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HOW OPEN DATA AND THE INTERNET ARE TRANSFORMING THE GOVERNMENT

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 >> Okay, ladies and gentlemen, we are a little bit late, but welcome to this session. This session is on Open Data developments in Asia Pacific. My name is Waltraut Ritter, and I am the moderator for this session, and I will also introduce the topic, and I would also like to introduce my fellow panelists here.

 The first speaker will be Jay Yoon from Korea. Then -- what's this? Okay. Yeah. Thank you. Then we have Mr. TH Schee from Taiwan, Alfred Wu from Singapore, and we have three remote participants, but as you can see, we are still struggling a little bit to see whether we can get them online. And these are Anne Fitzgerald from Australia, Tomoaki Watanabe from Japan, and Terry Parnell from Cambodia.

 This is quite an interesting panel, I think, and I want to mention that the first time we had an Open Data session as part of the Internet Governance Forum was in 2010 at the IGF in Vilnius. And afterwards, we had the first regional one last year at the APrIGF in Tokyo. So over the years, we have built a community of people working on Open Data either from the government or civil society side across the region, and so we are very happy that the awareness for Open Data is growing.

 And maybe I should just briefly introduce what is Open Data because I remember yesterday we had discussion on big data and private data. But for Open Data, the definition I'm using is from the OECD, and it is public Open Data, so public sector information which is information which is produced by any kind of public organization. That's a very broad definition. And I know that some people also make it even broader, they say also private organizations that open information into the public space can actually contribute to this Open Data. But for this forum, I think we will focus on open public data, which means data published by some kind of publicly funded organization.

 And so the other three criteria which are important for Open Data is that this Open Data is -- can be freely used by anyone. It is an open format; that means it must be in a format that you can easily download and reuse it. And it must also be in a standard form so that it can be understood by machines and also by people. And open also includes openly accessible and reusable, which also includes licensing issues. So you don't need to ask for permission to use the data.

 These are the criteria for Open Data. And I think one of the interesting things that you will probably notice in this session is that very few countries fulfill all these criteria. Some of them do a little bit of one, like open it, but it's not openly licensed. So that's maybe one of the things that we will learn later on.

 So now governments around the world have in recent years adopted this new approach, and many governments now have Open Data sites, and they are used by NGOs, by researchers, by developers, journalists, IT companies to build further services on these data.

 And I want to show you a map which I actually showed last year. Keep it in mind a little bit. It's produced by the U.S. Government on which sites officially have Open Data sites, and I want to show you how it looks like this year. So the blue ones are those countries that have already adopted some kind of Open Data portal or activities. So you can see it's a growing trend. And of course, notably, the difference from last year to this year is, of course, that they included China and Russia and India, so these are all huge countries. But whether or not these countries really have Open Data we will maybe discuss later on.

 So for me, one of the most important things in this discussion is that the main thing is that there's a new thinking about information. So PSI should be more open. It means access to information. Many countries introduce freedom of information laws or something similar. But also that this data can actually create social economic value when it is used. And I think that is maybe the part that the civil society and NGOs are most interested in and also business, so that publishing the data is one thing, but what do you actually do with it?

 In fact, in many countries now, we have a situation that the government published millions or thousands of data sets, but actually, there are not many people who are doing something with it. So there is kind of a bottleneck on creative use and ideas on what we can actually do with this public data.

 In the old days, PSI was made on request and need-to-know basis. The access was restricted. In most countries, you had to write to a department and say I want this statistical data set. Can you send it to me for research purposes or something else? Also, there is this idea that the government owned information, and many governments, in fact, have some kind of copyright on their own information. So now I think the thinking is really different because we think the data is owned by the citizens because it is actually produced by the taxpayers' money.

 And also in the old days, there was a strong focus on eGovernment, which is at the moment no longer really that interesting because it focused more on transactional issues.

 Okay. Now, since we are in Korea, maybe historically we can say that in 2008 was a very important date for the Open Data development because that was when the OECD ministerial meeting on the future of the Internet economy happened in Seoul, and I think that was, for the first time, at an international, intergovernmental level that countries agreed that, yes, public information must be openly accessible. And that, the result was this recommendation for enhanced access and more effective use of public sector information from 2008. And I think that was historically -- I mean, it's only five years ago, but I think this was a very important step in the global thinking about open information.

 So openness is default rule to facilitate access and reuse of data. I don't go into this, but the OECD also has produced in these guidelines policy principles which we will discuss in our presentations more in detail later on. So what does, actually, copyright mean? What are redress mechanisms? What do you do if you don't get the information? What about the quality and integrity of the data? So all these issues relating to data have been defined by the OECD. And any country can adopt it. I think it is still quite a very, very useful guideline.

 Okay. Just very quickly, you will see this from the other presentations, so I just want to show you that all governments now have some site which is the international standard, data.gov, and then the country. So this is the data.gov.sg site. This is the Hong Kong site, the data.gov.hk. And this is the New Zealand site. So all countries have some kind of entry point for where you can see the information assets that are available for reuse.

 So public information is raw material for the knowledge economy, and there are many, many ways to create value, but what exactly that value is, that is something that we still have to figure out in a way. And interestingly, there is no study whatsoever on the social economic value of public sector information in Asia. And I have also not seen many country studies. At OECD level, we have a study of the economic value of open information in the European Union, and we also have this from the U.S. But what does, actually, this social economic value of open information in Asia? It's a very interesting question. If there's any macroeconomists in the room, I would like to discuss with you later on.

 Okay. So these are the questions we want to discuss across the countries we have here in the room and also remote. So we want to see how do we compare the activities in the countries? Some countries focus more on the technical aspects of releasing data and then just see what the digital community is doing with it. In other countries, there is more the aspect of civil innovation, civil engagement. Other countries really are fostering this to create also innovation within the government, having better interdepartmental sharing and so on.

 These criteria are actually defined by the word bank. The word bank earlier this year developed kind of a guideline for any country to see where are we in the journey of Open Data in our country? And they have these eight criteria: Leadership; the framework, is there any kind of law that governs Open Data; the institutional structure, is there a department in charge; which government is actually -- what's the general situation of digital information in the government; is there a demand for data; and how does the whole Open Data ecosystem look like, are there researchers, business, civil society, and corporations that actually demand the data; financing, is there a public budget for this; and also infrastructure, how ready is the country for Open Data. And that's why I'm very happy that we have a case study also from Cambodia which is generally an ICT readiness law, but they still have a lot of activities in the civil society to use government data.

 Okay. So that was a short introduction into the theme. And now we would like to look at some more detail in some countries, and the first country we would like to hear about is from Korea, and I would like to invite Jay, Jay Yoon, to talk about the case on Korea. You want to come here?

 >> JAY YOON: Good afternoon. I'm Jay. My real name is not easy to pronounce, so just call me Jay, Jay Yoon.

 Thank you, Waltraut, for the introduction and the great presentation. Ready? Okay. How is it going? It's great. So I hope you are having a great time in Korea.

 Now I'd like to talk a little about the situation in Korea related to Open Government Data.

 Okay. As you see, the left one is the data portal site of the central government in Korea. The right one is the -- the name is Plaza for the Open Seoul Data. It's kind of data portal site of Seoul, Seoul, capital city. I think it's the best one among the local governments. They have a lot of data, data sets, data links, or APS. I think it's not bad. It's good.

 For example, the open public data portal has 16 million data links, and 84,000 data sets and 241 open APIs. Also, the Open Seoul Data has 1033 data sets and 1595 services. It's not bad, I think. But in order to go further and accomplish this mission, Open Government Data, we need two more factors.

 There's two of them. One of them is resolution, and the other one is effectiveness. As Waltraut said in her presentation, she emphasized on the use by the cities and by civil society. So for that, enhancing effectiveness, the way to enhance effectiveness is very important. For example, we need more clarity of data as related to quantity, and this is an essential element for the Open Government Data, the format and open standard, and we need to provide downloadable data as well as open API. And for the progress, we need to link the data and have a readable format.

 At this stage in Korea, this element is not enough, frankly speaking, but now it's getting better, and much progress has been accomplished related to this topic.

 And another one is regulation. Korea already has an FY regime, but it's not enough in order to drive this project further, we need to have a special legislation, special act for the Open Government Data. Fortunately, we recently have this kind of law. The name of the law, the title of the law, is Act on Provision and Promotion of the Use of Public Data. It was enacted July 30, about two months ago, 2013, of course. And the enforcement date of this Act is October 31.

 It has some provision, important provisions. For example, it addresses default policy for open public data, and it is setting up the Public Data Strategies Committee, which has the authority to deliberate and mediate the plan and policy and monitor progress. I think the role of this committee is very important. How this Committee is working influences the progress of future Open Data.

 In the provision, there is some provision about publication of Open Data catalog by the Ministry of Security and public administration through the deliberation and the decision by the Public Data Strategies Committee, and it emphasizes the right of citizens to use the publicized Open Data without any additional process and request the provision of data not included in the data catalog to heads of public corporations. This law provides citizens the right to use Open Data or request the provision of Open Data. And the interesting provision is this law guarantees the commercial use of Open Data. And it has the provision which is saying about support for machine readable format of data.

 So this law is not enforced yet. It will be enforced two months later. But I expect this law will play a great role for the Open Government Data movement.

 And this site is Korean central government site. And it's all written in Korean, so maybe you cannot read. It means Government 3.0.

 Can you hear me? Okay.

 You know the government coined the term, but this Government 3.0. It looks like upgraded version of 2.0. I think this new government needs to -- needs a new agenda for this government, so Government 2.0 is too old, maybe, so that's why the government made new term, Government 3.0. But the concept of Government 3.0 is not different from Government 2.0. It's similar to that.

 So anyway, the government now emphasizes the Open Data. So I don't know what they do think exactly, but we can have some expectation for the Open Government Data movement.

 I am a lawyer, and actually, I am a judge, so I have served as a judge for about 20 years. At the same time, I am the project lead of Creative Commons Korea. I think maybe you know what Creative Commons is. The Creative Commons is a nonprofit organization. It's based on the international organization Creative Commons. Maybe I am in unique position. I am from the public sector at the same time from civic sector. So every time I think how can I bridge between the government sector, public sector, and civic sector? It's my -- I think it's my mission.

 So especially for the Open Government Data project, people engagement, civil engagement is most essential to accomplish this project. So sometime I asked myself do we have the people right to engage in Open Government Data? The government now trying to open their data to the people, but if there is not any feedback from the people, what's that? So I am concerned about the readiness of the people. That's why I'm with the other volunteers to make this step. The members act independently, so it has specialized in Open Government Data area. So we have the site. Unfortunately, it's all written in Korean. And the group is on Facebook.

 We have done many projects related to Open Government Data since 2009. For example, we translated some reports. The left one is the Korean translation of a great report made by Australian Open Government task force. It's a great report regarding the Open Government Data. And the right one is Open Government published in the U.S. So we translated this book. So we distributed these books to government people. By support of other people in our community.

 And then we want to spur the engagement of the people. We had some events. For example, this is an event many people participated in for two days, and this person is the mayor of Seoul, capital city. He visited this event and encouraged young people to engage more.

 And during the event, there were totally eight apps made to date. So after that last day, the participants chose the first prize and second prize by themselves, so this app is the first prize. The name is, in Korean (speaking Korean) and maybe in English it's We are Watching You. Maybe it's scary. So it shows the span over capital city. It even shows the databases,. So it's a very interesting application.

 And the second prize went to this application. This application is -- it showed the quality or the risk or danger of some hospitals. There's many data about the quality of hospitals. It's on Google Maps, and it showed the quality through the color of their icon.

 And this is the second. We documented our process through this camp 2012. And this is a small event held every month. And open public data LETS. This is an event that they are participating with each other and learning from each other, so what they know, what they want, what they want to know. Everything can be discussed in this project. And open public data camp 2013 already we had.

 Yeah, okay. So other projects we are trying to make some reference for the government people. So we felt that the civil sector and the government sector, their rain gauge is different. The government people cannot understand what the civil sector says, so they don't know what the people can use. We need to make IT dictionary for civil servants and Q&A and toolkit for the beginners.

 And last one I want to add at this presentation, the Seoul city's declaration -- declared Sharing City Seoul last year. It means it's a city that shares time, space, information, many more. It means they want to share everything in their city, because sharing increases the efficiency of the resources and revitalized the local economy and raises the community spirit and helps the environment. So their information over Seoul capital city is under CCL. You see that. And Korea made a site for this project in collaboration with Seoul capital city. At this site, you can -- every comment, every sharing the project you can see in this site. So the purpose is to connect government organizations and enterprise institutions and share use cases and provide how to share and collect good ideas about sharing movement.

 So yeah, we don't have enough time, so I have to hurry, so I hope you can understand our registration in Korea. Thank you.

 (Applause)

 >> WALTRAUT RITTER: Okay. Thank you very much, Jay. Very interesting, and also a lot of very interesting points about how to engage civil society and government. I am sure we will come back to that in our discussion later.

 But let's first hear from another case from Taiwan, and TH Schee has been active in this field for many years, and he has -- Taiwan is a really interesting country in terms of Open Data, and I am looking forward to his presentation. Yeah.

 >> TH SCHEE: Okay. Thanks Waltraut, Jay, Alfred, and everyone who has been helping this workshop be successful. I am TH Schee. You can follow my Twitter account. I have tweeted a few lines regarding the Open Data progress in Korea. Use hashtag APrIGF. We can have conversation, discussion, even after the workshop.

 I am going to share the stories we have in Taiwan, and I will particularly focus on how Open Data is changing government. So we have a lot of cases and a lot of models that you may want to know, and I'll leave some of the other cases after the workshop.

 Okay. I will start with this one. This is how government interacts with citizens on the Web or on the Internet in Taiwan. The first is you have a lot of social media, of course. It's cheap. It's convenient to have a social media account. So the government could simply, you know, feed information or press releases to the citizens, to the public, or to even other government agencies. So the social media is actually the ring of government in Taiwan. It's disposable. It creates a lot of confusion between government agencies. Okay. So we have a Web site, and of course, a lot of governments have Web sites. And then there is one of the most helpful vehicles for communicating with government is the government help desk. Every city, every agency, every government in Taiwan, they have a specific email address that you can request for public data by using email. So that's the old way of doing -- you know, if you want some particular data set from the government, you could actually -- the most helpful and appropriate means is to use the help desk. There are tickets behind, like a ticket system, IT system in help services.

 Okay. How do I click it? I will try to use the keyboard. This is actually the information before 2011, when government took a serious Open Data strategy on board. So you can see on the left you have a central government, and there are a lot of policy institutes or we say quasi government institutes stand between the citizens and government, and of course, there are media agencies and policy institutes that help to filter or help to sort out some of the information that the citizens resonate between the two sides.

 But during one of the major disasters that hit Taiwan, actually, two years earlier in Taiwan, that is one of the deadliest typhoons to hit Taiwan. It killed about 1,000 people. So it created a lot of political confusions and crisis among people. So we kind of, as a community member -- because I have many affiliations with a lot of groups. You can see all the stickers on my laptop. And so we kind of formed a civil society organization on the fly to help the government to sort out the data from some of the emergency operation centers and clean out the data for the people and releasing it in a clean, machine-readable, friendly format to all the outlets, to TV stations, newspapers, and Web sites. So you can see Yahoo! Taiwan, Google, MSN, even local newspapers. So that is the first time that people in Taiwan, they suddenly see the demand of good and quality public data that could actually help them to understand disasters in much better ways that could temper angers and things like that.

 So after that, the government just put out an Open Data strategy. This is pretty common in a lot of countries, like you have a legal infrastructure behind that, so you have FOIA and some of the local regulations that activity encourages local government or government agencies to release data to the public. Because a lot of officials, you know, a lot of people in the government, you need to have regulation to proceed. Otherwise, you have no cause to do that. Okay.

 So then you have government, cloud, cloud computings, securities, data portals, apps. All the grand strategies behind the Open Data movement initiative. But after two years, I'll have another side of story. There are six cities -- actually, five cities plus one minor city called Elan have local data portal right now. So that's about 50% of the population in Taiwan could actually use the data on the Web site, and whatever they want to do with the data, the government will not, you know, prosecute -- no one will prosecute after you because there are certain gray lines between whether you have Open Data portals or just public portals where you can grab the data but not use it for public use. That is a common trap and situation in many countries. You have a lot of portals but cannot use them for private use.

 Central government, for example, the Ministry of Culture and Ministry of Agriculture, because they have a better IT capacity, so they set up their own data portals right away. And actually, the Ministry of Agriculture is the first government agency in Taiwan to adopt CC sort of license to release the data in public domain. And there's another one behind the data.gov.tw, a lot of government agencies behind there. So you see the story is a little bit boring because -- it's not exciting. It's good, but it's not exciting. So I now have another side of story.

 Well, this is actually the progression concept that many of us in the communities, whether we are representing private sectors or just software geeks or even hackers, this is our ideology behind how we bring Open Data and how to change the government.

 So we started having a lot of events. What I mean a lot of events is that we have around maybe two or three events in a week for consecutive three years. Just think about that. If you have -- so next time you travel to Taipei, you can almost always find an event, Open Data, public data, right away on the spot. So you can get engaged with some of the notorious hackers, smart citizens, or even construction business who are interested in this.

 So we try to sort of -- like we host hack-a-thons, a lot of events, by creating real demand and capacity and activities around the demand side of Open Data, not just supply side, because the government is in charge of the supply side, but we foster the demand side, the capacity first, and identify all the stakeholders, as many as possible. So communities and private companies are taking turns hosting the event because you cannot have a centralized organization who could host three events in a week. You would get burned out because of the intensity. So it's like we are having the software code. You can see the left side, there's software code competing with the legal code. Because data is actually, you know, provided by software codes, digitalized. The idea is to channel through Lawrence Lessig's famous book, the Law of the Horse. But in our age, the software code is the law. Everything is reproduced in software -- okay, in forms of software. So we try to engage all the committees all the way up by bringing the crowd, the crowd on the Internet, to the mass. The mass is the average population, the people, just like maybe your fathers, your parents, your friends who are not geeks or nerds. Okay. So we try to engage them all the way.

 And this is the least -- I am sorry, some of that is in Chinese. So we had public events in the last three years. So event size from 10 people to 2,000 people. We probably had the largest hack-a-thon and public event in Asia last month. The ministry portfolio has been asked to join the conference because all the capacities were there. The government were forced to bring all the public servants to the field to talk with young people, entrepreneurs, or even non-NGOs. So it's kind of a little bit of changing how their attitude and -- their attitude toward the society, the citizens, and of course, the young people. So as you can see, these are just public events. I haven't listed some of the private events. So in September, you can -- some are hosted by Open Government, even Wikipedia Taiwan, some organizations.

 And then this is the interesting part. I am sorry it's in Chinese. This is the first law that actively promoted Open Data, sort of like the registration act in Korea, but we asked the government to release hackpad. This is a little bit like platform, Wikipedia, that you can write your comment without having to register on the Internet. We asked them to put the code, the legal code, on the Web site first, and we get around maybe 200 people to comment on it. And then after one month of the progress, we released a paper. We released the comment in paper format to the government.

 So it's like this is our process of engagement by getting the government on the Web, and actually, it's actually changing the government from the -- not from the centralized approach but from the community approach, so wherever they go, they will meet us. Okay? We are watching them.

 So this is some of the other feedback system,. We are feeding the feedback from the citizens who are requiring the data directly into government systems. But whether they would like to have the feedback directly, you know, channeled to their system, but we have prepared the format, and we have the capacity to release the data that requires to be in a modern fashion way.

 These are really cool technical challenges. For example, if you want to learn the Chinese language, the character, the writing, it's so hard that actually, every people in Taiwan need to maybe nine or ten years to master the writing system of the language. So a bunch of really cool hackers, they are really tough hackers, they scrub the data from government Web site, the Ministry of Education, and released the Chinese dictionary in public format for nonprofit causes on all possible platforms within two weeks. And the code is open on GitHub. If you know the power of GitHub, it's like a code repository of a lot of things. It's incorporated some of the other dialects and even French, German, Italian. Right now, we have some of the high-profile geeks working on machine translation working on it right now. So this is another project. This is like dumping of legal codes on GitHub, with revisions so we can compare it right away, and so the government, the judges, lawyers, are using -- they are grabbing the raw data set from this.

 And this is, like the data-driven development, we are thinking about it because we are trying to set up a ton of information, data-driven development, by actively encouraging multi-stakeholders in this. Some of the projects we do, like events, so on and so forth.

 And this is actually my last slide. This is actually what happens right now. We have four new formed organizations on top of the old ecosystem. The first one on the top left, there's like a jewelry diamond shape, is code for tomorrow, modeled after the code for America foundation, helping people understand code.

 The second one is GWB, purely hacker community. And Open Data, sort of like KIGA, the structure, so we have like 200 SMEs now. And OKF, very famous for promoting open knowledge in the UK, set up in London, and will try to bring stakeholders by superseding all the old structures and making more data-driven development in our country. And it's actually affecting a lot of things right now. So if you are interested in the model and the challenges we are facing, you can just follow my Twitter or talk to each other later on after the workshop.

 Thanks.

 >> WALTRAUT RITTER: Thank you very much -- (Applause) -- TH, for a great presentation. I think Taiwan is a great example where you can see Open Data development driven by the community. And I think it also shows us that demand is not just -- it's really also organized by the community and then changes the government. Many governments really have -- it's the other way around. And perhaps Singapore, which will be presented next. We all expect from Singapore we have some top-down developments, but we are looking forward to hear from Alfred, who is with the Singapore Management University, to hear the Open Data story of Singapore. Is the presentation there? Yes, okay.

 >> ALFRED WU: Hi. Good afternoon, everyone. Wow, yeah, we hear wonderful stories from Korea, Taiwan. The Singapore story, I have to set your expectations. Singapore, probably in many aspects, has tried to lead many things in the way Singapore works, but in today's presentation, I will touch on what is the status of the Open Data development in Singapore, but you will hear later on maybe Singapore in this aspect of so-called Open Data probably not moving as fast as what you have heard just now, like Korea and Taiwan. Maybe I will share with you some of my perspectives as well in this context.

 So okay. It's really, I would say how to say it -- I am happy to be here. One reason I joined in particular forum is actually because of the topic of Open Data. But what I later find out is that there is more to learn, actually, in the last two days.

 So let me just go into my presentation. My presentation here is I would like to share some of our research in ICT lab and then try to bring the perspective why Open Data is important, okay, it's important to the people, to the citizens, and also to the development of city into the future.

 Okay. My research. We do research commonly known as smart cities. We have chosen the name called iCity. "I" stands for many things. We are funded by India international kind of like large information system service provider, TCS, and then we are doing all this research actually for the future applications that can be used in the urban environment.

 So Singapore Management University, we are a very small university. We are so-called number three university in Singapore. We are small. It means that we only have six schools. I'm from the School of Information Systems. Other schools in my university, they are law, they are economy, they are social science, business administration. Why I am mentioning this, because when we look into this matter of smart cities, we realize that it's not just about information technologies; right? So a lot of times our thinking has been around topic like governance; right? So some of the things I heard in the last few days actually also gave me good so-called feedback in terms of probably what we are doing, whether we are doing a good job from a more academic point of view, research into some of the things that will happen in the future.

 So why I bring up this particular slide? We are living in a very much connected environment today, which is because of the Internet. My kind of sense here is that we all take Internet for granted probably since the Internet is there, because it's free and there are a lot of things happening. We are looking into development of new technology, but what is the purpose of that? Why this slide is important for my research that will relate later on to Open Data, actually, what I am trying to say is that when all these new megatrends in the world, one thing happens, triggers something that happens next. But when it comes to this matter of cities, for future cities, like just what I heard from Jay, the sharing city, which is a very interesting concept here, that what I am trying to say is that when you think about all these things, what matters to development of the future is actually the subject of sustainability.

 So when we think about sustainability in Singapore, practical experience, we are really looking into three different perspectives. It's really how they can play a role in terms of development of cities. Right? Taiwan's experience has lots and lots of these people participate from bottom up; right? The hackers, like TH mentioned.

 What I am trying to say is the three things that matters in terms of government's point of view, one is population, really the people. Demographics, means the city needs different kind of infrastructure, services. The other dimension is really the economy; right? Economy to the city, to the country, means the growth of GDP. For individual, that means the jobs, whether you have jobs. Singapore has been very pragmatic since the very beginning Singapore became an independent state, which is back in 1965. Then what Singapore government has done a wonderful job is actually, through the governance approach, managed limited resources the Singapore and converted Singapore from the colonial days of Britain, now becoming one of the leading cities, smart city in our part of the world.

 So these are some of the backgrounds. When we are doing this research, instead of focusing on the infrastructure, we focus to the services side of the city, which is really what we call intelligent actions, how the city will interface, will interact with the citizens.

 So this particular slide actually shows you some fundamental thinking about our research, which are the people, very happy to hear the multistakeholder approach has been sharing in this whole event. Our thinking has been how we can close the loop between the needs of the people, how the needs can be fulfilled by the services, how the services outcome can be measured, assessed, eventually provide a feedback loop back to the governors, in this place, the mayors, planners, so the city can become a better place to live, to study, to have next generation. So that becomes a matter of sustainability.

 Okay. This is one of the thinking we had. Early on, actually here this morning, one speaker -- I think it's Hamad Assan from Tokyo University. His slide, they are kind of irritating, not good. But what I want to say, what we try to say, is that services has been out there, kind of having an impact on every individual living in the city; right? Now we're sure we know that more than 50% of whole world population living in a city, and then by 2050, that's going to be 70% of the population will be living in the cities. So technology matters, but what technology can do is really improve the service experience. The service experience can really help us live a better life. So the argument now becomes how do we make the service more convenient -- the values of service, which Ritter mentioned earlier on, we don't know. We have a question mark. It means we cannot quantify at this stage probably what are the value of Open Data, okay.

 Then move on to my next slide about what's the role of Open Data in our ICT research that plays a much important role in the urban environment, in particular, in terms of offering services to the citizens.

 So in this particular picture, you can see we try to describe three different scenarios. One is why learners' needs are more important, because cities are very different from villages. Citizens or residence in the city, they have to update their skills very regularly so they can be productive, be relevant, they can pick up new things, new ideas, they can be viable; right?

 And the other scenario that we spend a lot of time focusing on, actually, people that are over 65, we say that they are elderly. Because they need help, actually, from the society because today, given all the wonderful development of information technologies, but older people, they are not as affluent as children, young kids. Even five years old know how to play with things like iPads. But people over 65, they are not able to access those information, services, they cannot be connected.

 That creates new issues. So can we address all these through services is some fundamental thinking that we are doing in so-called iCity lab in SMU.

 You can see here we have been talking about cloud in many places. That's a very trendy word, and another trendy word is big data. So where does Open Data play a role? Open Data, which you can see is really the public data platform, like Jay has mentioned that Korea has a law for public data. So Singapore hasn't had that kind of like law yet, but really, this data plays a very important role that can enable other people to develop services for the people in the urban environment which Jay has shared wonderful story how the hacker, so called developer software people, how they add in their values, making use of the data, actually made available not exactly the way they want it, but adding a lot more values that people appreciated.

 So here, I just want to highlight one particular point which I will use the mouse to point to is what we call the service experience management. I come from MMC background, which I do a lot of so-called consulting study for eGovernment. What I realize is that government does a lot of things that sometimes people don't appreciate it; right? People prefer to go to where they like, like Facebook, like Twitter. So the point I want to make is that service experience matters. So Taiwan's experience, what I just heard from TH, was that the extra value that the so-called, maybe the interface, how the apps works, actually create values for the people so they prefer to use. So anyway, service experience is one area that we focus very much when we are doing research.

 Okay. Back to this Open Data, because I think for this particular track today, give you a perspective where Singapore is right now in terms of Open Data.

 We all know, like Ritter said, Open Data is actually there because of this Open Government initiative worldwide. I think very much initiated at very beginning by U.S. So okay, so October 2011, Prime Minister, he realized in the Singapore environment that a Singaporean, they want to have more participation. They want the government to listen to them. Okay? And the government decided we need to be more open, and then you can see the government is doing many different things, try to become open and engage with the citizens. So what's interesting that Open Data also, I believe, is also driven by this particular initiative, also under pressure by the people in Singapore.

 A major improvement actually came in August 15. So it's that the Deputy Prime Minister, also the Ministry of Finance, he actually made very specific comments in terms of Open Data. In fact, I had a meeting with one of the government departments back in June when I asked this question that Singapore seems like Open Data is not moving. Tell me why. And then that particular government department officer, she was saying that yeah, that has me very much consensus whether Singapore wants to have Open Data. So even within the government departments, there's different views.

 One view is that if there is Open Data or more Open Data initiatives, that will create a better environment for innovations, in particular for people like TH can build wonderful applications for people to use. But of course, there's another school of thought who believe that you need to be conservative, don't open up too much, and then when too much so-called voices could be sometimes dangerous. I believe that's always Singapore approach is pragmatic, try to balance between both sides of the spectrum.

 Okay. So the actual fact is like today, Singapore has 8,000 -- okay. All right. 8600 data sets from 60 public agencies. And then there's one particular Web site called OneMap, so it's quite interesting, and then compared to Korea, probably Singapore is not -- there's only 100 apps that have been produced, and there's no APIs. Probably that's not available from the government figures.

 So I am trying to show you these are the data sets available in the Singapore government data, Open Data portal. You can see many of the 6,000 data sets are from the department of statistics. Okay? And others are really from the economic development, 3600 data sets. So you can feel free to take a look.

 The OneMap is quite interesting. I would consider instead of an Open Data, initiative, I would view it as an Open Government initiative. I just did this this morning, actually, preparing the slide. I tried to look at Singapore population over 65, the distribution of those population in Singapore, and then you can see what are these? These little icons there represent the people's community centers. That's where the community services are. So this morning, I got this information.

 So anyway, two quick sharing. This app Singapore is like participation of Singapore government, developer activities. Once a year for two days, you know, you can compete producing the best applications, hack-a-thon; right? So these are two examples I want to show. This one app developed two years ago that's very useful that shows, like, if you graduate from one of the universities in Singapore, usually how much you usually spend in terms of your salary as undergraduate student based on this data available from government.

 Another one is also useful. It's Singapore has very diversified culture, lot of good food, but eating a lot of food might not be healthy, so this tells you when you are eating some Singapore food in terms of calories and in terms of nutrition, it could be good, could be bad, but about this food. So it's a very interesting app that's built to the app Singapore. This is not really app Singapore, but built by the health promotion of Singapore.

 So I think that is my presentation.

 >> WALTRAUT RITTER: Thanks a lot, Alfred. In Singapore, you mentioned that because the Singapore government is so focused on services, and this eGovernment thinking is so strong, so do you think the Singapore government actually thinks that the citizens can have good ideas as well?

 >> ALFRED WU: I think Singapore government understands that Singapore citizens need to be more participating now to sustain the growth of Singapore as today's knowledge economy. So different from the past, government now tries to open up more, tries to give, you know, create more room and even a culture so that a Singaporean can be participating in building their own city for the future.

 But still, in Singapore where I am coming from, it has been very in the past a top-down approach governance model. So in this sense, this approach is slightly, slightly open now. It will take some time. That's my view.

 >> WALTRAUT RITTER: Thank you very much. Yeah. I think that's also coming through quite strongly in the presentations, that's the Open Data culture in each of these countries is very specific. I mean, that's very interesting, I think.

 And before we go to our remote participants, maybe I would like to invite a few comments. Maybe there are people from other countries here who would -- can share about Open Data in their countries, or you have any questions? Anyone has a question for our panelists?

 Or maybe the panelists want to ask something of each other?

 >> A question on Open Data and big data. One of the -- so in the big data conversation, which is where I normally spend a fair amount of time, the issue is always privacy concerns with respect to the data sets, and the application for big data -- or the policy discussion in big data is normally focused on profiling, marketing, et cetera. And we're really, really trying very hard to demonstrate the economic value of big data.

 When I go into the Open Data conversation, it's taken for granted that the primary purpose of Open Data is economic value, but there's never any discussion of privacy. So what I try to do is, like, how do we merge these two conversations and make progress in both Open Data and big data to create -- and I love the word that you use -- sustainable data-driven economy with appropriate protection? I would love to hear from the panel on that.

 >> WALTRAUT RITTER: TH, would you like to comment on that question?

 >> Hi. It's Carolyn Nguyen from Microsoft.

 >> TH SCHEE: Thanks. Lots of our government portal products are actually powered by Microsoft solutions, the OGI, Open Government initiatives.

 This is actually what we do in Taiwan. I am not sure if it works in other places. We try to -- because the government would like to spend a large amount of investment in big data, of course, for a lot of economies within this region, and we try to create different platforms within government. Okay? So the government, they could have policy people, they could have people who are responsible for the privacy laws or some of the concerns, and they can also invite some of the human rights groups to join the conversation. And probably the first time government could hear some of the possible impact of releasing some of the Open Data to the public.

 For example, we have a quite good national health insurance system in Taiwan, been running for 20 years, and the government was thinking about opening up that data to foreign pharmaceutical companies. That's big data because we have 23 million people out there. So we just try to create a lot of platforms and injecting all the stakeholders. I say "injecting" because we actively invite them to join different platforms. And those platforms were not -- they were not aware of that -- that kind of policy could actually affect them. So that's how we managed to cross over the conversation.

 >> WALTRAUT RITTER: Yes, I think in the area of smart cities, of course, there are a lot of fields in the intersection of Open Data and big data. I mean, all the big players, like IBM and Cisco and so on, have to use smart data programs where they use big data to do some info graphics and so on. And I think there is actually where the quality of public data could really help to make much more useful applications because the public data normally is the most reliable data that we have, at least when it comes to city data.

 And so maybe it does not really matter whether it's Open Data or big data. These are just labels. In the end, it is the public common good that Open Data is focusing on. What can we do for the city? What can we do for the community? So normally it is some kind of purpose which is noncommercial, and maybe that is, I think, the common definition of where these fields could come together.

 Would you like to -- yes?

 >> TH SCHEE: My perspective to that particular question is really, to me, it's not the technology, but really, between the Open Data and so-called big data is really the only issue of the data that matters because what we see Open Data as the data that actually is like owned by the government, they opened it up so that whoever can add value on it, so it's more for public use, like what Ritter said. But I think most of the talk today about big data is that if you have data and if you are able to really go into data, find out what's your business advantage, that becomes your private so-called commercial advantage over your competition, so I think that just coming from a different angle, but not really from the technology perspective.

 >> WALTRAUT RITTER: You want to mention something on this topic? Or the person over there?

 >> I think there's a slight difference between big data and Open Data in terms of approach. Because the -- we can say generally the characteristic of big data is volume. But I think a characteristic of Open Government Data is different. Which more essential of the data in terms of sense of the data is different. Maybe the Open Government Data issue includes many various topics, transparency and public interest and economy. So I think at this stage, at this Open Government stage, I don't know the big picture what big data means in this area. I think it's still abstract maybe.

 >> WALTRAUT RITTER: Yes, thank you. There's a question over there. Can you somehow give a microphone to him?

 >> This is not a question, rather an answer to the question from the chair. You say that the Japanese government has not yet produced any numbers about the body of Open Data. As of last year, March, the Ministry of Economics, Trade, and Industry issued a report. It said that the body of Open Data is about 50 billion yen -- $50 billion. It's about 1% of the --

 >> Study by METI?

 >> You can download that whole report from the Web site.

 >> WALTRAUT RITTER: Thank you very much. Very useful, yeah. okay. What's happening with our remote participants? Yeah, that's really -- okay. It would have been nice because we have three more countries, Australia and Cambodia and Japan. We don't have time for three presentations anyway, but we will publish the information. In particular, I would like you to have a look at the Cambodian case because I think this is really interesting because that's a country where the Internet is really not very open at all, and there are many restrictions, but there's a lot of initiatives from citizens who are scraping public data that is available and then use -- then develop interesting applications, for instance, on land grabbing and disclosing government corruption and all kinds of really interesting applications.

 And so now here we are all very rich countries here, I mean Singapore, Hong Kong, Korea, and Japan, and I think we can also learn much more from Southeast Asia or less developed countries in Asia.

 You have a comment? Who is that? Anne? Okay. Can she talk or can I talk to her? Anne? Hello?

 >> ANNE FITZGERALD: Hello. Can you hear me?

 >> WALTRAUT RITTER: Is it Anne? Yes.

 >> ANNE FITZGERALD: Yes.

 >> WALTRAUT RITTER: I think you have heard our discussion here in the room; right?

 >> ANNE FITZGERALD: Yes.

 >> WALTRAUT RITTER: Okay. Since we have really very little time, maybe could you perhaps comment on something that has been said or maybe stress a point that we have not mentioned so far?

 >> ANNE FITZGERALD: Okay. I think from Australia, the fact that the open comments licenses can effectively be used to support and give effect to government Open Data policies. Today we have yet another announcement of yet another state government setting up its Open Data portal using the Creative Commons attribution licenses as the default.

 So I think what we can see is that this way of open, flexible licensing is giving a bit to the licensing principle that we can see in many of the Open Data policies that have been issued around the world in the last few years.

 >> WALTRAUT RITTER: Yes, I think that's a great -- I think Australia has really -- it's a good example and help for many other countries to see how can we use Creative Commons licensing for public information, and I think that's -- a lot of these case studies have also been published and are available for other countries to learn from; right?

 >> ANNE FITZGERALD: I have now just today uploaded to the Creative Commons Web site the Australian Creative Commons Web site, but it's also been picked up by the -- Creative Commons Web site under the affiliate license, this latest development in Australia, and it has the links through to relevant documents and Web sites, if anyone is interested in seeing that.

 I think this is probably a very important feature of the position here now. What we can see is that governments are actually increasingly open up their data, and they are doing this managing the copyright rights in it. We don't recognize database rights, but they are using that CC license now as the default, and it's really occurring in practice now.

 >> WALTRAUT RITTER: Yeah.

 >> ANNE FITZGERALD: I think that's probably the most important contribution that I've got to make to the discussion.

 >> WALTRAUT RITTER: That's great, and I think we can also see your publications on CC commons, so we will also make it available for the delegates of this conference.

 I want to ask Jay, because you know each other from Creative Commons, what's happening in Korea with the copyright of open -- of public data?

 >> JAY YOON: The central government, it's not saying about license. It's just offering their data.

 I think most of the data is not copyrightable. It's just data. But in Korea, we have database rights, similar to European legislation. So the news is the new version of CC is addressing the database rights, so maybe we can advise the government people too that CC for, you know, to database, so I think is working. But I don't know exactly.

 And the important thing is Korean government, maybe the Cultural Ministry, made their own license system, Open Government license. It's very similar to CC. So they were trying to make the license and participate -- I advised don't do that. You don't need that. After that, they don't call me anymore. They made their own license. It's not common use in Korea.

 >> WALTRAUT RITTER: And I want to mention that this conversation will go on at the IGF in Bali, so I don't know if some of you are going there. And then Anne will also be there in person; right? Anne, hello?

 >> ANNE FITZGERALD: Yes, that's right.

 >> WALTRAUT RITTER: You will be in Bali; right?

 >> ANNE FITZGERALD: Yes, yes. I'll see you there.

 >> WALTRAUT RITTER: Yes, so we will have a conversation face to face, then, over there, yeah, including some other countries.

 Thank you very much.

 Okay. So this is an ongoing conversation, and if there's any country here in the room, we are particularly looking for Malaysia, Indonesia, and India, Pakistan, who would like to join this conversation on Open Data in the world. Yeah, please get in touch with us so we can also keep you posted on the events.

 Thank you very much for joining this session. I apologize if you could not get our remote participants here, but the materials will be available later on. So -- and thank you to all panelists, and so now we have a coffee break. Yeah. Thank you.

 (Applause)

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