens and government employees adopt them to improve productivity and governance in the public administrations.

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