



ENHANCING PUBLIC DATA SYSTEMS TOWARD BUILDING A SMART GOVERNMENT*

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“If governments are to stay relevant, we need to be willing to fundamentally rethink how we serve our citizens.”

Colin MacDonald
Chair of OECD e-Leaders

BACKGROUND

One of the main old problems Thailand faces is bureaucratic silos. Governmental agencies seem to operate independently and separately, which leads to the ineffective provision of public services. The government often tries to solve this problem by either restructuring ministries and departments or putting public service points together in one place (the Chaeng Watthana Government Complex, for example).

A better solution would be interconnecting data. However, what we have seen recently is the introduction by government agencies of too many web services and mobile applications. The more each agency thinks that technology itself is the solution, the more applications will be produced. Such actions, however, reflect the same silo mentality. Yet, this does not mean that technologies are not helpful, but the government needs to alter existing public data management toward building a “smart government.”

WHAT IS A SMART GOVERNMENT?

So-called smart devices are becoming more critical to human life these days and are embedded in most human activities so that people cannot think of living or working without such devices as smartphones, smart televisions, smart homes, or smart cities, in order to help improve the quality of their lives by descaling most activities into platforms or applications, facilitating visualized data, and suggesting plausible choices before making a decision. On a national scale, the “smart” concept is also leading toward “smart government.”

Smart government is an idea whereby a government uses digital technology to improve state capacity and better decision-making. Many countries around the world have adopted digital platforms that facilitate e-services instead of face-to-face services. However, adopting digital technology and devices only is not sufficient for becoming a smart government.

The public data system at the back office is the key to digital transformation in the public sector. The government first acknowledges how to design a data system, relating to what people would like to know, what datasets must be used, and how to collect and connect those datasets within the public data system.

• Case Studies: Social Welfare Databases

Improving the public data system is a stepping stone to better public services, and social welfare databases are good examples. Empirically, not only developed countries but also developing countries can build a practical and comprehensive social welfare database. The first case is that of Chile. The Registro Social de Hogares (RSH), which was introduced in 2006, integrates data of more than 12 million people, or nearly 72 percent of the country’s population. RSH is two-way linked with other state agencies’ databases, plus those of several municipalities. This database is the heart of more than 80 social protection programs in Chile.

Another example is found in Turkey. The Integrated Social Assistance System (ISAS), starting in 2009, covers approximately 34 million citizens, or 45 percent of the country’s population. As with RSH, this system is incorporated within many government agencies. A wide variety of social assistance programs use the database, including conditional cash transfer services.

Both RSH and ISAS are examples of integrated social welfare databases. The systems are designed to collect, update, transfer, process, and use data with

ease for their citizens while being cost-effective for the states. Conversely, the comparable database in Thailand is falling behind somewhat.

In the last few years, the government of Thailand has provided many financial assistance programs for targeted groups, especially the Government Welfare Registration Program (บัตรสวัสดิการแห่งรัฐ), which is its most significant effort to create a poverty-targeting database. However, several problems concerning the data of Thais have been revealed in this program.

First, the purpose of the database itself means that the Thai government lacks the data of its citizens who are neither in the existing database of taxpayers nor members of social security funds. Second, the database is incomplete, which is reflected by both exclusion and inclusion errors.

Finally, the database is not fully utilized, which leads to repeating registration information for various aid schemes. In particular, this occurred after the announcement of the Emergency Decree Authorizing the Ministry of Finance to Raise Loans to Solve Problems, Remedy, and Restore the Economy and Society as Affected by the Coronavirus Disease Pandemic, B.E. 2563 (2020).

Then there are the burdens of the targeted groups to consider. A report by the World Bank Group (2020) confirmed these difficulties. The government of Thailand provided unprecedented fiscal assistance to firms and households, roughly 13 percent of GDP. Although the figure was the highest among selected East-Asian and the Pacific countries, there were some concerns about its efficiency.

“Challenges include connectivity to register for beneficiaries and building an integrated social registry that can provide timely information to target vulnerable groups and provide information to policymakers on program design and gaps,” the World Bank pointed out.

HOW TO BE A SMART GOVERNMENT?

The smart government concept is mainly a combination of two ideas: citizen-centric government and data-driven government. The first idea, citizen-centric government, is not a new concept. It is based on user-centric principles which consider people as the center of the policy process. Generally, in terms of public services, people are considered the recipients of the policy output in the government-centric model. Government officers prepare a comprehensive national plan and set policy agendas. The programs and policies are then delivered for budget expenditure approval and implementation by a top-down bureaucracy. Hence, people cannot directly put what they wish into the policy formulation. Owing to this lacuna, this model may not guarantee the delivery of relevant services to citizens. A mismatch between what people need and what the government does is not entirely the same thing.

Thus, the idea of citizen-centric government is to reposition people to the middle of the policymaking process, from the policy formulation through implementation stages. People possibly may request what they would like and monitor what they receive. This process can assure that policymakers and planners induce people and communities to join in dialogues. In terms of public services, the government should not design public services just to increase organizational efficiency but rather to achieve people-friendly usage. With this citizen-centric concept, smart governments can responsively resolve problems.

The second idea, data-driven government, is when the government uses data predominantly for policy- and decision-making. On the contrary, a typical top-down model creates closed-room policymaking with insufficient information. This is one of the reasons why most policies may not be as successful as had been expected.

Nowadays, many governments worldwide use digital technology to advance the state data system,

including better data collection, data analytics, and data visualization. The government that uses data for policy processes will be more efficient in bridging the gap between citizens and the government (Wiseman, 2018).

To be a smart government, the government should begin to reconsider three procedures: smart data collecting, smart data connecting, and smart data opening.

• Smart data collecting

The core of smart data collecting is how to collect data while placing a minimum burden on people, that is, to collect only necessary data and to protect personal data.

Before necessitating data collection, the government must know what data should be collected and what data have been collected. Concretely, the European Union proposed the once-only principle for its members to tackle data redundancy. OECD has estimated that the 24 EU members implementing the principle would reduce the level of work by 800,000 hours per year.

Exceptionally, Estonia has adopted the once-only principle in the state data system. Citizens can approve personal data that the administration has collected only once in the e-Estonia state portal, which means that the state cannot request citizens to supply the same data twice. After that, citizens can track data usage in the system and know which authority has used their personal information.

In terms of personal data protection, the government routinely collects citizen data by its administrative units, but its citizens should have full rights to personal data protection by state law.

During the COVID-19 pandemic, many governments have requested people to install and use applications for tracking encrypted real-time location. However, most people were worried about data privacy thinking that their government was tracking them all the time without a data protection

policy. The government of Taiwan responded to such anxiety and built trust between the government and the citizens during the pandemic by announcing data protection guidelines. The government keeps real-time data for epidemiological reasons for only 28 days. After that, all collected data are deleted from the system.

In Thailand, there is another data-collecting issue: privately collected public data. Although the government may use state-owned enterprises or corporations for collecting data in the name of the government, it is necessary to be aware of the possible abuse of the information that non-governmental agencies are collecting, for example, the *Pao Tang* (Wallet) (เป๋าตัง) application, a financial platform operated by Krungthai Bank. During the COVID-19 pandemic, this platform featured a g-wallet and several stimulus package schemes, including the *Chim-Shop-Chai* (Eat-Shop-Spend) (ชิมช้อปใช้) program and the *Rao-Mai-Ting-Gun* (No One Will Be Left Behind) (เราไม่ทิ้งกัน) scheme. However, it is not clear whether or not the bank can use these data for its business purposes and whether the government can fully access the data.

• Smart data connecting

The problem of bureaucratic silos can be resolved by connecting data. Recently, there have been some advancements in data connection for public services. The One-Stop service, for example, is a form of data connection that links databases from a dozen administrative units. Citizens can get service across organizations in one place. The government's Smart Kiosk for data connection serves citizens through one machine; people can use their ID card for updating information and obtaining the right to public welfare.

Targeting social assistance is another area where there has been some progress on data connecting. The Thai People Map and Analytics Platform (TPMAP) is an integrated data platform for monitoring poverty

situations by targeting low-income groups. This platform links databases between basic minimum needs information collected by the Department of Community Development and the Government Welfare Registration Program. Also, platform developers have designed data visualization with short narratives in a way that enables most citizens to understand data analytics.

The two examples seem to be on the right track, but work has only just begun. Thus, the government needs one agency that connects all open public data by linking the back-office data system to the front office portal. After the announcement of the Digital Government Administration and Services Act, B.E. 2562 (Digital Government Act, 2019), the Digital Government Agency (DGA) was made responsible for being the data connector in Thailand. It also created an open public data portal <data.go.th> for accessing data freely.

• Smart data opening

Open data are critical for transparency, the value of social and commercial activities, and people's participation and engagement. The term means that data must be available and accessible, re-used and redistributed, and involve universal participation.

To measure the degree of open data, many institutions have developed quantitative assessments. The best known one is the Open Data Barometer. In 2016, Thailand received only 27.55 points out of 100, which means that open data were insufficient. A similar result was recorded in the Global Open Data Index (GODI) survey in 2016/17. The country scored just 34 points out of 100.

After the Digital Government Act announcement, however, Thailand has been making considerable progress in terms of open data. Both the Open Data Barometer and GODI scores now might be a lot higher than five years previously, primarily because of the introduction of the above-mentioned open public data portal, but there is always room for improvement.

Open public data can be more functional if the system is designed in consideration of various human characteristics. This is because each group of people has different demands for data. For instance, most people want to access only their own data or look at public data with an overview infographic. Active citizens might want more details and be looking for public data in a stylized fact format. In contrast, civic technology developers think of an application programming interface (API) and data sets in machine-readable formats. Smart governments should know what open data design is best for each group of users.

An example of open data adaptation is the plan of the Department of Revenue under the Ministry of Finance. The agency would like to transform the organization by using the citizen-centric model for achieving its major mission of "how people could pay tax much easier." Thus, the Department of Revenue initiated the Hackatax project for fostering participation of the general public and civic technology developers. This project is aimed at solving taxpayers' pain points, such as having to fill in too many documents for paying their taxes. The Department eventually obtained five prototypes to test in the next sandbox phase.

CONCLUSION AND RECOMMENDATIONS

A smart government's idea of digitally transforming the state requires a comprehensive public data system that uses a citizen-centric model. The government's primary duty is to identify citizens' pain points and bring people into the policymaking process. So, a smart government does not mean that the government is trying to utilize new technological devices only but how the government engages with the citizens in every procedure.

Three recommendations are made in this article. First, in terms of smart data collecting, the government should integrate registered data with the

existing database from every governmental agency. For privately collected public data, the government needs to clarify the rights of information and the rights to use public information with members of the private sector. In the long term, the once-only principle, which is in practice reducing transaction costs, should be an essential goal.

Second, regarding smart data connecting, the government should invest more in upgrading data systems for linking other datasets and updating real-time data. Also, a national ID card for all public services would be beneficial. The government should not make things complicated by introducing a new card for each new scheme.

Finally, as to smart data opening, all the government's data should be open by default to the public. Agencies will get many comments and complaints at the beginning. However, once the system is settled and well-developed, people will trust an accurate data system. Nonetheless, the drafting of the amendment of the Official Information Act, B.E. 2540 (1997), is something that require careful attention.

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**PANEL DISCUSSION ON
"BUILDING INFORMATION SYSTEMS
AS A FOUNDATION FOR
SMART GOVERNMENT"*****
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Speakers:

Dr. Suphot Thienwut, Director of Digital Government Development Agency

Dr. Napat Jatusripitak, Executive Chairman, Siam Matrix Consulting Company Limited

Dr. Thitirat Thipsamritkul, Faculty of Law, Thammasat University

*** Translated by Mr. Warakorn Awutpanyakul and Mathis Lohatepanont from the panel discussion after the presentation of Mr. Itskul Unhaketu, Lecturer at Faculty of Economics, Thammasat University, at the 2020 TDRI Annual Conference, which took place during the period October 5-7 at its headquarters. Entitled "Hacking the Bureaucracy: Changing Thailand's Operating System," the conference was held online due to the COVID-19 pandemic.

Moderator:

Dr. Saowaruj Rattanakhamfu, Thailand Development Research Institute

BUILDING A SMART GOVERNMENT WITH INFORMATION

How can information and data be used to build a smart government? Dr. Thitirat Thipsamritkul argued that the role of information is critical. Information acts as a source of knowledge, a guarantor of transparency and accountability, and a resource that the private sector can use to increase competitiveness.

Dr. Napat Jatusripitak said that, compared with 5-10 years ago, the amount of information that the government holds has increased considerably. However, even as data collection remains important, an even greater challenge that the government faces is its ability to use that information. The problem is not solely related to the availability of technology but also a question of work culture. The coronavirus crisis, which is a conundrum with both public health and economic dimensions, has made clearer than ever the importance of information for policymaking that can simultaneously balance these two priorities. Additionally, the government still insufficiently disseminates information as open data resources for the public, civil society and public sector developers to use. This is especially true for private sector users who require quick and responsive uses of data. There are also certain types of information that should be available for the purpose of building public awareness about different areas, such as crime rates and road accident statistics, but such data and information no agency have so far released.

From the government's perspective, Dr. Suphot Thienwut conceded that, although the government collects a large amount of data, it still faces challenges with disclosure. Even as the law governing freedom of government information requires that the all information be made public with some exceptions,

two obstacles continue to obstruct this goal. First, much of the information stored by the state is not in digital form, or in a form that can be conveniently inspected and analyzed. The Digital Government Development Agency (DGA) has been working to mitigate this issue by converting government information into a machine-readable format so that it can be fully analyzed and utilized. Second, a number of regulations still present a barrier to data accessibility as government personnel are concerned about the legality of releasing information. The DGA has sought to resolve this problem, in cooperation with the Office of the Public Sector Development Commission (OPDC), by requiring each agency to create a data set related to at least one of the agency's missions. The data set must be accurate, up to date, exchangeable with other agencies, and conducive for further processing. The agencies are also required to discuss any regulation that presents an obstacle so that they can be reformed.

Dr. Thitirat added that the government's lack of readiness to disclose information may also be a result of the fact that some agencies do not know how to release information correctly and in a manner that is widely accepted. One way to alleviate this issue is to provide suggestions or tools to the different agencies on information disclosure. Another is to release the judgements produced by the Information Disclosure Tribunal in a way that that is systematic and easy to access as they can be used by various agencies as guidance on how information should be disclosed.

LINKING INFORMATION TO FACILITATE COOPERATION

The lack of connectivity between information held by different government agencies reflects the siloed nature of how these agencies work. Dr. Napat noted that, from his experience working with data in Thailand, a problem he constantly faces is how

it is scattered in various places, with the source of information unknown. The establishment of a data center or a data warehouse that consolidates and opens an API¹ for retrieving and integrating information together according to the same standards will make working with data faster. He also believed that it would reduce the isolation between government agencies.

Dr. Thitirat added that many agencies still feel a sense of ownership over their data, which leads to those agencies asking those who seek their information what responsibilities they hold and what mission they have. These concerns can be reduced by explaining the duties of those agencies and pointing out that they may release their information to other responsible agencies according to the law, so that all parties feel comfortable with exchanging information.

According to Dr. Suphot, the DGA has played a role in supporting the exchange of information between and among different public agencies. This includes creating a central platform for data exchange. The DGA, in cooperation with the National Statistical Office, is also in the process of building a standard API and data catalog so that the agencies can report the data sets they currently possess, which will assist building greater information linkage and exchange, along with the eventual realization of an open data platform.

Moreover, the DGA has been acting as a coordinator among government agencies in linking information. Examples include:

- A project on removing the request for a copy of official documents, such as a copy of the national ID card, by linking the database of related agencies, such as the Department of Provincial Administration with other agencies, to reduce public burden

when using government services

- A project on checking the travel history of people arriving from abroad who use medical services by connecting the Ministry of Public Health's patient database with the Immigration Office's travel history records, which has helped prevent the concealing of travel information by visitors and reduced the risk of COVID-19 infection among healthcare personnel

One example of an effort at integration between different agencies in which the DGA has been involved is a collaborative project between the Office of the Auditor General (OAG) and the National Electronics and Computer Technology Center (NECTEC). The two agencies used artificial intelligence to analyze the various issues for which public agencies are often investigated by the OAG, so that a list of common mistakes can be compiled and a guideline for preventing further violations can be created.

PROTECTING DATA TO BUILD CONFIDENCE

How can public trust be increased in the capacity of the government to release information? Dr. Thitirat believed that the government must be transparent in its intention and motivation. What will the data it collects be used for? Will it be to facilitate business innovation, or for the citizenry to use in scrutinizing the government's work? The government must also prioritize privacy and safety, and it must be willing to respond to public questioning if it is criticized after disclosing information. There should also be a change in mindset: some people who work with data feel that privacy concerns are a barrier to the effective utilization of information, when prioritizing privacy actually makes it *easier* to use data.

Dr. Supot said that the DGA has contributed

¹ API or Application Programming Interface is a service for the exchange of data from one system to another (Source: Bank of Thailand).

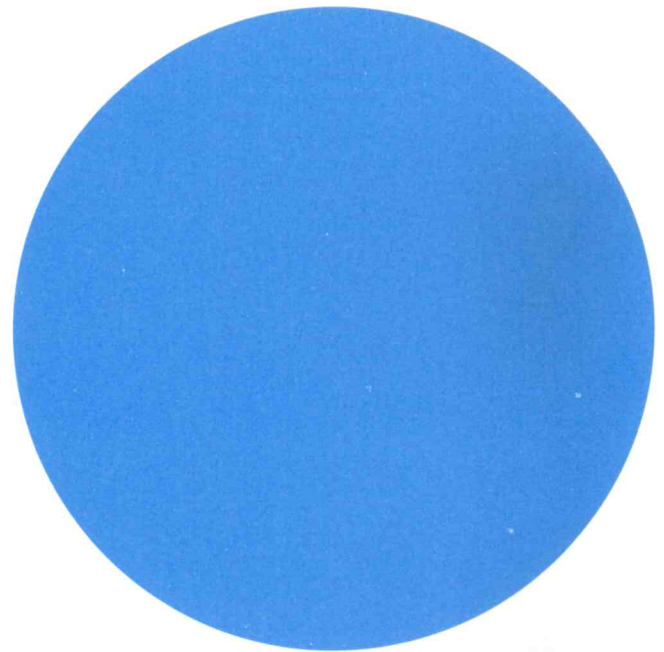
to building public confidence by establishing methods for good governance in managing public information. This has been done through outlining the rights, duties and responsibilities of all stakeholders involved in the management of information, so that all public agencies have guidelines that can be used to establish standards for methods to protect information in a safe and secure manner.

Personal information protection is also one of the DGA's priorities. An example of this task is the *Mor Chana* application, a system that stores citizens' travel history, which was jointly developed with civil society to assess the risk of contracting COVID-19. This app was designed with the principle of "privacy by design" in mind. The application's code is available for open source and open log access so that it can be inspected, the app asks for permission to retrieve and analyze data under an anonymous ID, and a committee on data governance drawing from members of the government, the public and academia was established to ensure the transparent management of such data.

THE ROLE OF INFORMATION IN PUBLIC-PRIVATE COOPERATION

Both the private sector and civil society have key roles to play in increasing the transparency of the government's access and use of data. The DGA has participated in the development of an e-Government Procurement (or e-GP) system used by the Comptroller General's Department to facilitate public scrutiny by making the public procurement process, contract management and disbursement processes more transparent.

In addition to auditing the work of the government, Dr. Thitirat added that the private sector and civil society can also play a role in reporting the challenges and obstacles produced by the government's information disclosure, as the increased release of data can lead to unintended consequences. For example, in some



countries, greater data availability has led to more division and information-based discrimination. Although this issue has not been widely discussed in Thailand, it can still arise as the linkage of information increases. Therefore, it requires all related parties to consider all the possible effects before disclosing information.

In conclusion, building a smart government requires a good information system that can support policy implementation. This involves the systematic and transparent compiling of information, a reduction in technological and regulatory barriers to data retention and release, greater linking of data that enables agencies to cooperate more easily, and ensuring public trust by protecting privacy and safety in the use of data. Finally, the government must increase participation from players both in the private sector and civil society in information management and use in order to win the assent of all actors in society.