



The “Digital Transformation” Digitalization Policies Implemented by Japan’s Digital Agency Have Not Necessarily Failed

Murai Jun, Distinguished Professor, Keio University

The Digital Agency was launched on September 1, 2021, amid a COVID-19 pandemic that was highlighting the lack of progress on digitalization in Japan. The editorial team of *Chuokoron* spoke to Professor Murai Jun, Special Adviser to the Cabinet on digitalization policy and Chair of the Digital Agency’s Digital Society Concept Conference, regarding these issues and what may happen next.

Strict regulations obstructed IT use and application

—During the COVID-19 response, many people became aware of Japan’s lack of progress on digitalization. What do you think are the biggest reasons for that?

I think it’s fair to say that, while in some respects Japan’s digitalization is not going smoothly compared to other countries or it has not made the progress that it should, in other regards, it is going well.

Japan’s IT strategy, the [IT Basic Law](#), was enacted in 2000. Subsequently, the IT Strategic Headquarters was established within the Prime Minister’s Office and an IT strategy mission spanning various ministries was implemented. The first task was to create a social environment in which anyone could use the Internet. The building of the infrastructure went quite well. However, the development of the “use and application” stage had challenges.

Progress was made on the use of IT technology mainly in large companies, but adoption among small and medium size companies and some specific industries lagged.

Finance, education and medical care are areas that have struggled. These industries had restrictive regulations. There were rules requiring information to be entered on specific printed forms. Dedicated lines were mandated to operate ATMs over the Internet, which significantly increased costs.

Businesses which were unable to operate via online banking needed to physically go to the bank. Many small- and medium-sized companies were bound by extensive financial institution accounting rules, which made introducing even relatively simple Internet systems prohibitively difficult. I believe a chain of related effects caused a broad failure of adoption.

Digitalization of government services was hampered by regulations such as the requirement of printed forms and seals, and the need to fill out the same documents multiple times.

We were aware of these issues, and for the last twenty years we have been creating systems and giving advice with the hope of improving the situation, but it has not worked.

In September 2021, the [Basic Act on Forming a Digital Society](#) took effect and the [Digital Agency](#) was established. I believe a structure was established that will address the situation and unleash digitalization in Japan.



Prof. Murai Jun

Pressing needs caused by the pandemic

—The COVID-19 pandemic brought great change regarding society's acceptance of digitalization, didn't it?

Over the years, we have revised numerous laws that had previously prevented progress on digitalization, opening up a path to online services and providing positive change in some areas. By revising the commercial code, for example, it became possible to hold online board meetings and invite external officers based abroad to participate.

On the other hand, there were many areas where change somehow didn't happen. Education is an example. Even though we changed the law requiring school lessons to take place in classrooms, the schools did not prepare the necessary equipment to permit children missing school due to illness or other reasons to participate in online classes. The teachers were also not prepared. There was no urgency, and no will to change.

During the pandemic, children became unable to attend school and online education became the only option. Out of necessity, online lessons rapidly became possible. This was possible because solid infrastructure was already in place. Digital infrastructure withstood the demand, including for remote working, which quickly became widespread.

I believe that the importance of digital technology as social infrastructure was brought home powerfully to many Japanese people during this pandemic. At the same time, compared to other countries, Japan may have had the biggest shock to its mindset and attitudes regarding its use of digital technologies. In that sense, it has been a historic experience for us. I hope this tragedy might successfully fuel a shift to a digital society.

The gap between local municipalities and digital provision of information

—Even though digital infrastructure was ready, health centers were initially reporting the number of COVID-19 infections by fax—a symbol of how various problems were caused by lack of digitalization progress on the ground. Will the Digital Agency bring reform to those areas?

Well, let me explain how I would analyze this. It's important to understand two key concepts: one, that Japan has basic municipalities of cities, towns, villages and special wards; and two, their leaders are all chosen in elections. Under these leaders, basic municipalities have autonomous responsibility for regional society, such as education, health care, welfare and dealing with natural disasters. Although social systems, based on personal information, have been set up to enable them to exercise that responsibility, a democratic system has been put in place to prevent this leading to the ministries of central government becoming too powerful.

For example, some municipalities introduced office automation quite early using 1980s PCs, and by the 1990s they had achieved a certain degree of success. But fundamentally, when it came to the introduction of information and communications technology, there was an acknowledgment of autonomous self-government and freedom. In other words, some municipalities made progress in using IT and some did not, resulting in a diversity of systems from municipality to municipality.

So, in 2000, we started work on the problem of how to create a digital environment that could be shared infrastructure, while also respecting the autonomy of basic municipalities.

During this process, we faced the problem of how to deal with personal information related to Juki Net

(the Basic Resident Registry Network), and also education, medical care, welfare, natural disasters, and so on. For example, if we tried to use the Juki Net as a nationwide shared computer system, that could clash with the current social system and cause confusion. So this had the effect of crystallizing a major issue; namely, how to set up systems to circulate data related to the national responsibilities of tax and health, while also ensuring that those systems respect the autonomy of municipalities that have the important responsibility and mission of protecting citizens.

We have been working on this issue, but it hasn't been completely successful. As a result, we have been criticized for certain things, such as vaccination reservations and the 100,000 yen "special fixed benefit" issued in 2020. People asked why Japan was unable to implement these processes smoothly when other countries did it so well.

While it is certainly true that some countries did do these things successfully, countries have different population sizes and their government systems have different origins, so a simple comparison isn't possible. Many of the countries that managed to perform these tasks well had small populations or had created top-down systems. In Japan, we haven't created a top-down system that goes over the heads of municipalities across the nation, and considering our social structure I don't believe this is something we should do.

Toward a digital society rooted in Japanese democracy and culture

—How can we move ahead with digital information sharing nationally, while also maintaining the autonomy of basic municipalities?

Individual municipalities should make use of digital technology without spending money on it, and govern their localities in their own particular ways. The running of that, however, should be shared between municipalities and the central government.

If that is done, it becomes possible to create a structure that can quickly implement things such as the recent vaccination reservations and the 100,000 yen "special fixed benefit," or new welfare payments and support payments to households raising children. The mission of the Digital Agency is to create such a foundation for the country, and to create a society that can solve such issues without long-term expenditure.

—Does that mean moving ahead with shared operation using disparate municipal and governmental systems?

It's a fact that different systems are hard to link together, but as an engineer I don't think it is correct to design and make a single top-down system for a country of over 100 million people. It's certainly true that there are problems with systems not being linked, but in some ways the disparity is a good thing. If you make a single, enormous system, it will be difficult to alter, or altering it will cost a huge amount and the system will become even more dated.

If you make an autonomous and dispersed system that is also harmonious across the whole, it can handle change flexibly. If we design an overall system from that perspective, I believe we can have a Japanese-style digital society that respects our own democracy and culture.

So I think the Digital Agency needs to create a digital technology base to fit Japanese society.

Of course, there will be hurdles when linking up disparate systems, but it depends on whether the disparity is in hardware or software. When you link together systems through hardware, strain is put on

the connections due to the need to adjust and link different elements. But this integration involves adjusting software, so the kind of hurdles we face are different to those we encounter when integrating hardware. Hurdles will definitely crop up, but they are digital technology hurdles so the time to overcome them is much shorter. It's OK to repeat any adjustment work needed to link systems, so the outlook for integration is extremely positive.

Another hope for the future is cloud computing. The Digital Agency uses the term Gov-cloud (government cloud) to capture the idea that the burden will be reduced when all government processes are linked via the cloud. With Gov-cloud there will be less likelihood of impediments, and we can expect the time needed to address problems to be reduced. What's more, once the systems are built the work will proceed more quickly. Neither repairs nor putting the system into use will cost a lot of money.

In the case of personal information, too, if the Diet makes decisions on such questions as, "What data will be shared and how?", "Who can access the data?", and "How much access to the data will the government have?", the amount of time and money needed to create the required system will be greatly reduced.

Why the Digital Agency hired from the private sector

—The Digital Agency includes around 200 hires from the private sector among its 600 total staff. Why is that?

Because there are no digital engineers within the bureaucracy! In Japan, there are far too few people with a science background among bureaucrats. That's why so far government agencies have outsourced IT-related work.

But now they will have to work with human resources who understand IT. For that reason, first the central government needs to design and operate the system with engineers from the private sector and expand it to about 1,700 regional governments across Japan.

The Digital Agency will bring in private expertise and create a structure for digitalization. If necessary, we will design it together with human resources from regional governments and other government agencies, set goals, and implement them. If this is carried out, the individuals involved will gain a lot of skill in information systems. Once those human resources return to their regional governments and organizations, that skill will be extended and reproduced, creating a "revolving door" through which private companies, government administrators, and the staff of regional governments can pass to and fro. Unless we do that, the digitalization of society won't happen in time.

Right now, to achieve digitalization in local areas, I am thinking of enlisting the help of financial institutions for the IT management of regional small- and medium-sized businesses. I expect that the leaders of regional SMEs spend plenty of time with regional financial institutions thinking about managerial policies. There should be a way to suggest Internet business ideas on those occasions. It would be great if there was some kind of government investment for regional banks and credit unions to help that happen.

Japanese people are good at helping each other to solve problems, so the concepts of "If you are in trouble, we'll do something" or of "help squads" are also important. The 2011 full transition to digital terrestrial broadcasting took about ten years and was achieved through bringing together the abilities of ministries, regional governments and volunteers. And "help squads" were active there too. It's also an aspect of Japanese culture that those volunteers quickly appear.

For example, the people taking it on might be local university students. The “help squads” could be made up of students who have received training and accreditation in the basics of computers and networks. Regional governments could employ those students with slightly higher pay than normal part-time work. If someone had an issue, they could get in touch with the university, and a “help squad” of students could go there and offer assistance. That’s how it would look.

The effect of changing Prime Ministers and Ministers of State

—Prime Minister Suga Yoshihide created the Digital Agency, then Kishida Fumio took over his role. The Minister of the Digital Agency was Hirai Takuya and now it is Makishima Karen. Has that had an effect?

I have worked in the same way at the IT Strategic Headquarters under the Liberal Democratic Party, Democratic Party, then the Liberal Democratic Party again. Whatever happens, I don’t use changes of Prime Minister or Ministers as an excuse. I think that IT strategy (including when it falters) is unlikely to be influenced by the political situation.

What’s more, the Digital Agency was established under the enacted Basic Act on Forming a Digital Society. I have been asking for an independent government department for over twenty years. That has now been established in the form I suggested and funds have been secured. Even supposing a fluid political situation, I think we can guarantee more stability and continuity than there was in the past.

Will there be progress on popularizing My Number?

—The My Number (national identification number) system hasn’t quite become popular. Will the Digital Agency be able to promote it?

There are various social structure-related restrictions on the My Number system due to the issue of personal information. But the problem is that basic municipalities need to lead the way.

Citizens are worried about how the current My Number system will be used, while the authorities make assumptions and hedge against risk. In practice, it is hard to use.

For example, I work with various companies as well as at a university. If each of those companies asks me to send a copy of my My Number by registered mail for income tax, I’m likely to think, “Let’s stop using it.” [laughs]

It is the national government’s responsibility to make My Number easy to use and organize in terms of who uses it, where, and how. The system needs to be transparent and explained in a way that anyone can understand, including information about what kind of data is linked to the system.

It would be a problem if the Digital Agency became a department only for promoting My Number, but we do need to remove the obstacles in the way of wider use and make the system transparent, easy to use, and with clear objectives.

Can authorities change their previous “supply side” attitude?

—Even if government departments and municipalities integrate their systems, they will still be inconvenient unless application form details and terms are changed. To make them truly easy to use, don’t we need to change the regulations themselves?

The authorities create systems to hedge risk so that they will never fail, they can’t be criticized by anyone, and they can’t be accused of breaking rules. In other words, bureaucrats use the logic of the supply side and they don’t try to consider things from the consumer perspective.

The Digital Agency has hired human resources from private companies where it is normal to consider the consumer experience—people from companies involved in online shopping, like Mercari, Inc., and also game programmers. So, we hope to shift to services with a user perspective.

The hiring conditions are that private sector hires work for at least three days a week, for a minimum of one year. We can't provide huge salaries, so to ensure these hires play an active role, the Digital Agency needs to receive private sector praise for a track record of creating good outcomes. For example, if we improve and popularize the infamous My Number system, we can be heroes in the world of digital engineers. We need to make the Digital Agency that kind of place.

—What sort of mental attitude is needed to move to a digital society?

I don't think there's much call for mental preparation or trepidation. People should just adopt the attitude that, if we use digital services for the things we really want to do and for processes that are typically tiresome, those things might become easier and more enjoyable.

For example, I'd like people to think about how caregiving could more be more effective using digital services, or how digital technology might help a family survive an earthquake. I think these kinds of things are the most important.

Interviewed by Toya Koichi

Translated from “Dejitarucho ga susumeru DX: Nihon no dejitaruka seisaku wa kanarazushimo shippaidehanakatta (The “Digital Transformation” Digitalization Policies Implemented by Japan’s Digital Agency Have Not Necessarily Failed),” Chuokoron, December 2021, pp. 104-111. (Courtesy of Chuo Koron Shinsha) [December 2021]

MURAI Jun, Ph.D.
Distinguished Professor, Keio University

Born 1955 in Tokyo. Studied at the Keio University Graduate School of Engineering, completing the Ph.D. program without a Ph.D. degree. Has a Ph.D. in Computer Science. After working as an assistant at the Tokyo Institute of Technology's Global Scientific Information and Computing Center and at the University of Tokyo's Computer Center, in 1990 became an associate professor at Keio University's Faculty of Environment and Information Studies. In 1997 became a professor at the same faculty. Known as the “father of the Japanese Internet.” His books include *Intanetto* (Internet) and *Intanetto no kiso* (Foundations of the Internet).
