

2017

CONSULTATION ON
OPEN GOVERNMENT
DATA POLICY
IN MYANMAR

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The views expressed in this paper do not necessarily represent the official positions of KISDI and participating organizations.

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KISDI

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Information and Communications Technology (ICT) has advanced rapidly in recent decades. According to recent statistics by the International Telecommunications Union (ITU), the vast majority of the global population use mobile phone networks, and live in an environment in which about half of the world's population go online. However, the digital divide between developed and developing countries has been growing. ITU (2017) figure shows that while 84.4% of the households in developed countries are connected to the Internet, only 42.9% of the households in developing countries and only 14.7% of the households in the poorest 48 countries have access to the Internet.

ICT is an important foundation for the development of a society. The spread and interconnection of ICT is important for the implementation and achievement of the Sustainable Development Goals (SDGs) recently adopted by the United Nations. ICT is expected to play a key role as a means to promote inclusive and sustainable economic and social development. The recent wave of the Fourth Industrial Revolution is of great interest not only to developed countries but also to developing countries because it will have a great impact on future economic and social growth as well as job creation. Korea is one of the most successful examples of how desirable outcomes can be achieved through the development of ICT sector. The ICT development experience and achievements of Korea have been highly regarded internationally; in particular there is increasing interest from developing countries seeking a benchmark. Korea is responding swiftly in preparing for the Fourth Industrial Revolution and is seeking to share future strategies as well as past experiences with the developing countries.

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The Korea Information Society Development Institute (KISDI) frequently has been involved with ICT policy making process in Korea and has worked with various stakeholders to check whether best ICT policy practices of Korea can be emulated in developing countries. KISDI has conducted a total of 73 ICT cooperation projects in 27 countries since 2002. This report is the result of the ‘Consultation on Open Government Data Policy in Myanmar’ for the year 2017. Based on the analysis of the open government data environment in Myanmar, policy recommendations have been made that reflect both global trends and Korean experience in the field.

On behalf of KISDI, I would like to extend my deepest gratitude to the Ministry of Transport and Communications (MoTC) of Myanmar and the KISDI Consulting Group for actively supporting our mission of achieving co-prosperity with partner countries. KISDI looks forward to the results of this consultation contributing to the advancement of open government as well as the socio-economic development in Myanmar. KISDI also thanks the Ministry of Science and ICT of Korea for funding the Consultation Project and providing insightful advice leading to the best possible outcomes.

Dae-Hee Kim
President

Korea Information Society Development Institute





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ALBs	Arm's-Length Bodies
API	Application Programming Interface
APPs	Applications
CIO	Chief Information Officer
CKAN	Comprehensive Knowledge Archive Network
CODO	Chief Open Data Officer
CTO	Chief Technology Officer
EGDI	E-Government Development Index
EU	European Union
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IDI	ICT Development Index
IPRs	Intellectual Property Rights
IT	Information Technology
KISDI	Korea Information Society Development Institute
MOGAHA	Ministry of Government Administration and Home Affairs
MOHA	Ministry of Home Affairs
MOI	Ministry of Interior
MOIS	Ministry of Interior and Safety
MOSPA	Ministry of Security and Public Administration
MoTC	Ministry of Transport and Communications
MOU	Memorandum of Understanding

GLOSSARY OF TERMS

MPF	Ministry of Planning and Finance
NHS	National Health Service
NIA	National Information Society Agency
NRI	Network Readiness Index
ODA	Official Development Assistance
ODC	Open Data Center
ODEG	Open Data Ecosystem Group
ODMC	Open Data Mediation Committee
ODUGs	Open Data Usage Groups
OECD	Organization for Economic Co-operation and Development
OGD	Open Government Data
OGP	Open Government Partnership
OIRA	Office of Information and Regulatory Affairs
OKFN	Open Knowledge Foundation
OMB	Office of Management and Budget
OSD	Open Square-D
OUR Index	Open, Useful, Re-usable Index
PSC	Problem Solving Coordinators
PSI	Public Sector Information
PISC	Public Information Support Center
SDGs	Sustainable Development Goals

Executive Summary

The main purpose of the consultation on Open Government Data (OGD) Policy in Myanmar is to share Korea's experience and build up the cooperative relationship between Myanmar and Korea in the field of ICT including Open Government Data Policy.

Concepts and Principles of OGD

This document shall make use of the terms "Government data" and "Open" with the following meanings. "Government data" is the data produced or commissioned by the government or government controlled entities. Government data is considered to be "Open", meaning that anyone can freely use, reuse and redistribute the data. In other words, "Open" means anyone can freely access, use, modify, and share the data for any purpose.

OGD has risen from being a niche cause in a few developed countries to becoming pervasive in the policy agendas of governments around the world. Over time, OGD has changed such that the online publication of structured datasets by governments is playing an important role in driving the transparency and accountability of states, enabling new forms of civic participation and action, and stimulating economic growth and development (Davies and Bawa 2012).

We can expect OGD to bring transparency, realize social and commercial value, and facilitate participatory governance.

While OGD has become a focus of global attention, it is still a tough task to understand how it plays out in national, sub-national, and local community contexts while also recognizing that government data cannot simply be treated as a neutral and uncontested resource (Davies and Bawa 2012).

Executive Summary

Currently, OGD has been implemented in the United States of America, United Kingdom, Russia and Korea. KISDI conducted the consultation project to provide Open Government Data Policy recommendations for present government bureaucratic of Myanmar based on three on-site visits to Myanmar and one study visit from Myanmar to Korea.

Status of OGD in Myanmar

Myanmar ranks 135th out of 176 countries in the ICT Development Index (IDI) as of 2017, 133rd out of 139 countries in the Network Readiness Index (NRI) and 169th out of 193 countries in the E-Government Development Index (EGDI) as of 2016. Further, Myanmar ranked at #94 in the 2017 Global Open Data index. It is evaluated as 0% OPEN by Open Knowledge International. In addition, Myanmar ranked at #113 in the 2016 Open Data Barometer Global Ranking, down from #88 in 2015.

Analysis of Korea's Official Development Assistance (ODA) Policy and Case Studies

OGD policy in Korea began with a newly acquired awareness about public data. The public began to feel strongly that public data's real owner is not the government, but the citizens. Once citizens tasted the benefits of open data, there was no going back and open data was there to stay.

Korea is currently trying to move away from a 'government direct service delivery' model and is transitioning to a private sector led service delivery model. As such, the government is trying to restructure government data services to give more room for the private sector.

Korea's plan is to eliminate or integrate a significant portion of the existing public sector websites or services and apps by 2017.

The codification into law of the principle of ‘open by default’ and the ‘right to use public data for commercial purposes’ was very important as it ensured citizens' right to access and use open data; including for commercial purposes.

The Open Data Law really allowed Korea to push open data policy strongly, with the enactment of such law reflecting the strong leadership at the highest levels.

Policy Suggestions for Myanmar OGD Policy

The following are suggestions for OGD Policy in Myanmar.

1. Have an agreement on OGD values among ministries and agencies
2. Set up more effective governance for OGD
3. Set up a one-stop window from the demand-side perspective
4. Work effectively with other ministries
5. Work together with local government
6. Establish mid-term and long-term plans for OGD
7. Increase the awareness of OGD by making a success case
8. Make progress in interoperability and digitization issues
9. Utilize the data center in the plan as a start for initiating OGD policy



Introduction

1.1 Project Overview

Since the early 2000s, the Korea Information Society Development Institute (KISDI) has provided ICT Policy Consultation to policy-makers from developing countries with the best practices and case studies related to the topic of consultation. The ICT Policy Consultation is aimed at bridging the digital divide and achieving co-prosperity through ICT cooperation by sharing the expertise, knowledge, and experience that Korea has accumulated throughout the process of ICT development. For the year 2017, an ICT Policy Consultation was proposed to Myanmar, and KISDI and the Ministry of Transport and Communications (MoTC) of Myanmar agreed on the topic of Open Government Data Policy for the consultation. The MoTC welcomed the project by being actively involved in the research activities of the KISDI Consulting Group from March to December in 2017. As part of the Consultation on Open Government Data Policy in Myanmar, a series of meetings, seminars and workshops were held from March to December in 2017 through close cooperation between the KISDI Consulting Group and MoTC.

Table 1

Project Overview

Project Title	Consultation on Open Government Data Policy in Myanmar
Agency	KISDI (Korea) and MoTC (Myanmar)
Period	March 2017 ~ December 2017
Objectives	To provide recommendations on implementing the Open Government Data Policy in Myanmar by reviewing the current ICT and open government data status of Myanmar while sharing best practices of open government data policies.

Table 2

KISDI Consulting Group

Organization	Participant	Position	Remark
Korea Information Society Development Institute (KISDI)	Jong Hwa LEE	Senior Fellow	Program Manager
	Sera LEE	Researcher	Program Officer
	Seong Hoon YOO	Research Specialist	Program Officer
Yonsei University	Sam Youl LEE	Professor	Consultant
National Information Society Agency (NIA)	Yong-Suk LEE	Executive Principal	Consultant
Personal Information Protection Commission	Joong Yeoun HWANG	Non-Standing Commissioner	Policy Advisor

According to the G8 Open Data Charter of 2013, as shown in <Table 3>, Open Government Data (OGD) serves four purposes. The first is to generate insights, ideas, and services. It is expected that opening up access to government data and allowing people to use it to satisfy their own interests, will lead to the creation of a range of insights and ideas. The second purpose is to promote accountability and good governance. By opening government data to the public, government officials are exposed to greater public scrutiny and are motivated to act more responsibly. Third is to increase transparency.

Openness essentially means transparency. The last is to empower individuals, the media, civil society and business to fuel better outcomes for public services. Having more information means additional power for institutions. By sharing government data, government institutions will be under greater pressure to work more effectively, equally, and efficiently. The Open Data Charter shows that there is enormous potential in OGD for government, civic organizations, the media, business, and citizens to make use of data to create value and increase efficiency and effectiveness.

Table 3

Purpose of OGD

-
- Open data to generate insights, ideas, and services
 - Open data to increase transparency
 - Open data to promote accountability and good governance
 - Open data to empower individuals, the media, civil society, and business to fuel better outcomes in public services
-

Source UK Cabinet Office (2013)

OGD is rapidly becoming a political objective and commitment for many countries. Its implicit promise to support economic growth and to improve public services, as well as to promote government transparency and accountability making it an attractive policy objective (Waseda University and IAC 2014). While many governments are rushing to launch political commitments and online portals, the majority have yet to demonstrate the benefits of open government data, let alone prepare plans for realizing those benefits (WIPO 2014).

Many difficult questions remain. Including, who will pay for the collection and processing of public data if it is made freely available? What are the incentives for government bodies to maintain and update their data? What data sets should be prioritized for release in order to maximize public value? Steps are therefore needed to develop a framework for cost and benefit analyses, collect data, and prepare case studies demonstrating the concrete benefits for economies, societies, and policy creation from opening government data.

The two main elements of OGD are normally defined as follows: Government data is any data and information produced or commissioned by public bodies; Open data is data that can be freely used, re-used and distributed by anyone, only subject to (at most) the requirement that users attribute the data and that they make their work available to be shared as well (AlRushaid and Saudagar 2016).

Public datasets considered as a reference for OECD analysis of OGD initiatives include: business information, registers, patent and trademark information and public tender databases, geographic information, legal information, meteorological information, social data, and transport information (OECD 2013).

Since the potential for OGD is enormous and comprehensive, it is natural for the Myanmar government to pay attention to it. This project is planned to analyze the status and potential for the Myanmar government in terms of OGD and to provide recommendations for possible policy with reference to Korean OGD policy experiences.

1.2 The Scope and Approach of the Consultation

The scope of this consultation project is to analyze the status of OGD in Myanmar, provide a case study of OGD policy in Korea and suggest strategies for the development of OGD policy in Myanmar.

Table 4

Scope of Consultation

Steps	Actions
Step 1	Assessing the Needs of OGD in Myanmar
Step 2	Analyzing the Status of OGD in Myanmar
Step 3	Providing Policy Examples in Korea
Step 4	Providing with Policy Suggestions for OGD Policy in Myanmar

The consultation is a multi-step process, each step requires a number of actions for completion. Step 1 is to assess the needs for OGD in Myanmar. It includes four actions. Action 1 is to interview with key stakeholders including businesses, civic groups and government officers. Action 2 is to create structured questionnaires based on interviews. Action 3 is to survey key stakeholders with the help of the Myanmar government. Action 4 is to identify the needs and priorities of OGD in Myanmar based on questionnaires and interviews.

Step 2 is to analyze the status of OGD in Myanmar. Action 1 is to set up a framework for diagnosis. Action 2 is to apply this framework to assessing the status of OGD in Myanmar. Action 3 is to write an assessment report on the status.

Step 3 is to provide relevant examples from Korea. Action 1 is to find successful examples of OGD in Korea. Action 2 is to write case studies of the examples. Action 3 is to discuss the application of the lessons learned from the examples in the context of Myanmar.

Step 4 is to provide policy suggestions for OGD policy in Myanmar. Action 1 is to analyze Korean OGD policy and provide the lessons-learned from the process of OGD policy implementation in Korea. Action 2 is to identify applicable policy implications from Korean experiences to suit the needs and conditions of Myanmar, as derived from discussions with Myanmar officers and business groups. Action 3 is to provide policy suggestions on OGD policy for Myanmar.

1.3 Examples of Other Countries

Understanding what other countries such as the U.K., the U.S., France and Korea are pursuing with regards to OGD is important in understanding the OGD policy environment. The Open Government Data Ranking provides insight into international development in this area (World Wide Web Foundation 2016).

[Figure 1] below shows the rankings. The UK is ranked 1st with a score of 100, followed by the U.S. with 81.89 and France with 81.65. The remaining top ten countries include Canada, Denmark, New Zealand, the Netherlands, Korea, Sweden, and Australia. All of the top 10 countries are members of the OECD and 6 of them belong to the G20.

Figure 1

Open Data Barometer Global Ranking (2016)

Position	Country	Score	Income	HDI Rank	OECD	G20
1	 UK	100	High Income	Very High	●	●
2	 USA	81.89	High Income	Very High	●	●
2	 France	81.65	High Income	Very High	●	●
4	 Canada	80.35	High Income	Very High	●	●
5	 Denmark	76.62	High Income	Very High	●	●
6	 New Zealand	76.35	High Income	Very High	●	●
7	 Netherlands	75.13	High Income	Very High	●	●
8	 Korea	71.19	High Income	Very High	●	●
9	 Sweden	69.26	High Income	Very High	●	●
10	 Australia	67.99	High Income	Very High	●	●

Source World Wide Web Foundation (2016)

Figure 2

Changes in Open Data Barometer Global Ranking

	Country	Global rank	Regional rank	Rank change
Traditional leaders	UK 	1	1	no change
	USA 	2	1	no change
New challengers	France 	2	2	+1
	Canada 	4	2	+3
	South Korea 	8	2	+9
	Mexico 	16	1	+8
	Uruguay 	19	3	+6
	Philippines 	36	6	+17

Source World Wide Web Foundation (2016)

[Figure 2] above shows how other countries are catching up with the U.K. and the U.S., South Korea, Mexico, Uruguay, and the Philippines progressed rapidly compared to the front-runners. The progress of Mexico and Uruguay are particularly impressive. This shows that OGD policy has spread to various countries and the developmental gap between countries has started to shrink.

Figure 3

Data Quality by Open Data Characteristics

Dataset	Machine readable	Bulk	Free	Open license	Updated	Sustainable	Discoverable	Linked data
Maps	67%	36%	64%	23%	55%	65%	68%	3%
Land	36%	14%	52%	19%	64%	71%	64%	5%
Statistics	69%	42%	93%	25%	82%	77%	96%	5%
Budgets	47%	33%	99%	20%	96%	89%	87%	2%
Spending	100%	100%	100%	50%	100%	100%	100%	0%
Companies	29%	14%	61%	8%	64%	70%	67%	2%
Legislation	18%	8%	93%	16%	81%	86%	79%	3%
Transport	43%	28%	95%	28%	80%	73%	82%	2%
Trade	70%	35%	99%	20%	75%	81%	80%	1%
Health	65%	27%	95%	31%	47%	51%	65%	1%
Education	63%	34%	96%	23%	59%	64%	68%	0%
Crime	59%	26%	97%	24%	69%	68%	65%	1%
Environment	75%	34%	98%	32%	60%	69%	71%	2%
Elections	54%	32%	99%	21%	94%	78%	80%	1%
Contracts	28%	21%	95%	19%	81%	72%	61%	0%
Average	55%	32%	89%	24%	74%	74%	75%	2%

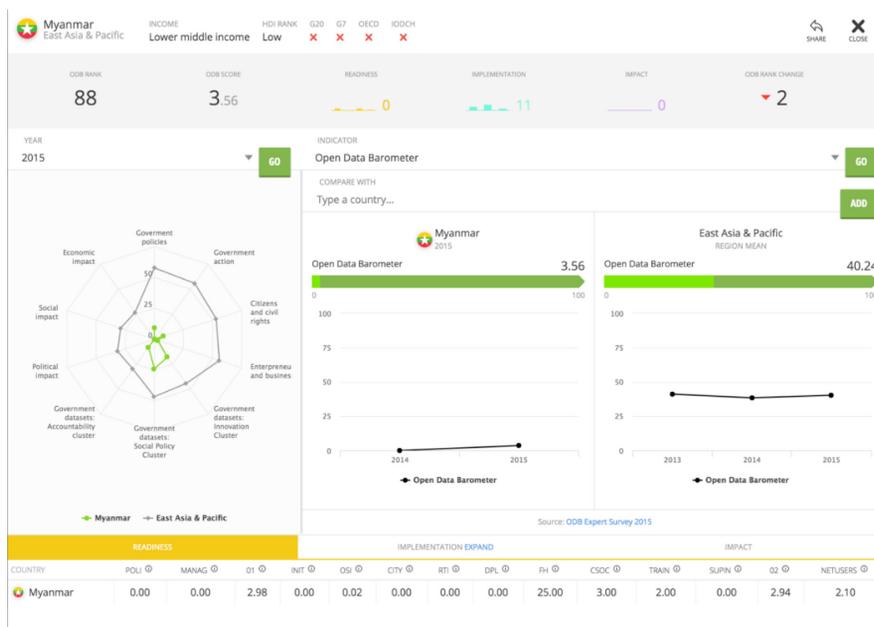
■ best value for each of the data series (columns) ■ good performers for each of the data series (columns)
■ worst value for each of the Data series (columns) ■ bad performers for each of the data series (columns)

Source World Wide Web Foundation (2016)

Data quality is still an issue. When government data was evaluated against open data characteristics, a big variation has been found, as shown in [Figure 3]. Data in legislation, health, and contracts needs a major quality improvement.

Figure 4

OGD in Myanmar



Source World Wide Web Foundation (2016)

In the United States, there was an executive order regarding OGD in May 2013. The executive order was titled as “Making Open and Machine Readable the New Default for Government Information” and declared OGD as the new default for the U.S. government, setting a positive approach towards OGD by making openness standard. In addition, the U.S. government is implementing the “U.S. Open Data Action Plan” and running the data portal “data.gov” which contains more than 130,000 datasets.

Korea passed a law on “Open Government Data” in October 2013 and is currently implementing the “Korea Open Data Action Plan (2013~2017).” The Korean government is operating the “Open Data Strategy Council” and running the government data portal.

The UK published a report titled “Putting the Frontline First: Smarter Government” in December 2009 and is running the government data portal “data.gov.uk.” The Cabinet Office has taken the lead in implementing the plan.

1.4 The Usefulness of Korean Policy Case in OGD

Korean OGD has multiple advantages as a reference for the Myanmar government. Korea recently started OGD but is ranked at #8 based on Open Data Barometer Global Report. The Korean government has been implementing OGD at the Cabinet level as well as the local government level. Therefore, it can provide good examples of the “Do's” and “Don'ts” when establishing and implementing OGD plans. Korean policy can be used as working examples of business promotion based on OGD. Also, since Korea is the only Asian country listed in the top 10, it can provide a unique perspective. The Korean economy rapidly evolved from an underdeveloped status to a developed status and thus it can guide other developing countries on the path it took. The same logic can be applied to the case of OGD.

1.5 The Process of Consultation

In order to provide Open Government Data Policy recommendations for present government bureaucratic of Myanmar, the KISDI Consulting Group made its three on-site visits to Myanmar and the Myanmar government officials who are in charge of open government data policy were invited to Korea for a one-week program of site visits and seminars.

Table 5

Progress of the Project

Schedule	Phase 1 (Myanmar, May)	- First Visit: Specification of Work Scope for Consultation / Preparatory Work (Data collection, Surveys, Interviews, etc.)
	Phase 2 (Myanmar, July)	- Second Visit: First Workshop on Open Government Data / Additional Data Collection and Interviews
	Phase 3 (Korea, September)	- Study Visit: One-week Program of Seminars and Site Visits (KISDI invited government officials from the MoTC)
	Phase 4 (Myanmar, November)	- Drafting of the Final Report and Presentation (Final workshop)

1.5.1 First On-site Visit to Myanmar

At the first on-site visit in May 2017, KISDI assessed and analyzed the need for and status of OGD in Myanmar. From the first on-site visit, the consultation group of KISDI discovered several meaningful findings regarding the demands on OGD in Myanmar.

First, it was found that the Myanmar government has a strong interest in making a good progress towards a successful implementation of OGD policy. However, a relatively weak infrastructure of ICT hampers further development.

Second, for the value of OGD, it was found that the Myanmar government is putting more emphasis on “Transparency” but it is still in the early stage of OGD. It needs greater consensus on the value of OGD and needs to prepare a step-by-step OGD policy in order to accomplish other values of OGD. Examples from Korea and other countries emphasize the “promotion of entrepreneurship” and “civic participation” which are currently lacking in Myanmar.

Third, it was found that the MoTC has a leading role in establishing and implementing OGD policy in Myanmar. However, it suffers from the lack of resources, infrastructure, and an adequate governance structure.

Fourth, it was found that the current OGD policy is heavily weighted towards supply. There is a lack of attention in OGD from civic groups and the private sector. It is crucial for the success of OGD policy that people and public officials perceive the potential benefits for the private sector. Public officials in the government are also customers of OGD and they should be heard and become supporters of OGD.

Fifth, it was found that there is no evaluation matrix for OGD policy. Since proper evaluation makes ‘policy learning’ possible, an evaluation matrix needs to be considered before the full implementation of OGD policy. The evaluation matrix for OGD policy should be prepared in cooperation with OGD stakeholders.

Sixth, it was found that there are not enough incentives or punishment mechanisms for OGD policy. There is not enough reason for public officials to make good progress in OGD policy at an individual or organizational level. An incentive matrix needs to be considered to promote OGD for the entire government. It should be noted that OGD is not just for the MoTC, but for the entire government.

Seventh, it was found that there have been fragmented approaches to OGD. Individual institutions have offered e-government services and OGD through their own Information Technology (IT) systems successfully. However, this may lead to serious fragmentation issues for OGD in the future. Myanmar needs to find ways to balance between overall integration and institution-level efforts.

Finally, it was found that there is no 'one-stop shop' for OGD policy for suppliers or customers. The Myanmar government should consider an expert organization that can help further OGD policy in terms of technology and policy. It should be noted that government officials are both customers and suppliers at the same time and they need to be served accordingly.

After the first on-site visit, the KISDI consultation group prepared for a report on Step 1 and Step 2 of the consultation process for OGD in Myanmar and a detailed analysis on Korean policy on OGD.

1.5.2 Second On-site Visit to Myanmar and Study Visit to Korea

After the second on-site visit in July and a study visit by Myanmar officials in September, the consultation team found the following additional elements.

First, we found that there is a range of activities happening at the local government level regarding OGD. Many of them are focusing on transparency. However, there is currently lack of cooperation between the ministries in the central government and local governments. Consequently, a framework for institutional cooperation needs to be considered.

Second, we found that civic groups and private companies are quite interested in OGD but are not active in promoting OGD. There is a need to systematically include civic groups (including academics) into the OGD

policy plan. The Myanmar government is recommended to consider the participation of business and civic groups in the official committee on OGD.

Also, in consultation with Myanmar officials, the consultation team prepared a survey on OGD in Myanmar.

During their study visit to Korea, Myanmar officials visited governmental institutions and business facilities related to OGD. In particular, there were presentations by business start-ups based on OGD, which pointed out the potential of OGD as a tool to promote entrepreneurship.

1.5.3 Third On-site Visit and Final Presentation

In November 2017, the KISDI consultation group visited the Myanmar government and held the final workshop on OGD strategy for officials in Myanmar. The comments on the presentation by the Myanmar government have been reflected in the contents of the final report.

1.6 The Summary of the Issues

1. Need for consensus on the value for OGD
2. Need for more effective governance
3. Need for a one-stop shop and a main institution
4. Need for demand-side consideration in OGD policy
5. Need for the evaluation matrix for OGD policy
6. Need for an incentive matrix to promote OGD in the entire government
7. Need for a balance between the overall integration and the institution level
8. Need for institutional cooperation between central and local governments
9. Need to systematically include civic groups (including academics) into the OGD policy plan

1.7 The Summary of Policy Suggestions

Based on field research and study visits, the consulting team suggests nine policy options for OGD in Myanmar. More detailed information is provided in Chapter 5.

Recommendation 1: The Myanmar government needs to have an agreement on OGD values. For the purpose, an evaluation matrix should be prepared for OGD policy, which operates as the ‘rules of the game.’

Recommendation 2: The Myanmar government needs to set up more effective governance for OGD. The scope of each ministry's responsibility for OGD should be more clearly specified. It is recommended to make civic and business participation embedded in the policy-making and implementation process for OGD.

Recommendation 3: It is recommended to set up a one-stop window from the demand-side perspective.

Recommendation 4: The MoTC needs to work effectively with other ministries. OGD policy can be more effective if several ministries participate actively in the policy-making process.

Recommendation 5: It is recommended to work closely with local government. A framework for collaboration between in the central government and local government should be prepared.

Recommendation 6: It is recommended to establish mid-term and long-term plans for OGD. The OGD policy needs to be included in the Myanmar e-Government ICT Master Plan.

Recommendation 7: It is recommended to increase the awareness of OGD by making a success case.

Recommendation 8: It is recommended to make progress in interoperability issues. At the same time, progress on digitization should be addressed.

Recommendation 9: It is recommended to use the data center in the plan as a start for OGD policy.

Concepts and Principles of OGD

2.1 What is Open Government Data (OGD)?

In the last decade, OGD has risen from being a niche cause in a few developed countries to becoming pervasive in the policy agendas of governments around the world. In the recently launched Open Government Partnership (OGP), discussions around OGD have become the focus of a significant networked movement of technologists, activists, the private sectors, and civil society actors. The online publication of structured datasets by governments is playing an important role in driving the transparency and accountability of states, enabling new forms of civic participation and action, and stimulating economic growth and development. Over 100 OGD initiatives are active across the globe, ranging from community-led OGD projects in urban India, to a World Bank sponsored OGD program in Kenya, government-led developments in Brazil, civil-society initiated work in Russia, and a World Wide Web Foundation supported program in Ghana (Davies and Bawa 2012).

While OGD has become a focus of global attention, it is still a tough task to understand how it plays out in national, sub-national, and local community contexts. This requires the understanding of the historical trajectories of government policies with respect to openness, data management and data-use, and a look at different approaches to publishing, creating and using datasets of relevance to the processes of governance, which provide a sharper understanding of the key challenges of OGD: the practical details that advocates of OGD need to engage with when they recognize that government

data cannot simply be treated as a neutral and uncontested resource (Davies and Bawa 2012).

“Open data” is just one of a number of high-profile labels with the prefix “open” (Davies and Bawa 2012). Open government, open access, open innovation, open education and open knowledge are some of the other initiatives and movements in this area. Many of these draw from the emergence of “open source” as the inspiration for their development (Willinsky 2005; Berry 2008; Lathrop and Ruma 2010). Yet, “open” is an incredibly broad and multi-dimensional term. Wittgenstein's notion of “family resemblance” concepts (Wittgenstein 1953) is useful here to capture the overlapping intentions and meanings of openness. When you look at open access, open source and open data, for example, there is an evident resemblance, like looking at members of a family, but this resemblance cannot be put down to some simple property all members of the family have in common – there is a much more complex set of similarities and dissimilarities at play (Davies and Bawa 2012).

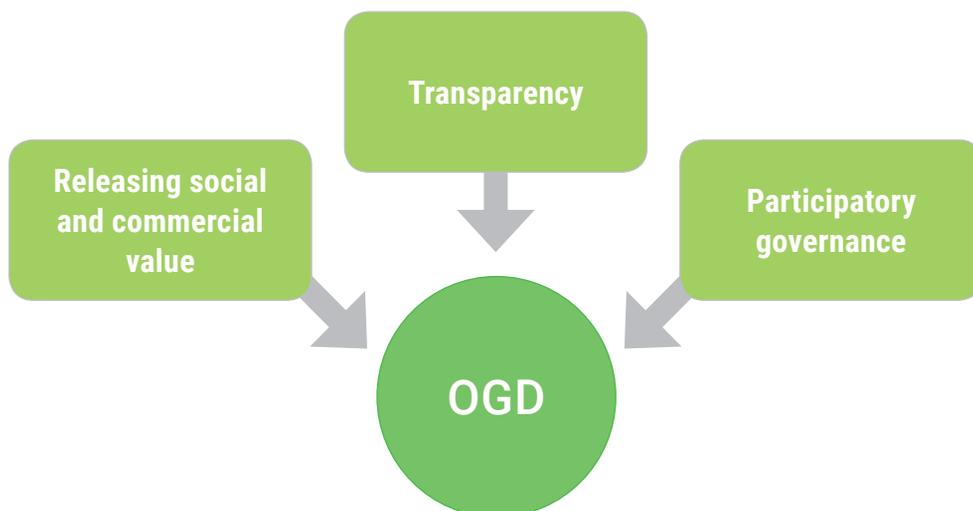
In many settings, specific notions of “open” are primarily articulated in opposition to some “closed” sets of arrangements that are being challenged (Davies and Bawa 2012). For example, the application of Intellectual Property Rights (IPRs) to software, emerging from the 1970s onwards, in environments where peer-to-peer norms of source code sharing were already established, stimulated the articulation of “open source” (and free software) as the preservation of existing relationships between programmers (Berry 2008).

In a nutshell, OGD is the data produced or commissioned by government or government controlled entities. Data is categorized as “OPEN” when anyone can freely use, freely reuse, and can freely redistribute, “Open means anyone can freely access, use, modify, and share for any purpose.”

2.2 What Can You Expect from OGD?

Figure 5

Elements that You Expect from OGD



First of all, transparency is one of the values we achieve through OGD. In a well-functioning, democratic society, citizens need to know what their government is doing. To do that, they must be able to freely access government data and information, and to share that information with other citizens. Transparency is not just about access. It is also about sharing and reuse. Often, material needs to be analyzed and visualized in order to be understood, which requires that the material be open so that it can be freely used and reused.

Secondly, OGD can release social and commercial value. In the digital age, data is a key resource for social and commercial activities. Everything from finding your local post office to building a search engine requires access to data that is created or held by the government. By opening up data the government can help drive the creation of innovative businesses and services that deliver social and commercial value (Open Knowledge Foundation 2012).

Finally, OGD can facilitate participatory governance. Much of the time citizens are only able to engage with their own governance sporadically;

perhaps just at an election every 4 or 5 years (Leanne, et al. 2015). By opening up data, citizens are empowered to be much more directly informed and involved in the decision-making process. This is more than transparency; it is about making a completely “read/write” society. One in which the public do not just know about what is happening in the process of governance but are able to contribute to it.

2.3 OGD Policies of Other Countries

2.3.1 United States

The U.S. enacted an executive order in May 2013 titled “Making Open and Machine Readable the New Default for Government Information” and is implementing the “U.S. Open Data Action Plan” and running “data.gov” which contains more than 130,000 datasets. The executive order argues that OGD will “fuel entrepreneurship, innovation, and scientific discovery.” Two of such examples having happened in the U.S. are the weather data and the Global Positioning System, which have generated both innovations and entrepreneurship. The U.S. government wanted to generate the same kind of impact by making OGD “the new default for government information.” The U.S. government wants to make government data easy to find, accessible, and usable as long as privacy, confidentiality, and national security requirements are met.

The OGD policy in the U.S. is handled by the Director of the Office of Management and Budget (OMB), in consultation with the Chief Information Officer (CIO), Chief Technology Officer (CTO), and the Administrator of the Office of Information and Regulatory Affairs (OIRA).

A memorandum on “Open Data Policy-Managing Information as an Asset” (May 9th, 2013) declared that “(government) information is a valuable national resource and a strategic asset to the Federal Government, its partners, and the public.” Therefore, government information requires strategic management for its effective use. It contains useful definition of various terms related to OGD.

Table 6

Definitions of Terms Related to OGD in the U.S.

Term	Definition
Public	Consistent with OMB's Open Government Directive, agencies must adopt a presumption in favor of openness to the extent permitted by law and subject to privacy, confidentiality, security, or other valid restrictions.
Accessible	Open data are made available in convenient, modifiable, and open formats that can be retrieved, downloaded, indexed, and searched. Formats should be machine-readable (i.e., data are reasonably structured to allow automated processing). Open data structures do not discriminate against any person or group of persons and should be made available to the widest range of users for the widest range of purposes, often by providing the data in multiple formats for consumption. To the extent permitted by law, these formats should be non-proprietary, publicly available, and no restrictions should be placed upon their use.
Described	Open data are described fully so that consumers of the data have sufficient information to understand their strengths, weaknesses, analytical limitations, security requirements, as well as how to process them. This involves the use of robust, granular metadata (i.e., fields or elements that describe data), thorough documentation of data elements, data dictionaries, and, if applicable, additional descriptions of the purpose of the collection, the population of interest, the characteristics of the sample, and the method of data collection.
Reusable	Open data are made available under an open license that places no restrictions on their use.
Complete	Open data are published in primary forms (i.e., as collected at the source), with the finest possible level of granularity that is practicable and permitted by law and other requirements. Derived or aggregate open data should also be published but must reference the primary data.
Timely	Open data are made available as quickly as necessary to preserve the value of the data. Frequency of release should account for key audiences and downstream needs.
Managed Post-Release	A point of contact must be designated to assist with data use and to respond to complaints about adherence to these open data requirements.

In addition, the U.S. government tried to abide by the Open Data Charter endorsed by G8 leaders in June 2013. The Open Data Charter has the following five strategic principles:

Open Data by Default - foster expectations that government data be published openly while continuing to safeguard privacy;

Quality and Quantity - release quality, timely and well-described open data;

Useable by All - release as much data in as many open formats as possible;

Releasing Data for Improved Governance - share expertise and be transparent about data collection, standards and publishing processes; and

Releasing Data for Innovation - consult with users and empower future generations of innovators.

In order to abide by the Charter, the U.S. government implemented the following actions.

- Publish open data in a discoverable, machine-readable, useful way.
- Work with the public and civil society organizations to prioritize open data sets for release.
- Support innovators and improve open data based on feedback.
- Continue to release and enhance high-priority data sets.

The U.S. uses “data.gov”, which contains more than 130,000 datasets. Data.gov was launched on May 21st, 2009 with just 47 datasets. It currently features over 130,000 datasets from across the country including those from 83 federal agencies and sub-agencies. Since the landmark 2013 Executive Order that made federal data open and machine-readable by default, 50,000 more datasets were added. There are about 8.5 million page views of Data.gov annually and its use has more than doubled in the past two years. Data.gov uses open source technology to power the website (WordPress) and the data catalog is developed using the CKAN (Comprehensive Knowledge Archive Network). Using open source technology allows developers from around the globe to give input, and others to re-use the code. This technology also results in greater integration with state, city, and county catalogs. Data.gov currently syndicates 37 local government data catalogs and more are added every month.

2.3.2 United Kingdom

The U.K. published a report titled “Putting the Frontline First: Smarter Government” in December 2009 and provides “data.gov.uk.” The U.K. Cabinet Office has been taking the lead in implementing the plan. The plan has three central actions: “to drive up standards by strengthening the role of citizens and civic society; to free up public services by recasting the relationship between the center and the frontline; and to streamline the center of government, saving money through sharper delivery.” The detailed plan of the U.K. is shown in the below.

Table 7

Putting the Frontline First: Smarter Government in the U.K.

Action 1: Strengthen the role of citizens and civic society

- Give people guarantees to high-quality public services that are at the center of their lives, such as a right to be treated in hospital within 18 weeks, or one-to-one tuition for pupils falling behind national standards in English and math at primary schools with clear rights of redress where these guarantees are not met.
- Accelerate the move to digitalized public services that are personalized, flexible, cost-efficient and save people time. ‘Tell Us Once’ will be rolled out nationally in 2010, so citizens need only notify government once for any birth or death. During 2010, we will set out, service by service, how transactions with government will move online as rapidly as possible, starting with student loans, child benefit and Jobseeker’s Allowance. And we will invest £30 million with UK online to support the development of the National Plan for Digital Participation to get more than one million people online in the next three years.
- Radically open up data and public information to promote transparent and effective government and social innovation. We will release over a thousand public datasets – including Ordnance Survey mapping data, data underpinning National Health Service (NHS) Choices and the Public Weather Service, real-time railway timetables, and more detailed departmental spending data – and make them free for reuse.
- Encourage greater personal responsibility and control over services through new use of technology and service interaction. Text message alerts will become more common for patients and parents, and public services will proactively identify those at risk of ill health, crime or pupil absence so they can intervene early and effectively. We will set up a taskforce to reduce fraud in the public sector.
- Build a stronger civic society and give communities more say in shaping public services. We will map civic health in every community through a new Civil Health Index, transfer more public assets to the third sector, and develop new ways of providing capital to civic society organizations – such as through a new social investment wholesale bank and piloting Social Impact Bonds.

Action 2: Recast the relationship between the center and the frontline.

- Let local areas set priorities and guide resources by streamlining the national performance framework. This will include reducing the number of national indicators for local areas by April 2010, and making further reductions from 2011.
- We will reduce the number of revenue streams to local government. By Budget 2010, we will set out specific proposals to reduce the level of ring-fencing¹ for local authorities and publish guidance on aligning and pooling local-level budgets to frontline services. We will align the timing and coordination of grant payments from departments to local authorities for 20011/12.
- We will support local authorities that wish to use their trading powers to create further commercial opportunities, set out guidance on effective use of joint ventures by local authorities and their partners in February 2010 and consider single area-based capital funding by Budget 2010.
- Reduce centrally imposed burdens on the frontline from reporting, inspection and assessment. We will coordinate timings of all assessments, inspections and reporting arrangements by 2010/11 where they focus on similar outcomes, and consider a new cross government data gateway. We will also review the work and number of inspectorates, reporting at Budget 2010, and ask Total Place pilots to quantify total burdens across local agencies and priorities for streamlining burdens.
- Harness the power of comparative data to improve performance. We will publish public services performance data online by 2011, starting with more detailed data on crime patterns and costs of hospital procedures, as well as parts of the National Pupil Database in 2010. We will use these data to drive better value – reserving top inspectorate marks for those public services that deliver good value for money, introducing NHS tariffs based on best practice in 2010, and benchmarking the whole of the prison and probation system by 2011.

Action 3: Streamline central government for sharper delivery

- Equip the Civil Service to meet future challenges, by reshaping the organization of the Senior Civil Service, reducing its annual cost by £100 million within three years, and put in place radical reforms to senior pay across the wider public sector.
- Rationalize and reform arm's-length bodies (ALBs). We will merge or abolish over 120 ALBs and publish stronger governance proposals in the New Year on ALBs, as well as the results of a review by Budget 2010. This will deliver at least £500 million in savings.
- Improve back office and procurement processes to the standard of the best, to deliver the £9 billion of savings identified in the Operational Efficiency Program. We are publishing, alongside this document, data on every department's back office performance with a new set of comparators. We will look to expand the most successful shared services centers, exploring the best governance and ownership structures for every department. And we will release further resources for frontline services by reducing spend on consultancy by 50%.

-
- Manage assets more effectively. We are publishing now a portfolio of assets to discuss ownership options with the private sector, including full or partial sale or mutualization. We will consider new ownership structures that release value from the government estate by creating one or more public property companies. And by March 2010, Ian Smith will advise the Government on the scope for further relocations out of expensive parts of the South East and London.
-

The U.K. Government is releasing public data to help people understand how government works and how policies are made and data.gov.uk brings all the data together in one searchable website. Making this data easily available means it is easier for people to make decisions, innovate around, and provide suggestions about government policies based on transparent information. Data.gov.uk is the official Open Data portal of the U.K. Government and provides a central way to access the stored government data. It strives to make government data ‘easy to find, easy to license, and easy to re-use.’ A beta version went live in October 2009, and the site was live from January 2010. Data.gov.uk contains over 19,000 data sets from various U.K. Government departments. All data are non-personal and provided in a format that allows it to be reused.

“Putting the Frontline First: Smarter Government” sets the U.K. Government's approach to public data and the release of that data and sets the release of public data as being “business as usual”; with the effort being coordinated by the Cabinet Office. However, the U.K. government has developed its open governance framework that is particularly proactive on disclosure, transparency and participation. This is mostly not through a single comprehensive legislation but through a patchwork of policy initiatives and procedural guidance. With a few notable exceptions, the U.K. has not developed legislated rights for citizens to access or engage in government, nor created general obligations on public authorities to proactively disclose information or proactively consult. The U.K. also has a patchwork of different codes of conduct and obligations governing the control and oversight regime at different levels of government.

2.3.3 Russia

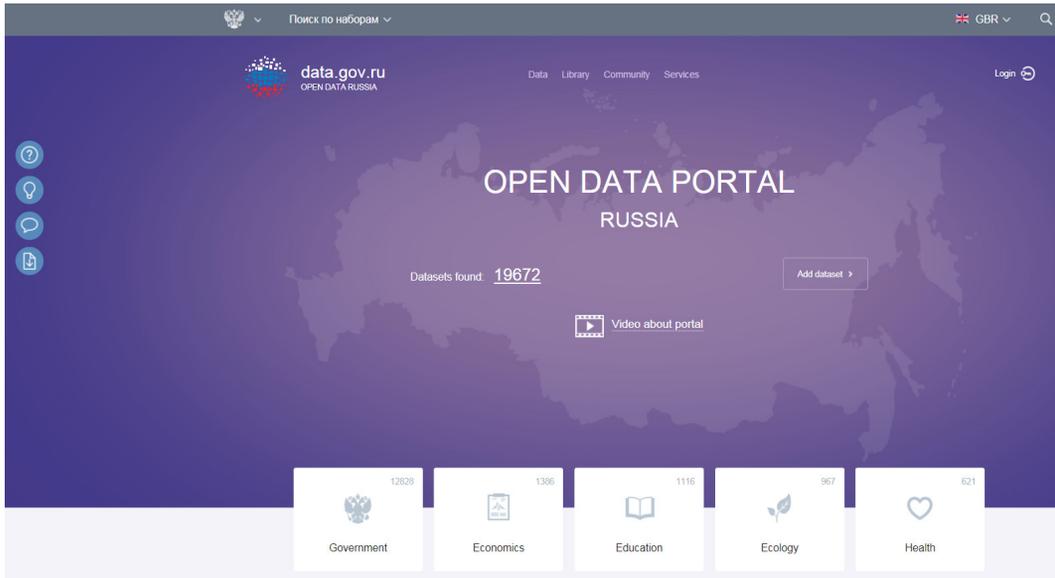
- Participated in the “G8 Open Data Charter” in 2013
- 2,400 datasets made public through Russia’s Open Data Portal (<http://date.gov.ru>)

Russia has for a long period not been regarded by the rest of the world as a country with open data. Recent governmental initiatives provoked by a President's Decree in 2012 are about to notably change the landscape and disclose large amounts of data to the public. The ongoing reforms are to open in effective manner in 2015-2016 with about 3,000 databases used by federal agencies and a push for local authorities to publish their data. The disclosure is to be done under special recommendations and revised every half a year according to specified standards. To control and monitor the realization of the adopted roadmap the government created a specific Internet portal with a register of state organs and authority sites with open data and their “open data rankings” based on several criteria including expert and public evaluation. Those vast and considerable alterations are to help Russia to join the club of countries with open data and implement the provisions of G8 Open Data Charter.

Almost 2,400 datasets have been made public through the Russian Open Data portal (<http://data.gov.ru/>), which is in addition to some regional and city data portal initiatives. The Open Data portal provides access to 2,398 datasets (as of December 2014) and is divided into 16 major topics. “Clearspending” (<http://clearspending.ru>) is a portal that uses Open Government Data to track and visualize government spending, and monitors over 12 million contracts, 270,000 contractors, and 900,000 vendors. Importantly, it has helped to identify over 4 million procurement violations to date. However, Russia still has some way to go. The country is facing a growing demand from its population for transparent and reliable information about government decision-making.

Figure 6

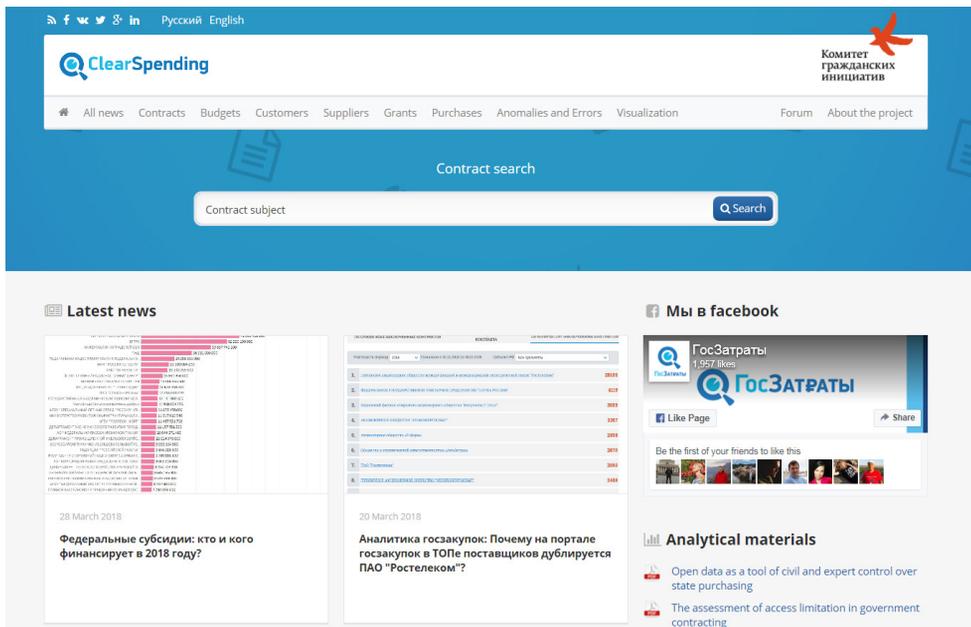
Open Data Portal in Russia



Source Russia's Open Data Portal, December 20th, 2017, <http://data.gov.ru/>

Figure 7

Clearspending Website in Russia



Source Clearspending, December 20th, 2017, <http://clearspending.ru>

Two new World Bank studies, “Open Data for Economic Growth in Russia” and “Opportunities and Strategies for Mainstreaming Open Data in Transport Projects in St. Petersburg”, draw on the most recent developments in Russia's Open Data initiatives and provide unique insights into the <http://data.gov.ru/> platforms and its usage patterns.

“Open Data for Economic Growth in Russia” provides recommendations for policies and actions that could maximize economic growth from the open data initiatives, and suggests that the government should not only supply data, but also demonstrate leadership in catalyzing open data collaboration across the country at all levels.

“Opportunities and Strategies for Mainstreaming Open Data in Transport Projects in St. Petersburg” focuses on the potential of Open Transport Data in St. Petersburg, as part of the preparations for the National Urban Transport Improvement Project in Russia. Although it is principally intended for use by St. Petersburg transportation authorities and federal agencies involved in the preparation and implementation of the project, the report's recommendations can also be of great interest to a wide range of open data experts and practitioners – many of whom are looking for innovative new ideas for developing open data projects in the area of urban transport.

2.3.4 Korea

Since the OGD policy of Korea will be elaborated in a separate chapter, it will be mentioned only briefly in this section.

South Korea introduced an open data portal (www.data.go.kr) in 2011, but the country's public information disclosure initiatives go back more than a decade, when the government developed Minwon 24 into one of the most citizen-focused information portals. Last year, the Park administration launched the “Government 3.0” plan that will provide access to a wide range of public information. The Government 3.0 plan was one of Park's key campaign pledges along with the promise of a “creative economy”, and the government promises that by 2016, it will nearly quadruple the scope of administrative data releases from 16% to 60% of the available total source documents in areas like transport, climate, finance and welfare (Geoffrey Cain 2014). On the demand side, there is a dynamic linked and open data community including a local Open Knowledge Foundation (OKFN) group.

The Open Data policy was developed under the office for “Creative Government and Management Office” and formulates policies on promoting a creative government and opening public information, and promotes administrative efficiency through interagency collaboration and improving administrative systems. The Ministry of Security and Public Administration (MOSPA) is the lead ministry on open data policy in Korea; the open data portal is operating by the Open Data Center (ODC) which is a part of the National Information Society Agency (NIA).

One of the most active open data sites is the Seoul Open Data Plaza (data.seoul.go.kr) managed by the Metropolitan government of Seoul. It started an open data initiative in 2012 sharing public information with citizens in order to create diverse business opportunities for the private sector and develop IT industries. The plaza is an online channel to share and provide citizens with all of Seoul's public data, such as real-time bus operation schedules, subway schedules, locations of public Wi-Fi services, shoeshine shops, and facilities for disabled people. Information registered in the Seoul Open Data Plaza is provided in an open Application Programming Interface (API) format, and is designed to enable citizens in creating diverse businesses.

The fifth National Informatization Master Plan (2013~2017), established in 2013, offers smart infrastructure and an IT-led creative economy as the key values, in addition to those for establishing the national infrastructure, which had been implemented during the first, second and third Master Plans. It also builds on the value of achieving a knowledge information society as implemented through the fourth Master Plan. The vision of the fifth National Informatization Master Plan is ‘achieving a digital creative Korea for citizens’ happiness.’ It contains three objectives to realize this vision, which are a dynamic economy, good and peaceful citizen's life, and a digital environment that allows co-existence in trust. The ‘Four ICT CORE’ strategies for achieving the ‘digital creative Korea’ include the Creative Economy, Optimized Society via ICT, Renewed Human Capacity, and Enhanced ICT Infrastructure.

The Korean government is actively consulting with civil society in setting out and executing the plans for Government 3.0 in an effort to achieve the OGD initiative. In developing the national action plan, the Korean government put as much effort as possible to seek out a wide range of views from civil society. During a consultation held in April 2014, the “Government 3.0 Execution Plan 2014” was shared with civil society to collect their opinions on the plan.

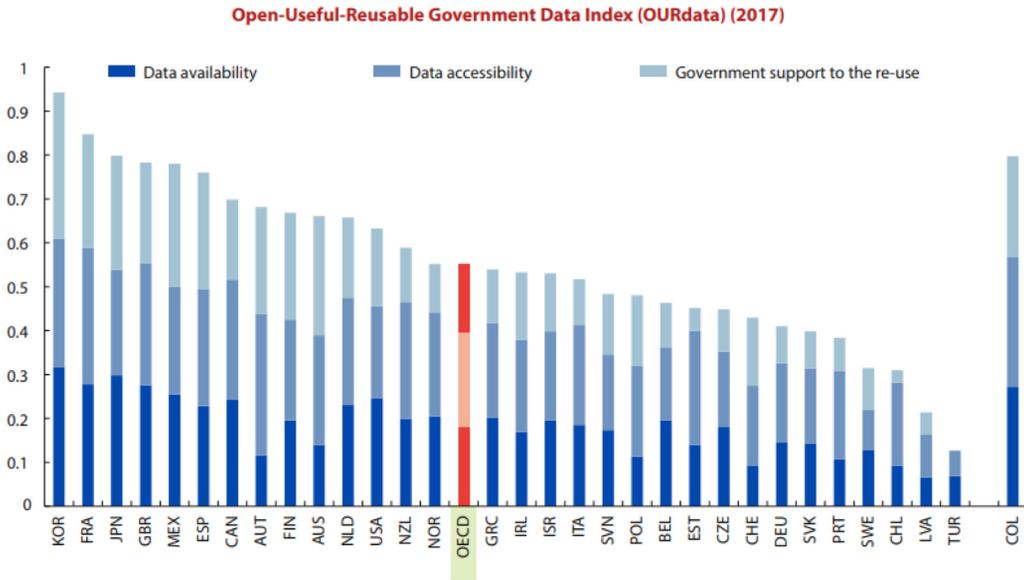
Also, in the process of implementing each commitment of the national action plan, the Korean government has held constant consultations with civil society. To be specific, in order to explore ways to enhance the private-public collaboration, an advisory group of five private-sector representatives from academia was formed to conduct research on developing a model to improve private-public collaboration from October through December 2013. The study results are reflected in this action plan.

The Open Data Strategy Council is the highest ranked Open Data policy decision-making body.

Citizens can access and download data at the open data portal (DATA.GO.KR). A smartphone app called “Weather Here” (“날씨 여기|=nalssi yeogi”) provides daily and weekly weather information for the user’s current location. If people set a location of interest, the app will also provide weather information for that place.

Figure 8

Korea: OURdata Index 1st among OECD



Source OECD (2017)

Korea ranked 1st in terms of open government data in the “Government at a Glance 2017” survey, recently published by the Organization for Economic Co-operation and Development (OECD).



Status of OGD in Myanmar

3.1 Myanmar Country Snapshot

The population of Myanmar was 52.3 million as of 2016 and Gross Domestic Product (GDP) was \$66.2 billion in 2016. Myanmar ranked 135th out of 176 countries in the ICT Development Index, 133rd out of 139 countries in the Network Readiness Index, and 169th out of 193 countries on the E-Government Development Index.

Table 8

Major ICT Related Index Score of Myanmar

Index	ICT Development Index (IDI)	Network Readiness Index (NRI)	E-Government Development Index (EGDI)
Score (Rank)	3.00 (135 th /176)	2.7 (133 rd /139)	0.2362 (169 th /193)

Source ITU (2017), WEF (2016), UN (2016)

Table 9

Major ICT related Statistics

		2016
Fixed Line Telephone Subscriptions	Subscription per 100 (person)	1
Mobile-cellular Telephone Subscriptions	Subscription per 100 (person)	75.7
Fixed Broadband	Subscription per 100 (person) Individual users (%)	0.3
Mobile-broadband Subscription	Subscription per 100 (person)	33.5
Households with Internet Access at Home (%)		23.5
Households with a Computer (%)		13.2

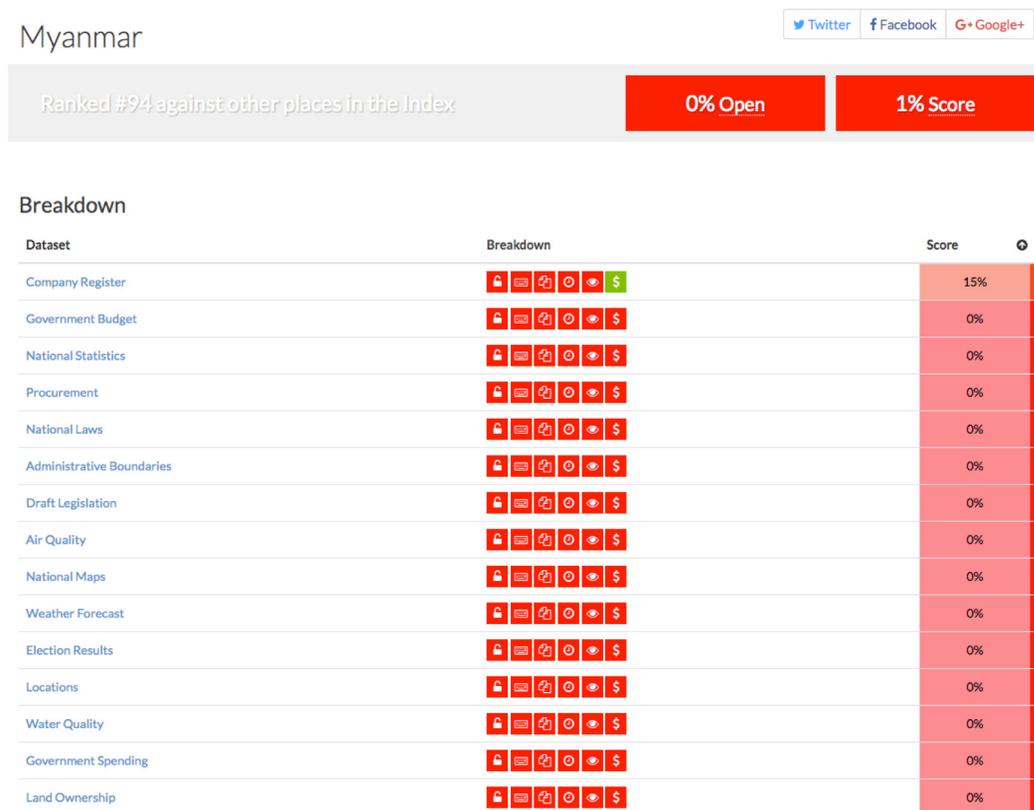
Source ITU (2016)

3.2 OGD in Myanmar

Myanmar's OGD is in its beginning stages. Myanmar ranked 94th in the 2016 Global Open Data index; it was evaluated as being 0% OPEN. Myanmar was evaluated as being open only for the dataset of company registration as shown in <Table 10>. The low score mainly resulted from the lack of ICT infrastructure and interest in OGD. However, it is expected to improve since the Myanmar government is now establishing an e-government portal and plans to build a government data center.

Table 10

Global Open Data Index in 2016: Myanmar



Source Global Open Data Index 2016, November 11th, 2017, <http://index.okfn.org/place/mm/>

3.3 Survey on OGD in Myanmar

We distributed questionnaires and collected 28 replies (10 from government and 18 from private sector) and asked them the following seven questions related to OGD.

Table 11

Questions for Survey

#	QUESTIONS
Q1	What sector of public data would be most useful for citizens?
Q2	What sector of public data would be useful for business?
Q3	Is your department well prepared for opening the government data?
Q4	What should be prepared for before government data is open to the public?
Q5	What do you think about the necessity of establishing a specialized organization for the open government data, which can help government officials and people to prepare and use open data?
Q6	Which ministry is most suitable for leading the open government data policy?
Q7	Which of the following value should be the open government data policy promote?

3.3.1 What Sector of Public Data would be Most Useful for Citizens?

The KISDI Consulting Group asked which sector public data would be most useful for citizens and the most frequent answer was education. This was followed by law, utilities (electricity, water, etc.), land, and transportation/traffic.

3.3.2 What Sector of Public Data would be Most Useful for Business?

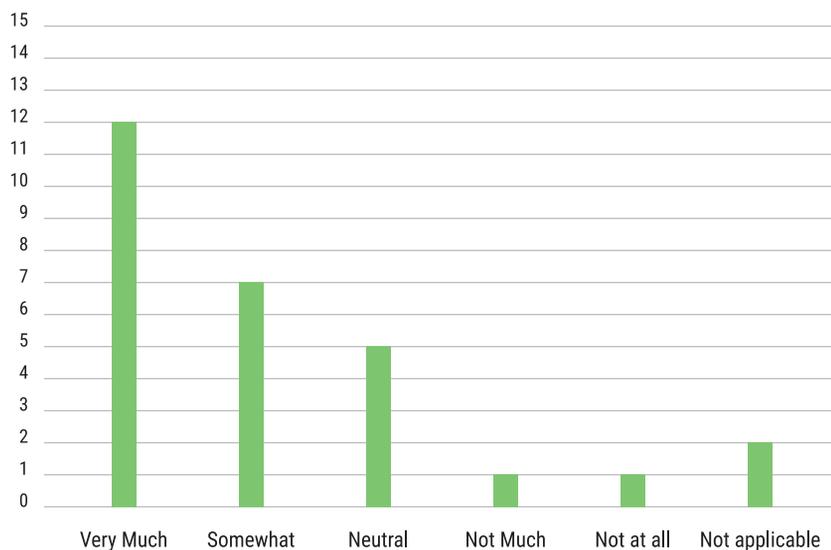
The KISDI Consulting Group asked which sector public data would be most useful for business and the most frequent answers were land/transportation-traffic/law, Energy (Petroleum) and Agriculture were the next most frequent answers.

3.3.3 Is Your Department well Prepared for Opening the Government Data?

The KISDI Consulting Group asked whether their department is well prepared for the opening of government data. The answers were mixed. Nineteen of them answered that they were very much or somewhat prepared for OGD. Five of them answered neutral and two answered that they were not much prepared.

Table 12

Is Your Department well Prepared for Opening the Government Data?



3.3.4 What Should They be Prepared for?

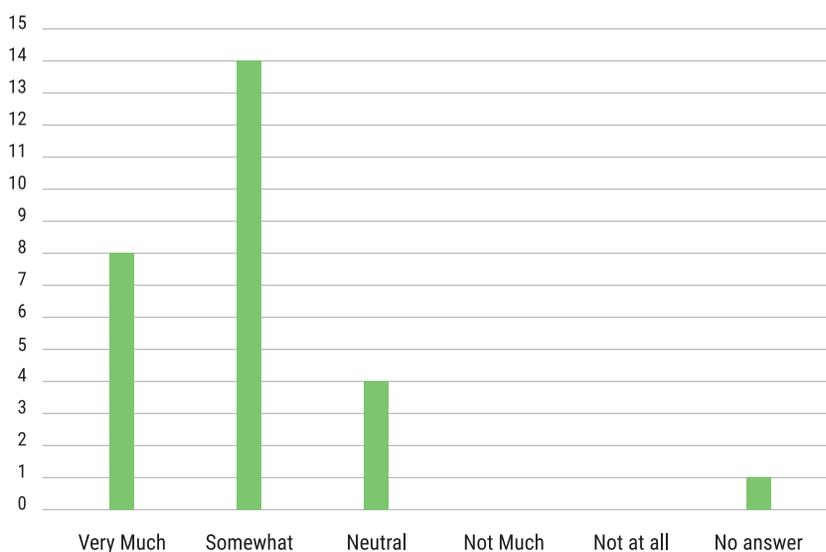
The KISDI Consulting Group asked what should be prepared for before government data is opened to the public. The most frequent answer was data security. Following were data accuracy, detailed guidelines/support from upper management, and legal foundations.

3.3.5 Is There a Need for a Special Organization for OGD?

We asked whether there was a need for a special organization for OGD. The answer was quite positive. Twenty-two of them answered ‘very much’ and ‘somewhat’.

Table 13

Is There a Need for a Special Organization for OGD?



3.3.6 Which Ministry is Most Suitable for Leading the Open Government Data Policy?

We asked which ministry is most suitable for leading the open government data policy. The answer indicated a consensus that it should be the Ministry of President's Office. Secondly, the MOI, MPF, and MoTC were tied with five votes. The following were reasons offered as to why Ministry of President's Office is most suitable for leading OGD policy.

“Because, it is very important for making policies.”

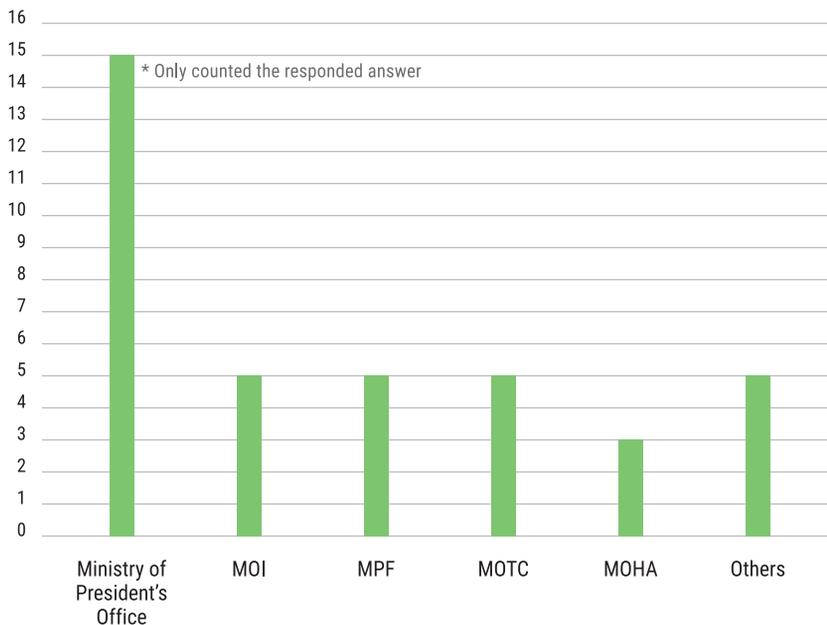
“President's Office is above all ministries”

“President's office is most important for formulating the policies and cross-ministry coordination”

“Myanmar government ministries almost never cooperate. A ministry do not have any influence over another ministry. This is the main reason only all the previous e-government attempts have failed.”

Table 14

Which Ministry is Most Suitable for Leading the Open Government Data Policy?



3.3.7 Which of the Following Values should the OGD Policy Promote?

We asked which value the OGD policy should promote. Accountability was chosen as first followed by: efficiency/anti-corruption which were tied for second. Transparency, business development, and citizen participation followed.

Korea OGD Policy Analysis and Case Studies

4.1 Background

In Korea, there was an epoch-making event that woke everybody to the significance of open data. In 2009, a high school student developed a smartphone application that informs the user about bus arrival times and distributed the application for free. That application became incredibly popular and was the most downloaded application in Korea. However, local governments, citing relevant laws, raised objections and the service was discontinued as a result. Citizens protested strongly and the service resumed 2 days later. With this event, citizens acquired a new awareness of public data and began to feel strongly that public data's real owner is not the government, but the citizens.

The opening of data related to bus transit and the resulting creation of an app for the public provides an illustrative example of Korean OGD policy. Previously, citizens waited for a bus without knowing when the bus will arrive. This made traveling by public transport uncertain and difficult. Often this situation was made worse as variable conditions for bus drivers meant there was no way to know whether the bus was about to arrive or stuck in heavy traffic jam. There was no way to know how much longer one had to wait for the bus. In cold winter, this was often an excruciating and potentially dangerous experience. Now, citizens no longer have to suffer in freezing temperatures waiting for the bus. They can wait comfortably indoors or at a coffee shop and go to the bus stop just when the bus arrives. Once citizens tasted the benefits of open data, there was no going back and open data was here to stay.

In 2013, Korea established Government 3.0 as one of its flagship programs. Government 3.0 is a government innovation agenda emphasizing four key directions:

1. Citizen-centered government innovation;
2. The application and diffusion of the core values of open, sharing, communication, and collaboration to all areas of governance;
3. Provision of customized service to citizens; and
4. Creation of jobs and support for the creative economy.

The government 3.0 program was composed of three strategies and ten tasks. The three strategies were: transparent government; competent government; and service-oriented government. The ten tasks were: ensuring the public's right to know through information disclosure; the active civil use of public data (i.e. open data); strengthening public-private partnerships and collaboration; the removal of barriers in government; the improvement of governmental operation for better communication and collaboration; scientific administration through the use of big data; the integrated provision of customized services; strengthening one-stop services for business; improved access to services for the information poor; and the development of new services using emerging ICTs.

4.2 Open Data Law and Policy

With the policy direction set, specific works were carried out to upgrade the existing system on open data provision. First was to enact the Open Data Law¹ and implement it. The law was enacted in July of 2013. The objectives of the Law were to: make the right of citizens to use public data clear and mandate public institutions to provide public data. It would also create a foundation for a new high value-added industry foundation and jobs through active private sector usage of open data. Some key points of the law are that: all public sector organizations are subject to this law; all data except

¹ National Law Information Center. "Act on Promotion of the Provision and Use of Public Data." October 20th, 2017, <https://goo.gl/s1F5F8>, <https://goo.gl/5jNNhr>.

some sensitive information would be opened up; the data would be machine readable; and comprehensive policy plans would be developed.

Through legislative means the government created a governance framework including the Open Data Strategy Council that would be co-chaired by Prime Minister; ensuring pan-government (central and local) coordination. The council was co-chaired with an expert from the private sector to ensure public-private collaboration. This feature is very important as without strong pan-governmental coordination and public-private collaboration, open data could not have been pursued with great momentum.

The codification into law of the principle of ‘open by default’ and the ‘right to use public data for commercial purposes’ was very important as it ensured citizens’ right to access and use open data, including for commercial purposes. This was not the case previously and therefore it was an important and historic milestone.

Another interesting and unique feature of the law that may not be found anywhere else in the world is the dispute resolution mechanism and immunity from liability for public sector staff regarding data quality. These features ensure a redress mechanism and facilitate data opening by public sector without the fear of liability.

Specific clauses in the law regarding ‘open by default’ are as follows.

Article 18 (Registration of Lists of Public Data) (1) The head of each public institution shall register a list of public data falling under the jurisdiction of the public institution with the Minister of the Interior, as prescribed by Presidential Decree.

Article 19 (Announcement of Information on Lists of Public Data) (1) The Open Data Strategy Council (ODSC) shall deliberate and pass a resolution on a list of public data to be released among those included in the lists of public data registered pursuant to Article 18.

Specific articles in the law regarding ‘right to use the open data for commercial purposes’ are as follows.

Article 1 (Purpose) The purpose of this Act is to prescribe matters for promoting the provision and use of data held and managed by public institutions in order to guarantee citizens' right to access public data, and to contribute to improving their quality of life and to developing the national economy through the utilization of such public data in the private sector.

Article 3 (Basic Principles) (1) Every public institution shall endeavor to enable anyone to readily use public data and shall take measures necessary to promote universal access to the use thereof.

(4) No public institution shall prohibit or restrict the use of public data for gain, except as otherwise expressly provided for in any other Act or except in cases referred to in the subparagraphs of Article 28 (1).

Specific clauses in the law regarding the scope of open data are as follows.

Article 2 (Definitions) The terms used in this Act shall be defined as follows:

1. The term "public institution" means any State agency, local government, or public institution as defined in subparagraph 10 of Article 3 of the Framework Act on National Informatization;
2. The term "public data" means any data or information, including databases and electronic files, processed in optical or electronic form, and created or acquired and managed by any public institution for the purposes set forth in statutes, falling under any of the following:
 - (a) Administrative information in subparagraph 6 of Article 2 of the Electronic Government Act;
 - (b) Information in subparagraph 1 of Article 3 of the Framework Act on National Informatization, which is produced by a public institution;
 - (c) Electronic records in Article 20 (1) of the Public Records Management Act, which are prescribed by Presidential Decree;
 - (d) Other data or information prescribed by Presidential Decree;

Article 17 (Scope of Public Data to be Released) (1) The head of each public institution shall provide citizens with the public data held and managed by the public institution: Provided, that the same shall not apply to data; including any of the following information: 1. Information subject to non-disclosure

under Article 9 of the Official Information Disclosure Act; 2. Information which involves any third person's right protected under the Copyright Act or any other statute and the use of which is not duly authorized under the relevant law.

(2) Notwithstanding paragraph (1), if the information referred to in the subparagraphs of paragraph (1), is technically separable, the head of the relevant public institution shall exclude such information when providing its public data.

Specific articles in the law regarding dispute resolution mechanism are as follows.

Article 29 (Establishment and Organization of Open Data Mediation Committee, ODMC) (1) A Committee on Mediation of Disputes over Provision of Public Data (hereinafter referred to as the "Dispute Mediation Committee"), shall be established under the jurisdiction of the Minister of Interior, to mediate disputes over the provision of public data refused or suspended by public institutions.

Specific clauses in the law regarding immunity from liability for the quality of data are as follows.

Article 36 (Immunity) (1) With respect to the provision of public data, any relevant public institution and public officials affiliated therewith and executives officers and employees shall be exempted from any civil or criminal liability for losses sustained by users or third persons on grounds of the quality of public data (excluding cases of loss incurred intentionally or by gross negligence); the exclusion of public data from the list under Article 20; the suspension of the provision of public data under Article 28; the temporary suspension of the provision of public data for business reasons, etc.

The Open Data Law is organized into five sections, providing relevant clauses for the policy formulation mechanism, development and institutional framework mechanism, data registration mechanism, data provision mechanism, and immunity provisions.

Korea worked to create a governance system for open data using and based on this law.

A key feature is the Council, co-chaired by the Prime Minister and a private sector individual.

This Council is to ensure pan-government coordination and public-private cooperation. The MOIS (Ministry of Interior and Safety; formerly MOGAHA, Ministry of Government Administration and Home Affairs), acts as the lead ministry on open data. Another interesting feature is the ODMC, which is a dispute resolution body. This is quite unique in the world and perhaps this can provide an interesting example for Myanmar. This very systematic governance system provides a coherent framework for pan-government efforts on open data, including both central and local government, as well as the public sector as a whole.

With the governance framework in place, relevant policy plans were developed including the master plan; the annual plans of each agency and the open data guidelines to provide ground-level guidance to agencies on specific procedures for providing open data to citizens. The first master plan was developed in 2013 and the second master plan was developed in 2016. Both master plans were reviewed and approved by the Open Data Strategy Council. Annual open data plans are developed by all agencies in accordance with the Open Data Law. As the law went into effect in 2013 the annual plans have been developed by agencies and approved by the council from 2014.

The five year master plan, endorsed by the Open Data Strategy Council in 2013, is comprised of four sections: data provision, data infrastructure, data usage, and foundation. The second master plan that was endorsed by the Council in December of 2016, has a similar structure. The emphasis and ultimate goal of the master plan and open data policy in general is to create value and jobs.

In the beginning of the open data movement there was a need to focus and prioritize efforts on key areas of society and areas of demand in order to create impact as quickly as possible. This would demonstrate the wide-scale benefits of open data, creating momentum and public support for the policy. Fifteen strategic areas were designated across all government, including:

weather, transportation, land, food/medicine, agriculture/livestock, culture/tourism, disaster/safety, health/welfare, procurement, patent, maritime/fisheries, laws/justice, science/technology, labor/employment and the environment. At the agency level an emphasis was placed providing for identified demands.

In addition to these strategic areas, Korea has begun removing sensitive data from and opening up large databases that were traditionally reserved for administrative purposes. Thirty-six areas were chosen for such programs. These were selected based on user demand and included such areas as national health, real estate, hiking courses, food and medicine information and national disasters.

Although immunity was given to the public sector for data quality in order to encourage the opening of as much data as possible, there is no question that data quality is especially important for companies trying to make a viable business out of open data. Therefore the government has invested an enormous amount of resources on data quality projects, especially for high impact databases. In fact, the bulk of the annual budget for open data goes into these data quality projects and other system related projects such as the support for open API development. Standardization is important; especially vocabulary standardization as without such standardization, the aggregation of common datasets would be difficult. All these efforts have contributed to building data infrastructure as laid out in the master plan.

Along with data provision and data infrastructure, building an open data ecosystem is essential in order to facilitate open data usage which will ultimately create value and jobs. Korea's framework for ecosystem development focuses on supporting open data using companies at all stages of development and for strategic areas, forming user groups and support groups.

Based on this framework Korea has been implementing specific mechanisms for open data ecosystem development. These can be divided into promoting mechanisms that include open data usage groups and ecosystem groups (support groups), and barrier removing mechanisms such as Problem Solving Coordinators (PSC) and the Open Data Mediation Committee (ODMC, dispute resolution). Open data using companies can call PSC for any assist-

ance they might need in an informal manner. If the company wishes formal assistance regarding data provision, they can utilize the ODMC.

The ODUGs and ODEG were launched in May of 2014 with over 80 companies in fifteen strategic areas as well as participating public agencies and industry organizations signing a MOU to form the ODEG.

The PSC was formally launched in April of 2014 while the ODMC was launched in December of 2013. These two mechanisms have resolved many cases thereby removing significant barriers for open data using companies. By 2016, the bulk of barrier removing activities was concentrated at the ODMC, as open data companies began increasingly going directly to more formal measures.

General promotion efforts are also very important for the broad diffusion of open data not only among developers but also the general public and leaders, as public support is critical for the sustainability of open data policy. Training, especially for civil servants at the beginning stage is important, as it is they who will carry out the policy at the ground level. It was Korea's experience that as open data policy moved to its fifth year in 2017, awareness and enthusiasm among civil servants rose significantly over previous years and therefore the general mood changed. This means that open data policy has entered into a more or less self-propelling stage at individual agencies and local government, ensuring long-term momentum and sustainability.

One of the new promotion activities Korea has undertaken in 2015 is the 'Start-up Talks' which features town hall type forums especially targeted towards young people including university students to challenge them to dream of starting a company using open data. This has attracted quite large participation at campuses across the country.

A national pan-government open data competition has been held since 2013. Many of the awardees have become successful open data companies, including some that have been hosted at the government-run open data incubator 'Open Square-D'.

4.3 Open Data Usage and Outcome

These efforts would not be meaningful if they did not translate into a measurable effect. Generally, policy effects can take a lot of time to translate into real world impact, so it is prudent to provide sufficient time between policy implementation and performance review. Fortunately in Korea, the policy efforts have resulted in significant increase in the provision and usage of open data. In terms of the provision of data, the amount increased fourfold from 5,272 datasets (Dec. 2013) to 23,049 datasets (Sept. 2017). The usage of data increased by 238 times from 13,000 cases (Dec. 2013) to 3.3 million cases (Sept. 2017). Importantly, the number of applications developed increased 33 times from 42 applications (Dec. 2013) to 1,374 applications (Sept. 2017).

One interpretation from these numbers is that the Open Data Law was a strong catalyst in making it happen. One can see that relevant numbers shot up dramatically after the law went into effect as of October, 2013.

Therefore, looking at the numbers as of September, 2017, one can see that in the past five years, Korea laid a solid foundation for open data. Korea made great efforts in the provision of data and in supporting the usage of data. As a result, data usage and application development rose dramatically along with provision. These numbers showed no signs of slowing down in 2017 and perhaps Korea is entering a stage of real growth in open data based value creation.

The most important number is probably that of the applications developed using open data, because there is little point in opening up data if no one uses it.

4.4 Open Data Usage Cases

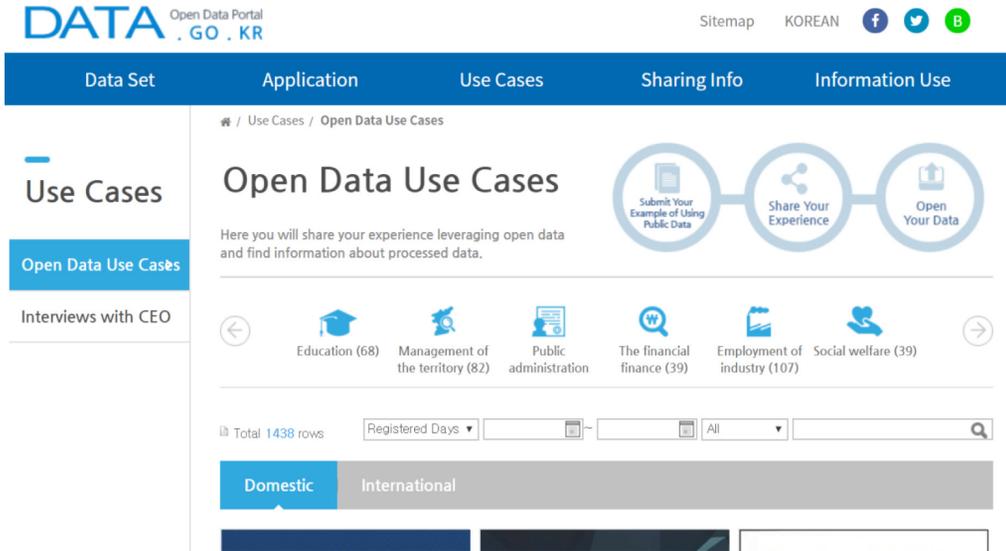
Looking beyond these numbers and into actual usage cases, the usage of open data expanded to variety of fields, including health, life, industry, and medicine. One interesting implementation is a mobile application for cosmetic ingredients. Korean cosmetic products are popular among Asian consumers and this kind of application can help raise the confidence level of

consumers when choosing cosmetic products.

One can review numerous open data usage examples at the open data portal (data.go.kr).

Figure 9

Open Data Usage Examples on Open Data Portal



Source Open Data Portal, November 20th, 2017, <https://www.data.go.kr/useCase/exam/index.do>

Beyond just an increase in use, Korea has been witnessing cases where open data companies are actually generating revenue. Carelabs, which operates an application called 'Gooddoc' that provides hospital related information and services based on open data, recorded approximately \$18 million in revenue and \$3 million in profits in the first half of 2017². According to a 2016 Survey on Open Data Usage of 1000, open data contributed twenty-seven percent of their revenue³. This is very significant as it clearly shows the realization of the potential of open data in the concrete terms of generating tangible benefit and value. This will encourage more companies to join the open data market that will in turn create more demand for open data; thus creating a virtuous cycle. Korea is very encouraged by these trends.

² <https://goo.gl/CkotAh>

³ <https://goo.gl/P6mppH>, <https://goo.gl/tYAvB3>

Open data companies in Korea are not just generating revenue but also attracting domestic and overseas investments. One representative example is a company that developed the navigation application called ‘Driver KIM’ acquired by Daum-Kakao, a major Internet and mobile service provider in Korea acquired the company for over \$62 million. Open data policy played a role in this success as the Open Data Mediation Committee facilitated the opening of key dataset that Driver KIM app needed to the public; which had been previously refused by the relevant agency. The Driver KIM app formed a basis for Daum-Kakao (now called Kakao)’s Kakao taxi service, which most Koreans now use to call a taxi. This case is considered as being one of the biggest examples of open data policy success in Korea.

4.5 Recent Policy Focus Areas

Along with the progress Korea has been making, there are two key programs that Korea has focused on more recently. One is ‘Service Innovation’, which is designed to restructure public sector apps that stifle markets and the other is ‘Start-up Collabo’ intended to support open data ecosystem development.

With ‘Service Innovation’, Korea is trying to move away from a ‘government direct service delivery’ model and transition to a private sector led service delivery model. As such, the government is trying to restructure government data services to give more room for the private sector. The plan is to eliminate or integrate a significant portion of the existing public sector websites, services and apps by 2017. The government will also strictly restrict its development of new apps to only those with a high level of public of interest; such as apps that support disadvantaged groups. The Open Data Law was amended in 2016 to provide legal foundation for this development in policy. This is another feature of Korean policy that has arisen from being at the forefront of global open data policy. The scale of this policy is relatively unique to Korea.

In early 2017, Korea launched a reporting mechanism allowing open data companies to report instances of government directly delivering such services.

Figure 10

Reporting Mechanism at OSD

법적근거

- ◆ 법률 제15조의2(중복·유사 서비스 개발·제공의 방지)
"공공기관의 장은 공공데이터를 활용하여 개인·기업 또는 단체 등이 제공하는 서비스와 중복되거나 유사한 서비스를 개발·제공하여서는 아니 된다."
- ◆ 법률 제15조의3(중복·유사 서비스의 개발·제공에 관한 실태조사 등)
"행정자치부장관은 공공기관의 중복·유사 서비스의 개발·제공에 관한 실태조사를 주기적으로 실시하고 그 결과를 전략위원회에 보고하여야 한다."

◆ 신고 접수처

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[유사 서비스 신고하기](#)

Source Open Square D, November 20th, 2017, <http://www.opensquared.org/reports/accept>.

The second key strategy is ‘Start-up Collabo’ that aims to support open data companies, especially start-ups, from the idea generation stage through to prosperity; so that Korea can develop and grow the open data ecosystem. As mentioned earlier in this report, Korea has been implementing programs like this since 2014, but is now trying to reinforce such efforts with more involvement at the ministry level.

In January of 2016, Korea set up the ‘Open Square-D’ (OSD) in Seoul, in collaboration with academia as part of the collabo initiative. The ‘Open Square-D’ is a one-stop support center for start-ups developing solutions that create social, economic and environmental impact from open data. It provides business consulting and rent-free office space for start-ups. Currently there are a total of 11 corporate tenants housed in the center.

In addition to the Seoul OSD, a second OSD was launched in Busan in April of 2017. This is the part of the on-going efforts vitalizing open data in the provinces as well.

Through these efforts, Korea expects a dramatic expansion in the number of open data companies and new services. This will increase the quantity and quality of the open data ecosystem in Korea.

4.6 International Recognitions

Korea is beginning to be recognized globally for open data. The OECD has recently developed the OUR Index (Open, Useful, Re-usable Index) to index the development in open data by member countries. Korea was ranked 1st among OECD member countries in 2015 and 2017⁴. The results of this indexation are included in the 2015 and 2017 editions of Government at a Glance, which is the biennial flagship publication of OECD on public governance. This is a somewhat surprising achievement as Korea was a relatively late starter on open data and had to play catch up to more advanced countries.

One possible explanation might be the aforementioned Open Data Law. It is not known of any other country with such a dedicated law on open data. The closest point of comparison may be European Union (EU) member states that are transposing the EU's PSI Directive into their national legislations.

The Open Data Law really allowed Korea to push open data policy strongly; the law itself reflecting governmental commitment and strong leadership.

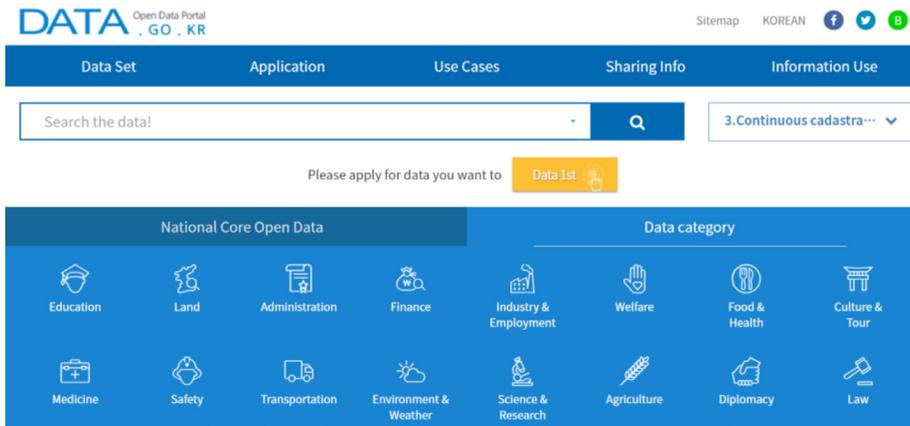
Similar to Korea's success on e-government, progress on open data flows from strong leadership. Korea still has a long way to go before fulfilling open data's true potential as a new engine for growth and socio-economic value creation both domestically and globally but has made a significant start.

4.7 Open Data Portal and Open Data Center

The Open Data Portal is the interface and place where open data can be seen in action. The Korean open data portal provides not only datasets but also use cases including in-depth interviews and a community section that facilitates the dissemination of useful information to companies; such as notice of support programs as well as exchange of ideas among developers and public sector.

Figure 11

Open Data Portal



Source Open Data Portal, November 20th, 2017, data.go.kr.

The English section of Korea's Open Data Portal is based on a Korean-English translator. This means that these pages in English are not separate pages but directly mapped to original Korean pages. This allows a non-Korean speaker to access the same details as a Korean speaker on the English page. This should provide valuable and detailed insights for Myanmar when benchmarking the Korean Open Data Portal.

The NIA Open Data Center is basically a clearinghouse for open data in Korea. It supports opening public sector data and the usage of open data by the private sector. This supporting role includes everything from policy development and managing open data portal to training and creating the open data ecosystem.⁵

The legislative basis for the Open Data Center is the Open Data Law. Article 13 designates the NIA as the host for the center. In Korea, it is rare for a law to be so explicit in defining a specific organization by name. This shows how much emphasis the legislators have put on open data and reflects their desire to see open data policy implemented as quickly as possible. The Law also specifically states the functions of the center. The specific provisions in the Open Data Law regarding the Open Data Center are as follows.⁶

⁵ Open Data Portal, November 11th, 2017, <https://goo.gl/KA1gpQ>.

⁶ National Law Information Center. "Act on Promotion of the Provision and Use of Public Data." October 20th, 2017, <https://goo.gl/s1F5F8>, <https://goo.gl/5jNNhr>.

Article 13 (Public Data Utilization Support Center) (1) A Public Data Utilization Support Center (hereinafter referred to as the “Utilization Support Center”) shall be established and operated within jurisdiction of the National Information Society Agency under Article 14 of the Framework Act on National Informatization to efficiently provide support for promoting the provision and use of public data.

(2) The Utilization Support Center shall perform the following affairs:

1. Surveys and research of policies and systems for the provision and the use of public data;
2. Surveys and analysis of statistics related to the provision and the use of public data;
3. Support for processing and management of public data to be provided;
4. Support for the formulation and implementation of the master plans and implementation plans;
5. Public relations for the use of public data and the support for business start-up under Article 14;
- 6-1. Support for cooperation with the private sector and other countries regarding public data under Articles 15 and 16;
- 6-2. Support for investigations into the actual conditions of developing and providing overlapping or similar services under Article 15-3;
7. Assistance in obtaining authorization to use copyrighted works and other public data under Article 17 to promote the provision and use thereof;
8. Assistance in registering the lists of public data under Article 18 and for the management of information so registered;
9. Support for the announcement of the lists of public data to be released under Article 19, and list information services;
10. Promoting the building, management, and utilization of the public data portal under Article 21;

11. Support for the diagnosis, evaluation, and improvement of the quality of public data under Article 22;
 12. Support for the standardization of public data under Article 23;
 13. Support for improving the forms for providing public data and for establishing the means of providing such data under Article 24;
 14. Education and training related to public data under Article 25;
 15. Consultation on the support for the provision or the use of public data, and the provision of public data as proxy, under Articles 26 and 27;
 16. Support for the operation of the Committee on Mediation of Disputes over Provision of Public Data under Article 29;
 17. Other matters necessary to support the efficient provision and the active use of public data.
- (3) The Government may reimburse expenses incurred in operating the Utilization Support Center and in performing the affairs in paragraph (2), within budgetary limits.
- (4) No institution, other than the Utilization Support Center, shall use any name that includes the words "Public Data Utilization Support Center" or similar.
- (5) Other matters necessary for the Utilization Support Center shall be prescribed by Presidential Decree.

Notably, the final clause of this law provides the legal basis for the government to fund the activities of the center. The Law was enacted in July of 2013, came into effect at the end of October of the same year and the center was officially inaugurated in November. Dignitaries at the inauguration include a member of the National Assembly who enacted the Law, Vice minister of the MOGAHA (now MOIS), the public administration ministry, Chairman of Open Data Strategy Council and the President of the NIA. This kind of event is also important to raise its profile and an awareness among the general public and leaders.

Figure 12

Open Data Center Launch



Source Open Data Strategy Council, November 29th, 2017, <https://goo.gl/bVZmLz>

The Open Data Center was not an initiative without precedent. Korea already had a center called the Public Information Support Center (PISC), which was established in 2010 that served as a predecessor to the Open Data Center⁷. It was based on a similar concept to open data, but without the same strong legislative backing. The PISC was only able to progress slowly due to a lack of support. An important take-away from Korea's experience is that a strong legal basis is a must for effective open data policy implementation and for the open data center to firmly establish itself.

The NIA was founded in 1987 to support national IT development and IT enablement of the public sector and houses the Open Data Center. The NIA is a public statutory agency funded directly by the Korean government. The annual budget of the NIA is about \$360 million and the organization has more than 400 staffs. The NIA is composed of divisions or centers, each headed by a vice president. Open Data Center is among many divisions and centers at the NIA that cover a broad range of information society policy.

The Open Data Center contains a planning team and a promotion team following a recent restructuring from four departments. This center develops policy plans and monitors progress as well as carrying out public relation activities and international cooperation efforts; implements projects such as data quality management and open API development; operates the open data portal and support creation of open data ecosystem; and supports both the Open Data Strategy Council and the Open Data Mediation Committee.

The NIA office recently relocated to a provincial city of Daegu, in the south-east part of Korea and in conjunction with the relocation was reorganized into three Open Data Center teams; the planning team, the open team and the promotion team. However, the functions and personnel have not changed at the Open Data Center and the center will continue to strongly support the government's open data policy, as mandated in the law.

4.8 Policy Implications

The implications that can be drawn from the Korean experience with open data can be best understood as they occur in the planning, implementation or monitoring and upgrading phase.

In the planning stage, leadership is everything. It is strong leadership that enabled Korea to develop the policy agenda and legislation as well as moving the entire government, both at central and local level, towards common pan-government goals in a coordinated manner. Without such leadership it is unlikely open data would have accelerated as it has in the past four years.

Core principles are needed to firmly establish the policy direction and send the key messages of 'open by default' and the 'right to use data commercially'.

A legal foundation is critical to motivate the public sector. Without a legal basis, it is very difficult for the public sector to implement policy. On top of this legal foundation, clearly documented strategy and planning are essential to illustrate direction and purpose and provide a reference to underscore sub-policies and plans. As effective open data policy requires strong pan-government coordination. Consequently, an institutional framework is critical

to steer agencies to prevent policy fragmentation. Working level plans, regulations, and guidelines are essential to effectively move the policy forward at the ‘ground level’.

During the implementation stage, a core team is needed to form the nucleus from which pan-government policies can be incubated and developed. For the practical reasons this core team would be needed from the planning stage and it would be ideal to keep the core team relatively unchanged through the different stages. In Korea, the NIA performed this role as ministries in Korea have a mandatory personnel rotation system.

Detailed technical guides and standards are needed as open data policy has to be implemented at a technical level on the open data portal and other relevant information systems.

System infrastructure, primarily open data portal, will be critical to smooth technical operation of policy. The portal acts as a technical focal point for an interaction with the open data user community. In the long run, the portal would need to be interlinked with relevant e-government systems to provide a more seamless environment to facilitate data provision right from the data creation stage.

Implementation at ground level means providing guidelines for the re-organization of processes and culture within individual agencies. A change in mindset is needed to focus more on an agenda than thinking about what data to open. Focusing on only the possible uses of data would only inhibit opening up of data as once the data is opened up, external users will find innovative ways using data that providers may not have considered.

In the monitoring and upgrading phase, continuous monitoring and feedback from agencies are critical to keep the open data policy on course. A process of continuous fine-tuning is needed during implementation to keep policy coherent. Without constant communication with the user community, there will be little usage of the released open data. Therefore interaction with users is essential to continually steer data provision and user support. It is important to institutionalize solutions to issues that arise so that same problems are not repeated and to lay the foundation for further development. Early diffusion of successful examples is needed to maintain

the momentum of policy especially among the supportive leaders and users to encourage them to get involved. A solid foundation should be created both institutionally and technically to enable a sustainable ecosystem. Patience is important in assessing the progress of open data, as it is difficult to predict when tangible results will materialize. Open data is not a passing fad and will be critical to socio-economic development in the 'data economy'. Making the changes, investments and innovative environments require patience from leaders, journalists and the general public.

Policy Suggestions for Myanmar OGD Policy

5.1 Recommendation 1:

It is recommended to have an agreement on OGD values among ministries and agencies.

Accountability is an important value. At the same time, economic development and civic participation should be considered as important values to be achieved by Open Government Data (OGD). In order to accomplish these goals, measures to promote such values need to be developed. This requires the active participation from various ministries. OGD policy should be evaluated based on the achievement of such values. OGD is a multi-faceted tool and it needs to be used to fulfill multiple goals.

Action Suggestion

It is recommended to legislate a law on Open Government Data and clarify the purpose and direction of ODG policy. The law needs to contain the purpose, direction, governance, and other related procedures regarding OGD. It would be crucial to have various stakeholders in OGD policy heard during the legislation process. The Korean law on OGD may be used as a reference.

5.2 Recommendation 2:

It is recommended to set up more effective governance for OGD.

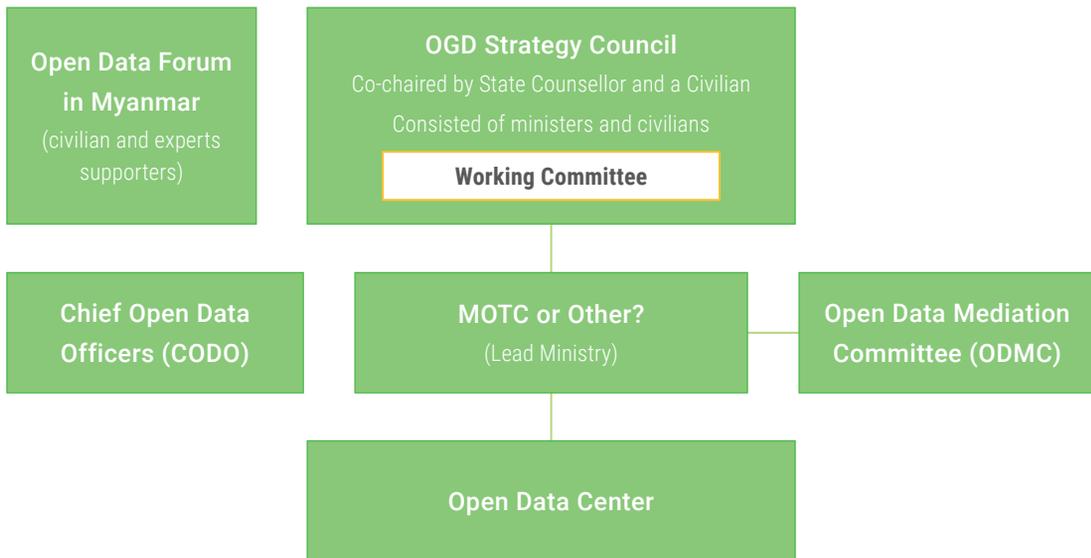
Currently, the MoTC is leading the initiative on OGD with the help from various ministries at a minimal level but it is struggling without a formal plan for the central government. The governance of OGD should be upgraded in order to implement OGD at full scale. The scope of each ministry's responsibility on OGD needs to be clearly specified. For example, it needs to clarify the role of the MoTC and MOI in implementing OGD policy. Furthermore, it needs to clarify who is responsible for data security.

The governance structures should be streamlined for more efficient administration. It would be effective to chart them so that they fit into a one-page organization chart.

In addition, there is a lack of systematic conditions and efforts for civic groups and business to participate in the OGD policy-making and implementation process under the current system. For more effective OGD policy, the Myanmar government should establish close networks with civic groups and business since they are the users of OGD. Therefore, it is recommended to embed civic and business participation in the policy-making and implementation process for OGD. The Korean case provides with good examples of working with the private sector for the success of OGD policy.

Figure 13

Suggested OGD Governance



The KISDI Consulting Team recommends an OGD governance structure as shown in [Figure 13]. It is recommended to first create an OGD strategy council that consists of representatives from ministries, civic groups, and business that is co-chaired by the vice-president and a civilian representative. As a steering organization, Ministry of President's Office or the MoTC is recommended to support the council. It is recommended to appoint Chief Open Data Officers (CODO) to serve as messengers on OGD to ministries and agencies to create communication channels for sharing experiences and information. In addition, it would be effective and helpful to set up and operate an Open Data Forum to facilitate cooperation among the government, civic groups, and businesses. This forum can work as a support group for OGD policy. An Open Data Mediation Committee (ODMC) should be set up to deal with complaints and disagreements related to OGD. The current organization does not have enough administrative authority and personnel capacity to deal with such issues and consequently requires additional budget and personnel.

Action Suggestion

It is recommended to set up a governance structure for OGD policy. The law on OGD in Myanmar needs to contain the governance structure for planning and implementing OGD policy in Myanmar. Active participation of business and civic leadership would be crucial in order to facilitate the use and the application of OGD in solving social problems and increasing efficiency.

5.3 Recommendation 3:

It is recommended to set up a one-stop window from the demand-side perspective.

Public officials are customers from the OGD perspective since they need support to prepare and implement OGD policy in their own ministries and institutions. A guide on open data for Myanmar was published in 2014. However, public officials need more support in order to be active in implementing OGD policy in addition to their own tasks. Establishing a group of specialized personnel and an institution would be helpful. The NIA in Korea can be used as a good example to refer to. Public officials, citizens and businesses may have different demands for OGD. Especially, the demands from business can be more complicated and delicate than those of citizens and require expert attention and support.

Action Suggestion

It is recommended to build a one-stop window for public officials as well as citizens and businesses in handling OGD policy since it is a crucial factor for the success of the policy. The one-stop window needs to have capable personnel who can answer technical and legal questions from OGD customers. The structure of NIA's OGD center in Korea can be used as a reference.

5.4 Recommendation 4:

It is recommended to work effectively with other ministries.

Several ministries have set up and operated data portals for a long time. OGD policy would be more effective if such ministries can participate and collaborate actively in the policy-making process. For successful collaboration, it will be critical to find a subtle balance between integration and independence. Therefore, it would be crucial to allocate more responsibility and autonomy to such agencies provided their planning meets the guidelines.

Action Suggestion

It is recommended to build a gateway portal for OGD resources. The gateway portal for OGD can include guidelines for OGD publication and use. It does not have to store all OGD in one server but links to the data sources can be uploaded. In this way, the balance between integration and independence can be kept. The portal needs to be operated and maintained by MoTC or other professional institutions.

5.5 Recommendation 5:

It is recommended to work together with local government.

Local governments can work as a partner for OGD policy with the central government. Since local governments deal with citizens at a very close range, they tend to accumulate vast database including traffic, tax, education, vehicle registration, and so on. Such experience can be tapped into during the policy-making process of OGD at the central government. A framework for the collaboration between central government and local governments is required. In the long-term plan, a single window (one-stop shop) approach needs to be considered for local governments as well as the central government. A single window approach does not mean system integration. Instead, it would be better to be used as a gateway for OGD users.

Action Suggestion

It is recommended to set up a committee for OGD policy at the local government. Since the local governments lack expertise and resources for successful OGD implementation, the committee needs to work as a venue for information sharing and as an agent to empower the local government.

5.6 Recommendation 6:

It is recommended to establish mid-term and long-term plans for OGD.

An official OGD Plan should be established, which contains a detailed definition, scope, mechanism, and evaluation matrix for OGD policy and needs to be a part of the e-Government planning of Myanmar.

Action Suggestion

After a law on OGD in Myanmar is legislated, a five year plan for OGD needs to be prepared for. The legal foundation for the five year plan for OGD needs to be included in the law on OGD in Myanmar. The five year plan for OGD needs to be practical to guarantee an actual implementation.

5.7 Recommendation 7:

It is recommended to increase the awareness of OGD by making a success case.

Increasing the awareness of OGD among citizens and businesses is critical for the success of OGD. In general, it can be achieved via promotional activities for the public. However, it will be more effective if there is a good success case. Therefore, it will be important to focus and concentrate on promising OGD projects and generate success cases that can be used for promotional activities and as a reference for further OGD policy. Projects related to parking or medical information may be considered as promising candidates since similar services were already introduced and operated successfully in Korea.

Action Suggestion

In 2018, the Myanmar government is recommended to select a pilot project that can promote interests of businesses and civic groups in OGD. The candidate could be traffic data or restaurant data. Korean cases can be used as a reference for successful cases. After a first successful case is made, the case can be used for education and promotion of ODG policy to further expand the scope of the policy. In addition, each ministry is recommended to select a pilot project and execute the program, so that it promotes the interests of each ministry in OGD.

5.8 Recommendation 8:

It is recommended to make progress in interoperability and digitization issues.

As with e-government, interoperability is one of the most critical components for the success of OGD. Since business users for OGD often combine various data types from diverse sources, it will be critical to make sure that data formats and definitions are consistent across systems and interoperable for effective and efficient administration inside the government. Customers for OGD are not using just a single dataset; they often combine multiple datasets to create meaningful information. Accordingly, interoperability is crucial. A lack of interoperability leads to the fragmentation of OGD. However, progress on digitization should be made before addressing the interoperability issue. Unless administrative data is digitized, there is no data to be made open to the public. Therefore, OGD policy should progress in tandem with the digitization of administration data.

Action Suggestion

It is recommended to set up a guideline for data formats and access procedures for the practical use of OGD. The gateway portal for OGD can be used to test whether a specific data follows the guideline for publication.

5.9 Recommendation 9:

It is recommended to utilize the data center in the plan as a start for initiating OGD policy in Myanmar.

The MoTC is planning to build a government data center and it has already finished the feasibility study. The data center is expected to host the servers from various ministries. However, the data center houses not only for the hardware but also the software and databases. Therefore, it is natural and efficient to define a policy on OGD when the hardware, software, and databases are transferred. It will provide a good opportunity to collect a list of databases each ministry has built and manages for evaluation on their suitability for OGD. The coming five years will be crucial for the successful launch of OGD policy in Myanmar.

Action Suggestion

It is recommended that the schedule for OGD policy is synchronized with the schedule of establishing the government data center of the Myanmar government. A detailed plan to conduct surveys on the databases has already kept by each ministry and the level of digitization needs to be prepared for.

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United Nations (UN): <http://www.un.org/>



Appendix

Questionnaire for Open Government Data Policy in Myanmar

Questionnaire for Open Government Data Policy in Myanmar

The result of this questionnaire is used only for policy consultation for the Myanmar government on the open government data.

- What sector of public data would be useful for citizens?

SECTOR	Very Much	Somewhat	Neutral	Not Much	Not at all
Education	<input type="checkbox"/>				
Land	<input type="checkbox"/>				
Administration	<input type="checkbox"/>				
Finance	<input type="checkbox"/>				
Industry & Employment	<input type="checkbox"/>				
Welfare	<input type="checkbox"/>				
Food & Health	<input type="checkbox"/>				
Culture & Tourism	<input type="checkbox"/>				
Medicine	<input type="checkbox"/>				
Safety	<input type="checkbox"/>				
Transportation / Traffic	<input type="checkbox"/>				
Environment & Weather	<input type="checkbox"/>				
Science & Research	<input type="checkbox"/>				
Agriculture	<input type="checkbox"/>				
Diplomacy	<input type="checkbox"/>				
Law	<input type="checkbox"/>				
Energy	<input type="checkbox"/>				
Utility (Electricity, Water, etc.)	<input type="checkbox"/>				
Electoral Data	<input type="checkbox"/>				
Demographics	<input type="checkbox"/>				
Others (_____)	<input type="checkbox"/>				

- What sector of public data would be useful for Business?

SECTOR	Very Much	Somewhat	Neutral	Not Much	Not at all
Education	<input type="checkbox"/>				
Land	<input type="checkbox"/>				
Administration	<input type="checkbox"/>				
Finance	<input type="checkbox"/>				
Industry & Employment	<input type="checkbox"/>				
Welfare	<input type="checkbox"/>				
Food & Health	<input type="checkbox"/>				
Culture & Tourism	<input type="checkbox"/>				
Medicine	<input type="checkbox"/>				
Safety	<input type="checkbox"/>				
Transportation / Traffic	<input type="checkbox"/>				
Environment & Weather	<input type="checkbox"/>				
Science & Research	<input type="checkbox"/>				
Agriculture	<input type="checkbox"/>				
Diplomacy	<input type="checkbox"/>				
Law	<input type="checkbox"/>				
Energy	<input type="checkbox"/>				
Utility (Electricity, Water, etc.)	<input type="checkbox"/>				
Electoral Data	<input type="checkbox"/>				
Demographics	<input type="checkbox"/>				
Others (_____)	<input type="checkbox"/>				

- Is your department well prepared for opening the government data?

Very Much	Somewhat	Neutral	Not Much	Not at all
<input type="checkbox"/>				

- What needs to be prepared for in advance before government data is open to the public as well as business?

Category	Very Much	Somewhat	Neutral	Not Much	Not at all
Legal Foundation	<input type="checkbox"/>				
Detailed Guideline	<input type="checkbox"/>				
Data Accuracy	<input type="checkbox"/>				
Data Security	<input type="checkbox"/>				
Privacy	<input type="checkbox"/>				
Bureaucratic Culture	<input type="checkbox"/>				
Software Upgrade	<input type="checkbox"/>				
Hardware Upgrade	<input type="checkbox"/>				
Citizen's Awareness	<input type="checkbox"/>				
Digitization of Data	<input type="checkbox"/>				
Support from the Upper Management	<input type="checkbox"/>				

- What do you think about the necessity of establishing a specialized organization for the open government data, which can help government officials and people to prepare and use open data?

Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
<input type="checkbox"/>				

Comment (Explain Why?) :

- Which ministry is most suitable for leading the open government data policy?

1st

2nd

3rd

Comment (Explain Why?) :

- Which of the following value should the open government data policy promote?

Public Value	Very Much	Somewhat	Neutral	Not Much	Not at all
Accountability	<input type="checkbox"/>				
Efficiency	<input type="checkbox"/>				
Transparency	<input type="checkbox"/>				
Anti-Corruption	<input type="checkbox"/>				
Business Development	<input type="checkbox"/>				
Citizen Participation	<input type="checkbox"/>				

- General Comment

- Responder's information

Which organization and
department do you belong to?

.....

Age (20s, 30s, 40s, 50s, 60s)

.....

Rank (Position)

.....

How long have you worked
for the government?

.....

Name / Email

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