

What Role the Government in ICT Development?

Starting with the “e-Japan Strategy” in 2001, the Japanese government has been pursuing policies aimed at developing ICT infrastructure, encouraging the use and application of information and communications technology (or ICT), and establishing the foundations for using ICT for growth. Now Japan boasts some of the most advanced ICT in the world. **Yasuo Sakamoto**, deputy director-general of the Information and Communications Bureau at the Ministry of Internal Affairs and Communications, explains the background and future prospects of policy strategies as support for the advancement of ICT in Japan.

The rapid growth of the Internet began in the mid 1990s. This so-called IT Revolution was deemed comparable to the Industrial Revolution, and nations around the world began to develop national IT strategies. Japan fell far behind in this respect. The rate of Internet use in Japan was among the lowest in the developed world, and was not even high in comparison with other nations in the Asia-Pacific region. In 2001, it would even be said that the Internet of Japan was “high-cost and low-speed.”

Based on an awareness of the need

to catch up with other countries, provide the most advanced IT environment for all of our people, and contribute actively to international society, the government began to take actions, beginning with the Basic IT Law, which came into force in January 2001. This led to the establishment of the IT Strategy Headquarters headed by the prime minister and consisting of all members of the Cabinet and experts from the private sector. This kind of formulation of the structure for various policies is not unusual these days, was the first such system in Japan based on a national commit-

ment to a particular issue. As a specific strategy, the “e-Japan Strategy” was developed in January 2001. This Strategy stipulated that Japan would quickly and comprehensively take the necessary actions during the five years to come.

The e-Japan strategy started with setting a great goal, namely “being the world’s most advanced IT nation by 2005.” To achieve this goal, (1) establishing infrastructure for ultra high-speed network and competition policy, (2) establishing rules and providing new environments for electronic commerce, (3) realizing an electronic government, and (4) nurturing high-quality human resources, were regarded as policy areas with overriding priority, and the objectives and measures to be taken were clearly specified in each of these areas.

Features of Japan’s IT Policies

Japan’s IT policies, which started with the “e-Japan Strategy,” have four features. First, Japan established organizations and systems, such as the IT Strategy Headquarters, in an attempt to establish a firm structure for promoting IT policies. Second, the directions of the measures were made clear. In addition to the basic IT law and e-Japan Strategy, specific IT strategies developed by the government include the e-Japan Priority Policy Program, which is presented every year in principle and specifies what each ministry should do by which date. The third

Based on the infrastructure and environment established by the government, the private sector actively invested in infrastructure and ICT and took innovative actions. This made Japan one of the world’s most advanced IT nations. At any time, the most significant point is how freely and creatively the private sector can act in the environment created by the government.

—Yasuo Sakamoto, deputy director-general of the Information and Communications Bureau at the Ministry of Internal Affairs and Communications



feature is the appropriate review of strategies and introduction of evaluation methods for the IT strategies. The government reviewed and introduced its “e-Japan Strategy II” in July 2003 and developed the New IT Reform Strategies in January 2006. In August 2003, the government also established the “Expert Panel on Evaluation” under the IT Strategy Headquarters, which aims at having IT strategies evaluated by experts from the private sector. Finally, the fourth feature is that the roles of the government are clarified: in other words, the division of the roles to be played by the public and private sectors was clarified. Needless to say, reviews of policies and the evaluations, particularly from the perspective of the private sector, are very important.

Developing the World’s Most Advanced Broadband Environment

A number of policies were pursued through cooperation between the public and private sectors. Consequently, in terms of the infrastructure, Japan realized an Internet environment that is most affordable and boasts the highest speed in the world. In Japan, optical fiber and high-speed, high-performance mobile phones are the most widespread in the world.

As mentioned above, national IT strategies were developed, systems for pursuing policies such as IT Strategy Headquarters were established, steps were taken to support policies such as those in the budget and tax system, and the improvement of systems like regulatory reforms and the development of legislation were conducted in a comprehensive manner. What was especially important in the process was the government’s adherence to the principle that “the private sector should play the leading role while the public sector supports it.”

In the process, the government played six specific roles: (1) setting the direction from a broad perspective (clarification of IT strategies, etc.), (2) promoting regulatory reforms and competition policies that put emphasis on market competition, (3) motivating the private sector to take action

(budget, tax system, etc.), (4) doing the minimum that the government should do (correcting gaps, ensuring safety, etc.), (5) making its own actions highly efficient and sophisticated (promoting electronic government and e-municipality, etc.), and (6) practicing international cooperation and coordination. We cannot say that all of these roles are completed, but common understanding of these roles is definitely important.

Basically, what the government can do is set up the right environment. Based on the infrastructure and environment established by the government, the private sector actively invested in ICT and took innovative actions. This made Japan one of the world’s most advanced IT nations. At any time, the most significant point is how freely and creatively the private sector can act in the environment created by the government. On this major premise, the government should steadily do at least the minimum that it can: this is important. The government has been promoting, and will continue to promote, policies that put emphasis on a sharing of visions between the public and private sectors, which ensure that the private sector plays the leading roles, and that attach importance to the market principle. On the other hand, in addition to what the private sector is expected to do, there are tasks that the government has to address by itself: promoting electronic government and e-municipality. For these matters, the government still faces some issues, especially in e-municipality, because municipalities adopt different initiatives and have different ways of introducing the system, for example. In our view, the central government has its own roles to play in tackling such issues. For example, it can promote e-municipality, the principle of local municipalities, by summarizing advanced examples or by establishing a platform that is common to municipalities.

Utilization and Application of ICT

In terms of infrastructure, Japan has achieved the world’s most advanced broadband environment. Still, we have

yet to solve many of the issues associated with improving the environment for using ICT, such as those related to the use and application of ICT and problems concerning security and privacy. While the entire government has been engaged in the promotion of policies to encourage the use and application of ICT, the Ministry of Internal Affairs and Communications announced the “U-Japan Policy” in 2004, which aims at realizing a ubiquitous network society—a society that permits easy connection to the network “anytime, anywhere, with anything, and by anyone”—by 2010, or ahead of all other countries in the world. This idea is also applied to the government’s New IT Reform Strategy.

The basic philosophy of “U-Japan” consists of four concepts: (1) Ubiquitous (all people and things are connected with each other), (2) Universal (a sincere understanding that is friendly to people), (3) User-oriented (the viewpoints of users are incorporated), and (4) Unique (vitality with uniqueness being gathered).

Developing a ubiquitous network society has the potential to solve issues faced by other countries, as well as Japan’s own issues. The most significant point of being ubiquitous is that technological innovation enables communications not only among humans, but also among humans and goods and among goods themselves, which permit an almost infinite expansion of information. In other words, ICT will spread to every corner of our lives just like grassroots. In our view, the free distribution and exchange of information and knowledge, enabled by the ubiquitous society, will realize a “value-emergent society” that permits the creation of new added value.

In Japan, improving the broadband environment—which includes mobile phones, home information appliances, and electronic tags—and encouraging the growth of digital broadcasting have been moved ahead steadily, becoming national strengths. We also see some cases in which ICT that combines this infrastructure finds particularly sophisticated application. Meanwhile, Japan faces many unresolved issues, including a declining birthrate and aging population, measures for

protecting the global environment, security and safety, and regional revitalization. We are hoping that the use and application of ICT (or ubiquitous network technologies) will be the “trump card” for solving these issues.

Measures being taken at the moment include the intensive application of ubiquitous network technologies, such as the promotion of a “Special Ubiquitous Zone,” but we are still at the stage of seeing partially successful models only. We hope these models will be combined with each other and work together organically, allowing horizontal and omni-directional expansion, in other words, total optimization.

In addition, we have looked at policies to increase growth potential using ICT, because increasing our growth potential and improving our

(1) the continued progress of globalization and the breaking down of borders (which can make finding a solution more difficult and increasing at the same time increase the possibility of solving problems across borders.) and (2) the integration and cooperation between the real world and the virtual world. These movements have the potential to provide new solutions to the array of problems that confront mankind. But ICT has the dark side as well. Measures for information security and action against illegal and harmful information must proceed rapidly through cooperation and strong coordination among nations. Only then can ICT move on to the next phase.


In the late 1990s, when use of the Internet was growing rapidly, there were lively discussions about ICT

tions, such as a system for monitoring senior citizens, a nursing-care system, a welfare-support system, telemedicine system, and the use of robots.

As for measures for the environment, the use of ICT equipment increases CO₂ emissions, but using ICT for supply chain management and teleworking, for example, offsets this to a large extent. According to our estimate, encouraging the use and application of ICT will reduce CO₂ emissions. In Japan, a study group has prepared a report that estimates that the quantity of CO₂ emissions in 2012 is expected to be 3.0% lower than that in 1990. If these solutions are made possible by encouraging the use of ICT, it means ICT will also help other countries to reduce their own CO₂ emissions. The relationship between promoting the use of ICT and global environmental and other issues is now being discussed by a Focus Group set up under the ITU.

Seen from a broad perspective, the ICT industry in our country contributes approximately 40% of our real GDP growth. Even when Japan was facing negative growth, the ICT industry was achieving positive growth. Amid a financial crisis like the one we face now, it is important to refocus on the potential of ICT.

Japan has a broader array of issues than other developed nations have (making it an advanced country in terms of issues). I think Japan will be able to contribute to global society by solving those issues one by one, or in a comprehensive, systematic manner by applying the ubiquitous network technologies, and by sharing the solutions with the other countries. For developing countries, we would like to share these achievements in the form of international cooperation.

I also think that solutions will be more effective if we cooperate with other countries from the beginning in using the ubiquitous network technologies to seek solutions for issues that are common to the countries, instead of carrying out those solutions on our own. 

Yasuo Sakamoto is deputy director-general of the Information and Communications Bureau at the Ministry of Internal Affairs and Communications.

The most significant point of being ubiquitous is that technological innovation enables communications not only among humans, but also among humans and goods and among goods themselves, which permit an almost infinite expansion of information. In other words, ICT will spread to every corner of our lives just like grassroots.

competitiveness in global society have become urgent issues in recent years. In May 2008, the Ministry of Internal Affairs and Communications developed “Plans for Increasing ICT Growth Potential,” consisting of two axes: “global growth potential and regional growth potential” and “ICT industry and industries that utilize ICT.” The Ministry is determined to achieve deeper integration of ICT with industries and regions that utilize it.

Contributing to Global Society

ICT has the potential to overcome geographic and spatial constraints by transcending time and space. Recent technical innovations have made the fulfillment of this potential more real than before. In particular, two points have been remarkable in recent times:

policies in each country and among nations. In recent years, however, these discussions have been made only at the World Summit on the Information Society (WSIS) held by the International Telecommunications Union (ITU) in 2003 and 2005, respectively. Currently, the global community is under pressure to take action on areas such as the worst financial crisis in 100 years and issues with the global environment. Now is the time for nations to cooperate and coordinate with each other in the sphere of ICT policy, and make the most of ICT’s potential. We have a strong sense of crisis, that nations should not lose this moment.

Japan is set to face the most rapidly aging society in the world, and we will have to solve many issues. Use of ICT (ubiquitous network technologies) provides a number of potential solu-