

7 Promoting open government data in Thailand

Chapter 7 assesses the efforts of the government of Thailand to promote the enhanced access to and sharing of government data through open government data and related policies. It explores the Thai government's policies open data availability, accessibility and support for re-usability in line with the analytical framework of the OECD Open, Useful and Re-usable data (OURdata) Index, which aims at promoting sound open data policies that generate good governance, economic and social value.

Introduction

Government data contain a wealth of untapped value that can help to enhance business and civic innovation and contribute to the digital economy given data's role as an input for data-driven emerging technologies, such as artificial intelligence (AI) systems. Open data empowers stakeholders, including individuals and actors from the private sector, civil society and academia, to participate in the innovation, collaboration and co-creation of public policies and services – towards enabling inclusive and sustainable development (Ubaldi, 2013, pp. 14-15^[1]).

Open government data also contributes to good governance as it promotes active transparency, integrity and accountability in public sector organisations and reinforces public trust. Open government data draws upon overall public sector data efforts, including the foundational aspects of data governance, as discussed in Chapter 6, and calls for long-term strategies and action plans that are targeted, embedded and co-ordinated across the different levels of government and policy areas (OECD, 2020, p. 49^[2]).

As also presented in Chapter 6, Principle 3 of the OECD *Recommendation of the Council on Digital Government Strategies* informs of the need to create a data-driven culture in the public sector by developing frameworks that guide the access and re-use of data and deliver trustworthy official data in open formats (OECD, 2014^[3]). Since the approval of the aforementioned recommendation in 2014, open data has grown in relevance and value for other policy areas beyond the digital government sphere. This is reflected by the inclusion of open data principles in subsequent or revised OECD legal instruments, such as the OECD *Recommendations of the Council on Budgetary Governance* (2015^[4]), *Recommendation of the Council on Open Government* (2017^[5]) and *Recommendation on Public Integrity* (2017^[6]) (Box 7.1).

Box 7.1. OECD Recommendations of the Council addressing open data

OECD Recommendation of the Council on Digital Government Strategies (2014): Principle 3

“The [OECD] Council [...] on the proposal of the Public Governance Committee [...] recommends that governments develop and implement digital government strategies which: [...]

3. Create a data-driven culture in the public sector, by:

i) developing frameworks to enable, guide and foster access to, use and re-use of the increasing amount of evidence, statistics and data concerning operations, processes and results to: (a) increase openness and transparency; and (b) incentivise public engagement in policy making, public value creation, service design and delivery.

ii) balancing the need to provide timely official data with the need to deliver trustworthy data, managing risks of data misuse related to the increased availability of data in open formats (i.e. allowing use and re-use, and the possibility for non-governmental actors to re-use and supplement data with a view to maximise public economic and social value).”

OECD Recommendation of the Council on Budgetary Governance (2015): Principle 4e

“Ensure that budget documents and data are open, transparent and accessible through: [...]

4e. The design and use of budget data to facilitate and support other important government objectives such as open government, integrity, programme evaluation and policy co-ordination across national and sub-national levels of government.”

OECD Recommendation of the Council on Open Government (2017): Principles 5(i), 7 and 9

"The [OECD] Council [...] on the proposal of the Public Governance Committee [...] recommends that Adherents [...]:

5. Develop and implement monitoring, evaluation and learning mechanisms for open government strategies and initiatives by: (i) Identifying institutional actors to be in charge of collecting and disseminating up-to-date and reliable information and data in an open format. [...]

7. Proactively make available clear, complete, timely, reliable and relevant public sector data and information that is free of cost, available in an open and non-proprietary machine-readable format, easy to find, understand, use and re-use, and disseminated through a multi-channel approach, to be prioritised in consultation with stakeholders. [...]

9. Promote innovative ways to effectively engage stakeholders to source ideas and co-create solutions and seize the opportunities provided by digital government tools, including through the use of open government data, to support the achievement of the objectives of open government strategies and initiatives."

OECD Recommendation of the Council on Public Integrity (2017): Principle 13a

"The [OECD] Council [...] on the proposal of the Public Governance Committee [...] recommends that Adherents [...]:

13. Encourage transparency and stakeholders' engagement at all stages of the political process and policy cycle to promote accountability and the public interest, in particular through a) Promoting transparency and an open government, including ensuring access to information and open data, along with timely responses to requests for information."

Source: OECD (2014^[3]), *Recommendation of the Council on Digital Government Strategies*, <http://www.oecd.org/gov/digital-government/Recommendation-digital-government-strategies.pdf>; OECD (2015^[4]), *Recommendation of the Council on Budgetary Governance*, <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0410>; OECD (2017^[5]), *Recommendation of the Council on Open Government*, <http://www.oecd.org/gov/Recommendation-Open-Government-Approved-Council-141217.pdf>; OECD (2017^[6]), *Recommendation of the Council on Public Integrity*, <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0435> (accessed on 17 April 2020).

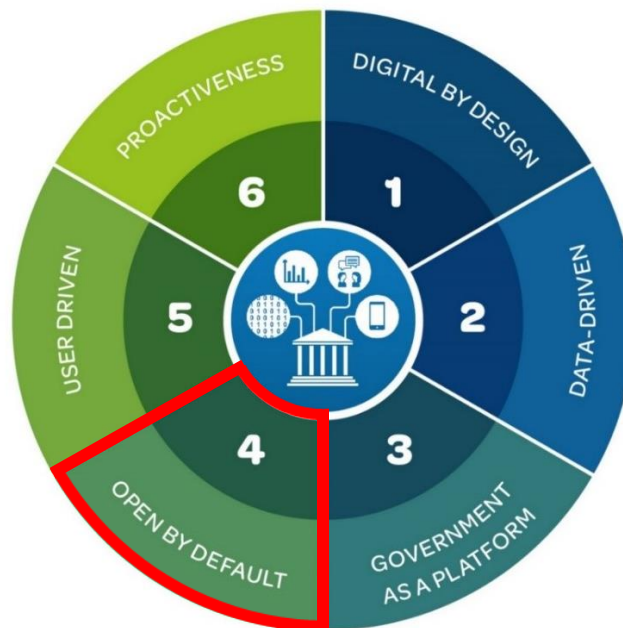
Open government data is a key policy area of work for OECD countries as it has been strategic for the development of public sector digital government maturity, open and connected governments and, more broadly, the digital economy and society. As a driver of economic, social and government innovation, open data also contributes to the advancement of data-driven decision-making models (e.g. artificial intelligence) and increased the enhanced access to and sharing of data among the public, private and social sectors. As such, it is a fundamental element of the open by default dimension of the OECD Digital Government Policy Framework, which provides the underlying analytical framework for the Digital Government Index (Figure 7.1).

Also, since 2013, the OECD developed the Open Government Data Survey as an analytical framework and methodology to measure the availability, accessibility and support to the re-use of government data. Based on this methodology, the OECD designed the Open, Useful and Re-usable data (OURdata) Index to assess central or federal governments' efforts to implement open government data in the aforementioned three critical areas. The OURdata Index (see next section) has three main pillars, each which three sub-pillars (Figure 7.2) (OECD, 2020, p. 17^[2]):

- **Pillar 1:** "Data availability" measures the extent to which governments have adopted and implemented formal requirements to promote open government data, such as the scope of datasets available on central open government data portals. It assesses how users are involved early on in the policy process as a means to inform data publication and identify policy needs.

- **Pillar 2:** “Data accessibility” measures the availability of formal requirements aimed at promoting the unrestricted access (e.g. open database license) to understandable data (e.g. metadata), the role of the ecosystem and the portal in ensuring data quality and completeness (e.g. feedback mechanisms), and the implementation of data accessibility requirements.
- **Pillar 3:** “Government support for data re-use” measures the extent to which governments play a proactive role in promoting the re-use of government data inside and outside the government, covering the design and implementation of value co-creation initiatives and partnerships, capacity-building exercises and governments’ efforts to monitor and evaluate policy impact.

Figure 7.1. The OECD Digital Government Policy Framework: Open by default dimension



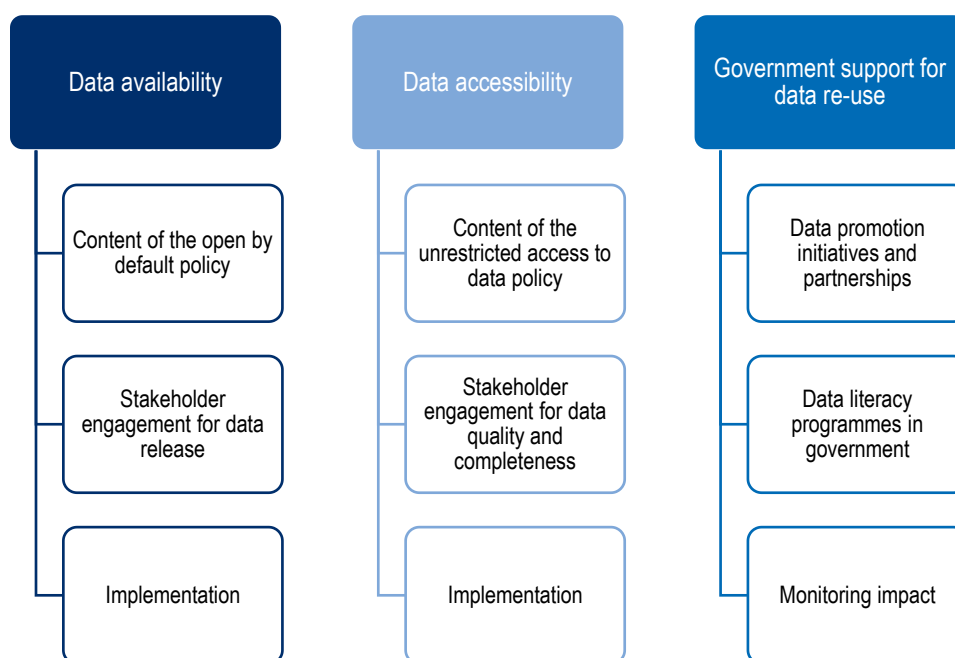
Source: OECD (2020^[7]), “The OECD Digital Government Policy Framework: Six dimensions of a Digital Government”, <https://doi.org/10.1787/f64fed2a-en>.

The three pillars of the OURdata Index measure and assess the open government data value cycle, which has four main phases (Ubaldi, 2013, p. 13^[1]):

1. **Data generation:** The generation of public data, which is usually undertaken by public sector organisations and, in some instances, may be done by publicly funded data sources.
2. **Data collection, aggregation and processing:** The collection, clustering and treatment of these public data to enable access, sharing and re-use. It is an important step that allows users to use the data and create value from them once they are made open.
3. **Data distribution and delivery:** The distribution of open government data to potential and targeted users to enable access and re-use.
4. **Data use:** The re-use of open government data by a variety of users to sustain and innovate public value creation.

Sustainable approaches throughout the whole data value cycle from the supply side to the demand side are key to fostering innovative and collaborative practices that generate value from the data, as demonstrated in the results of the 2019 edition of the OURdata Index (OECD, 2020, pp. 4-8^[2]).

Figure 7.2. The OECD Open, Useful and Re-usable data (OURdata) Index analytical framework



Source: OECD (2020^[2]), "OECD Open, Useful and Re-usable data (OURdata) Index: 2019", <https://doi.org/10.1787/45f6de2d-en>.

Towards sound open data policies: Data availability, accessibility and re-use

In Thailand, open government data efforts are led by the Digital Government Development Agency (DGA) and the Office of the Public Sector Development Commission (OPDC).

Since 2013, the DGA (or previously known as the Electronic Government Agency or EGA) has had the responsibility of managing Thailand's national centralised open data portal: the Open Government Data Centre (data.go.th). The open data portal is designed to provide open government data in easy-to-find categories and in formats that meet Thailand's national Open Government Data Standard (DGA, 2018, p. 39^[8]). As of 2018, data.go.th hosted more than 2 000 open datasets. The DGA has also published the Open Data Handbook that provides guidelines for selecting high-value datasets and co-ordinating with other government agencies, providing information and engaging with the public including inspection by the public.

In 2015, the government of Thailand released its first Open Data Strategy under the leadership of the DGA with ten core principles for data publication: "Open by Default", "Protected where Required", "Prioritised", "Discoverable", "Usable", "Primary", "Timely", "Well Managed, Trusted and Authoritative", "Free where Appropriate" and "Subject to Public Input". These overarching requirements apply to all public sector organisations releasing open government data for public access and use.

Open government data is supported by different legal frameworks and regulations, as covered in Chapter 3. Government agencies are required to publicly disclose their data for public inspection in accordance with earlier instruments such as the Official Information Act, B.E. 2540 (1997), based on the fundamental principles of Thailand's open government data policies and efforts that "non-disclosure is an exception" (DGA, 2018, pp. 36, 39^[8]). The Thai Cabinet resolution of 20 April 2011 further reiterates Sections 7 and 9 of the Official Information Act, B.E. 2540 (1997), which state that government agencies must publish their data. In parallel, citizens' right to receive and access information is enshrined in the

constitution of Thailand. Open government data has, therefore, been made into a key performance indicator for government agencies.

The Digitalisation of Public Administration and Services Delivery Act, B.E. 2562 (2019), also known as the Digital Government Act, granted specific responsibilities to public sector organisations in relation to open government data. One of the main objectives of digital government development detailed under Section 4 of the act mentions the “disclosure of public data [...] produced and possessed by State Agencies [...] for the purpose of creating easy access to the public, promoting their involvement in and inspection on governmental operations, and enabling them to further use the data to develop innovations and services which would be beneficial to the Country in certain aspects”.

Specifically, under Section 17, public sector organisations have a responsibility to “produce the data which must be disclosed to the public under the laws on government information as digital data” and “enable the public free access without any expense”. It goes on to specify that these standards and rules on the disclosure of such data “shall be prescribed by the Digital Government Development Commission for the benefit of facilitating the people’s access to the data”.

Yet, despite these recent developments, the leadership and co-ordination by the DGA and the OPDC face key challenges in delivering public value from open data at its fullest potential. For instance, the survey conducted by the OECD for the purpose of this review showed the lack of or insufficient communication or awareness of open government reforms among public officials is a key barrier blocking the definition and implementation of open government data initiatives. This has resulted in many government agencies’ lack of clarity in relation to data protection and open government data policies in spite of the national mandates (DGA, 2018, p. 50^[8]).

Also, as discussed in Chapter 6 and shared in the results of the “Survey Project on the Readiness of Digital Government Development of Government Agencies in Thailand”, the DGA still faces technical and administrative challenges. By 2018, only 33.1% and 22.7% of government agencies at the department and provincial levels respectively have published their data on the centralised Open Government Data Centre (<https://data.go.th/>) in comparison with that of 94.0% and 94.7% that report publishing open data on their agency’s website. Furthermore, a staggering 86.3% and 98.0% of government agencies at the department and provincial levels respectively publish in non-machine-readable formats such as Portable Document Format (PDF), Microsoft Word document (DOC), text file (TXT) and Joint Photographic Experts Group (JPEG) (DGA, 2018, p. 54^[8]). These fundamental delivery challenges restrict the creation of public value from open government data for they hinder data discoverability, standardisation and interoperability and go against core open data principles (e.g. the publication of open data in machine-readable formats).

The political will and support of the government of Thailand for open government data include several initiatives:

- The Open Government Data Working Group overseen by the DGA to select datasets for the Open Government Data Centre (data.go.th).
- The Open Government Data Committee joined by the National Electronics and Computer Technology Centre (NECTEC), the Electronic Transactions Development Agency (ETDA) and professors from leading Thai universities.
- Thailand’s involvement in the Open Government Partnership (OGP) overseen by the Ministry of Finance (MOF) and the OPDC in 2018 to create an ecosystem of public, private and civil society stakeholders.
- The Open Government Data Conference, International Open Data Day and Data Community Engagement projects hosted by the EGA/DGA to promote open government data awareness across the open data ecosystem.

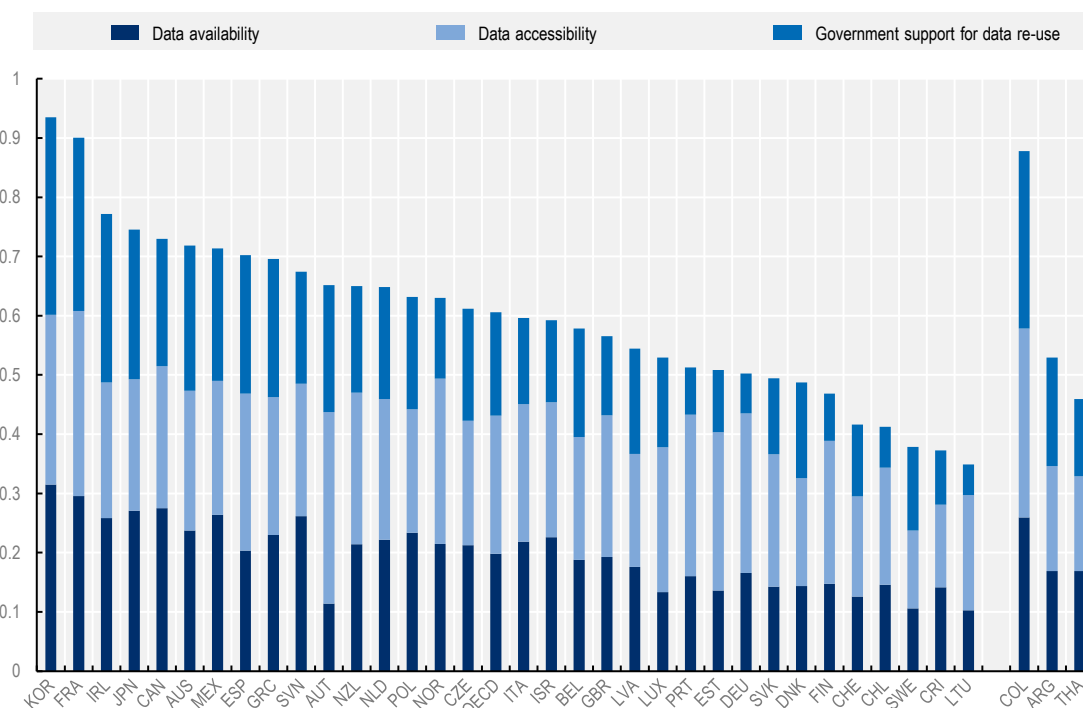
Still, the government of Thailand needs to further build the capability, capacity and culture for public sector organisations to participate in these initiatives, comply with open data standards and move away from a

focus on data publication to leveraging data as an asset to improve economic and social outcomes. These gaps are analysed in further detail in the following sections based on Thailand’s performance in the OECD OURdata Index.

The 2019 OECD report *Government at a Glance Southeast Asia* contains insights on Thailand’s performance in the OURdata Index at the central government level in 2018, drawn from data collected from February 2017 to June 2018 through the OECD Open Government Data Survey 4.0 (OECD, 2018^[9]) from high-level government officials such as national chief information officers (CIOs) (OECD/ADB, 2019, pp. 122-123^[10]). To better understand Thailand’s performance and standing regionally and globally, the following assessments feature Thailand’s score in the OURdata Index *vis-à-vis* OECD member countries (Figure 7.3) and other Southeast Asian countries (Figure 7.4).

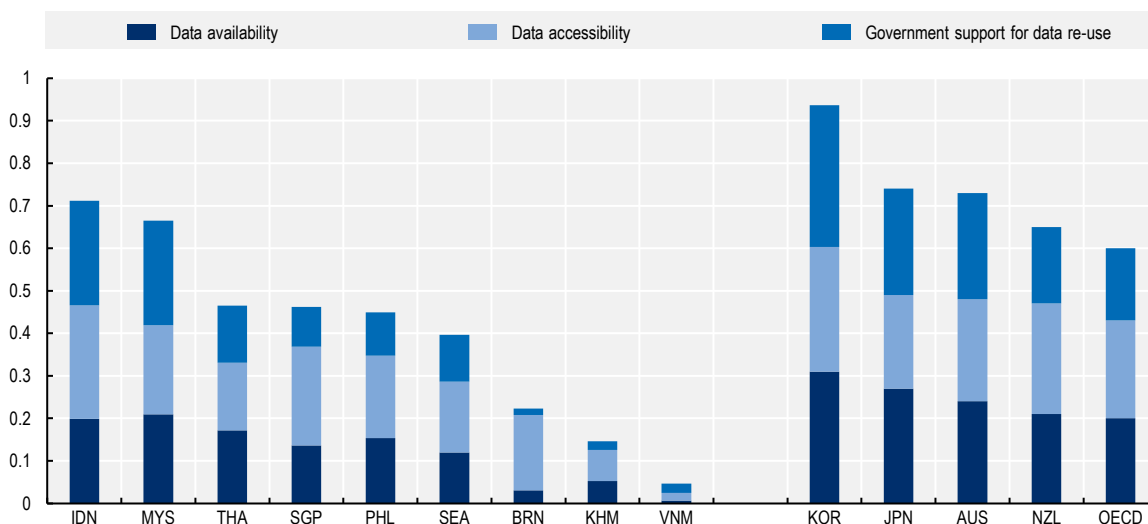
Overall, Thailand has performed above the average for Southeast Asian countries (scoring 0.47 in comparison to the Southeast Asian average of 0.40), while being slightly behind the average for OECD member countries (0.60) (Figure 7.4). The next three subsections will discuss Thailand’s current policies and approaches towards leveraging open government data for public value creation according to the respective pillar and sub-pillar of the OURdata Index.

Figure 7.3. The OECD OURdata Index: OECD member countries and Thailand



Note: The OECD average is from the OURdata Index 2019 (OECD, 2020^[2]) and based on 33 OECD member countries (at which time Colombia was not). Data is not available for Hungary, Iceland, Turkey and the United States (US). Thailand’s score is based on the OECD Open Government Data Survey 4.0 (2018).

Source: OECD (2020^[2]), “OECD Open, Useful and Re-usable data (OURdata) Index: 2019”, <https://doi.org/10.1787/45f6de2d-en>; OECD/ADB (2019^[10]), *Government at a Glance Southeast Asia 2019*, <https://doi.org/10.1787/9789264305915-en>.

Figure 7.4. The OURdata Index for Southeast Asia

Note: The OECD average is from the OURdata Index 2019 (OECD, 2020^[2]) and based on 33 OECD member countries (at which time Colombia was not). Data is not available for Hungary, Iceland, Turkey and the US.

Source: OECD/ADB (2019^[10]), *Government at a Glance Southeast Asia 2019*, <https://doi.org/10.1787/9789264305915-en>; OECD (2020^[2]), "OECD Open, Useful and Re-usable data (OURdata) Index: 2019", <https://doi.org/10.1787/45f6de2d-en>.

Data availability

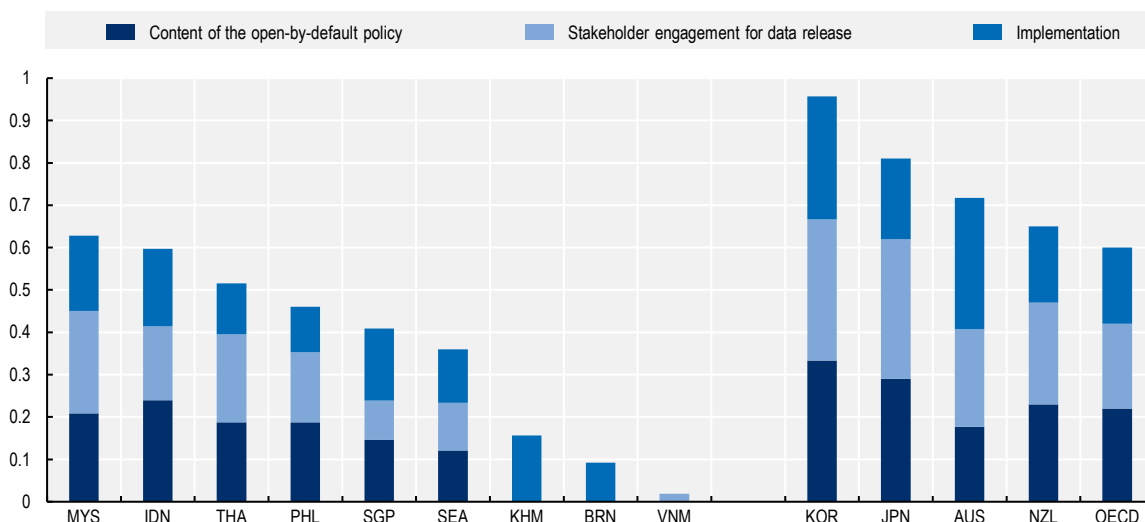
From the OECD perspective, data availability is strategic as it: i) relies on the availability of formal open by default requirements towards data publication and re-use; ii) underlines the value of early user engagement to identify data needs; and iii) explores the publication of datasets that can encourage greater collaboration and innovation that deliver public value to citizens and businesses.

Opening data across policy areas can increase the potential for value generation as a result of increased data access and subsequent sharing and use. Data availability reduces information asymmetries, data monopolies and empowers stakeholders to participate in the co-design and co-delivery of public policies and services, while also helping them to make more optimal decisions once open data is integrated into decision-making models and value chains.

In light of the above, Pillar 1 on "Data availability" measures the availability of high-value datasets as open government data through Sub-pillar 1.1 on "Content of the open by default policy", Sub-pillar 1.2 on "Stakeholder engagement for data release" and Sub-pillar 1.3 on "Implementation". These factors go well beyond the mere publication of open government data on a central platform.

Results from Pillar 1 on "Data availability" (Figure 7.5) demonstrates that while Thailand performs fairly, it still needs to greatly improve for Sub-pillar 1.1 on the "Content of the open by default policy" (scoring 0.19 in comparison to the Southeast Asian average of 0.12 and the OECD average of 0.22), better for Sub-pillar 1.2 on "Stakeholder engagement for data release" (scoring 0.21 in comparison to the Southeast Asian average of 0.11 and the OECD average of 0.20) and has much to improve for Sub-pillar 1.3 on "Implementation" (scoring 0.12 in comparison to the Southeast Asian average of 0.13 and the OECD average of 0.18). Overall, the results for each of the aforementioned sub-pillars contribute to Thailand's ranking (scoring 0.52) to be slightly below the OECD average (scoring 0.59) and higher than the Southeast Asian average (scoring 0.36).

Figure 7.5. The OURdata Index for Southeast Asia: Data availability (Pillar 1)



Note: The OECD average is from the OURdata Index 2019 (OECD, 2020^[2]) and based on 33 OECD member countries (at which time Colombia was not). Data is not available for Hungary, Iceland, Turkey and the US.

Source: OECD/ADB (2019^[10]), *Government at a Glance Southeast Asia 2019*, <https://doi.org/10.1787/9789264305915-en>; OECD (2020^[2]), "OECD Open, Useful and Re-usable data (OURdata) Index: 2019", <https://doi.org/10.1787/45f6de2d-en>.

Sub-pillar 1.1 on "Content on the open by default policy" looks at the extent to which there are formal requirements supporting openness by default through instruments such as laws, regulations or standards. These foundational arrangements help to promote a public sector culture that encourages the release of open government data (OECD, 2020, p. 28^[2]), which is key for Thailand. As discussed in Chapter 3, the Thai government understands the value inherent in increasing access and use of government data opening up to a broader ecosystem of the public and private sector as well as to civil society stakeholders, as reflected in its landmark Digitalisation of Public Administration and Services Delivery Act, B.E. 2562 (2019). However, the DGA and supporting bodies should now focus on comprehensive communication and implementation of open data policies across the whole public sector, since formal requirements are not enough to secure actual implementation, as measured in Sub-pillar 1.3 (discussed later). With the leading role of the DGA, more can be done to invite external contribution, create convergence and build on the expertise of existing open data initiatives to catalyse and guide tangible change.

Ireland presents an example of a strong "open by default" policy. It advanced in the implementation process after releasing its Open Data Strategy (2017-2022), with a clear alignment to its Public Service Data Strategy (2019-2023), which positions open data at the centre of its public sector data management and data governance, and details clear objectives, roles and responsibilities for delivery (OECD, 2020, p. 28^[2]; Government of Ireland, 2019^[11]). As proposed in Chapter 6, the potential development of a Thai Action Plan for Public Sector Data should integrate open government data as a core element of a data-driven public sector and set specific leadership and accountability mechanisms based on clear positions, roles, timelines and goals. By doing so, the government of Thailand can help in advancing the implementation of the open by default data policies included in the Digitalisation of Public Administration and Services Delivery Act, B.E. 2562 (2019). Open government data should still retain its centrality and importance with respect to the broader public sector strategies and plans.

Advancing implementation would also require further deepening the use of key performance indicators (KPIs) to monitor and promote greater capacities and capabilities of its public sector organisations in working with open government data. KPIs on such practices and compliance with requirements on open

data policies could help expedite the process from theory to practice, increase the adoption of common open data standards and foster organisational change across the public sector (OECD, 2020, p. 20_[2]).

Sub-pillar 1.2 on “Stakeholder engagement” measures the level of engagement with stakeholders to inform open data policies and support purposeful, data- and user-driven data publication, which is critical for value generation. Engaging stakeholders boosts the efficacy of data publication and strategic re-use as data users’ needs are better understood and addressed. This is key from a data demand point of view: open government release should not solely be based on the government’s perceived user needs or what is most requested (OECD, 2018, p. 132_[12]) but also on strategic data supply (OECD, 2020, p. 30_[2]).

The DGA could take a greater lead in co-ordinating efforts concerning the engagement of the open data ecosystem to understand their needs. As expressed by public officials during the OECD peer review mission in Bangkok, evidence points to a minimal public interest and participation in the government’s open data and data sharing initiatives and programmes. This is aggravated by the cultural challenge where the publication of open data is still taken as the main outcome rather than as a means to deliver public value. During the OECD peer review mission in Bangkok, public officials shared that there is a lack of emphasis on user needs in the open data context and that data demand is not being met.

This highlights the importance of involving a wide variety of stakeholders in the design process of open data policies, the identification of data needs and the government’s role in promoting the shift towards a data- and user-driven open data policy. Doing so can boost the effectiveness of addressing the technical, administrative and cultural challenges during the implementation stage.

The OECD has observed from countries’ practices that late or low stakeholder engagement affects policy awareness, clarity, accountability and ownership (OECD, 2019, p. 38_[13]) while the converse can build ownership and trust towards open government data (OECD, 2020, p. 31_[2]). The former may be the case for Thailand if the government does not bring other stakeholders on board early. In fact, the government of Thailand has overarching requirements for public sector organisations to regularly conduct consultations with users such as citizens, associations, journalists, academics and thinktanks to inform them of open data plans, even organising frequent focus groups or information sessions with civil society organisations (OECD/ADB, 2019, p. 104_[10]). Yet, as discussed in Chapter 3, these requirements are mostly in line with public consultation exercises in the context of new regulations. They are not focused on identifying data demand beyond a tick-the-box approach for the purpose of complying with legal requirements.

While public consultation requirements should be actively practised, it is important to be clear from the outset and communicate the purpose of stakeholder engagement. To go one step further, the government of Thailand could research the needs of these different user groups in order to reach out to them more effectively. Public consultations should be conducted strategically and inclusively with a diverse group of stakeholders. Good communication, engagement in addition to the improved access to government data creates opportunities for various stakeholders to create new ways to tackle problems (OECD, 2018, p. 16_[12]). Different approaches and steps can be considered such as: understanding the user communities; establishing partnerships with data users and subnational governments; designing events with a problem-solving mindset to stimulate data generation, accessibility and re-use; and encouraging user-led events and external initiatives (OECD, 2018, p. 205_[12]). Actively sharing information on open data developments, and organising these open data initiatives and programmes on a regular basis will help to greatly advance data governance with internal and external stakeholders and maturity of the open data ecosystem.

Canada and the United Kingdom (UK) provide good examples for public consultation from policy to the realisation of data availability. Over six months, the government of Canada conducted extensive public consultations on the 4th OGP National Action Plan 2018-2020 and the process resulted in commitments on stronger collaboration with the Indigenous people and on applying the First Nation principles of “ownership”, “control”, “access” and “possession” to open government data (OECD, 2020, p. 31_[2]; Government of Canada, 2018_[14]). In doing so, Canada managed to increase undertaking in data ownership, ethics, inclusion and trust. The UK had also held several physical and online public

consultations over the years to inform and iterate its open government data plans such as the National Information Infrastructure, which lists high-value and important datasets that should strategically generate the greatest economic impact (OECD, 2018, p. 38^[12]; GOV.UK, 2015^[15]).

Beyond public consultations, stakeholder engagement should also move towards collaborations, as a reflection on the maturity of open data policies (OECD, 2020, p. 48^[2]). This involves developing the capacities and capabilities in the ecosystem for open data. Mexico's central government established the Open Mexico Network as part of the implementation of one of the pillars of its national open data policy, which aimed to create an open data ecosystem of collaboration with the local governments. It is a multi-stakeholder platform that promotes good practices, provides technical-methodological support, strengthens capabilities and enables the publication of open data from the local level on the central open government data portal (OECD, 2018, p. 216^[12]). This is key for the government of Thailand to adopt too since it faces technical and administrative capacity and capability challenges at a local level.

Lastly, Sub-pillar 1.3 on "Implementation" assesses the results and outputs of open by default policies. A key element to consider here is to make quality and value a priority when sharing open government data, as opposed to focusing on the quantity of data. This mandates the availability of open government data in high-value taxonomies such as business registers, transport, environmental and geographical data and their integration into the data value chains towards greater government, economic and social innovation (OECD, 2020, p. 9^[2]). Results from the 2019 OURdata Index showed that OECD member countries did not perform well in this aspect because creating quality open data and value requires governments to first focus on generating data that are standardised and interoperable before publication and release (OECD, 2020, p. 32^[2]). The latter stage will be covered in Pillar 2 on "Data accessibility".

Another fundamental consideration needed for the government of Thailand is how to approach the data infrastructure for open data in the implementation process. At a more technical level, a data federation model can facilitate data discoverability and reduce data fragmentation while maintaining a balance between a good level of data autonomy and ownership at the subnational levels and quality assurance at the central level (OECD, 2020, p. 9^[2]). For instance, it appears that various ministries and agencies have their own open data initiatives but these may not be fully hosted on the central open data platform under the DGA and that they do not have knowledge of other counterparts' initiatives.

Australia, Canada and Sweden are OECD member countries that have adopted a data federation model for their open data release – by harvesting data from subnational open data portals to the central/federal portal. This approach helps in smoothing the standardisation and quality of government data across the different levels of government while simultaneously facilitating access (OECD, 2020^[2]). Data harvesting is made possible through multiple interconnected government data sources that have adopted the right standards and with digital government or open data bodies that can carry out data curation – at least in the early stage – to ensure compliance with standards.

The DGA could develop data quality mechanisms and automation processes for open data and data sharing that cut across the over 400 government agencies through the Government Data Exchange Centre (GDx) and the use of the government application programming interface (API) system. Thailand's lower availability of data can be seen as a window of opportunity to start strengthening data governance and data quality at the source. High-quality and standardised data serves as the indispensable foundation for open data and data sharing.

The DGA could seek to provide closer support to the people in charge in each government agency of data production and collection. For Thailand, capacity building, instilling leadership and accountability for data quality and data integration is most pertinent. Recalling the Thai Data Governance Framework 1.0 presented in Chapter 6, each government agency should be charged with the responsibility of ensuring quality data production and collection within their agency supported with the right institutional frameworks towards greater data integration. Reinforcing the "open by default" mandate and Data as a Service (DaaS) presented in Chapters 5 and 6 would also contribute to better open data implementation in the public

sector. This could be possible by further stressing the interconnection between the data governance roles part of the Data Governance Framework (relating to data generation, management, protection and integration) with the publication of good quality open data in a later stage of the data value chain.

The US description of an institutional chief data officer (CDO)'s roles, as described in the Open, Public, Electronic and Necessary (OPEN) Government Data Act (Box 7.2), puts forward this interconnection in a clear way. The act makes institutional CDOs responsible for the “publication of data assets in accordance with applicable law” and “identify points of contact for roles and responsibilities related to open data use and implementation” (OECD, 2019, pp. 41-42^[13]; US Congress, 2019^[16]).

Box 7.2. US Chief Data Officers (CDOs)

The provisions of the Open, Public, Electronic, and Necessary (OPEN) Government Data Act describe the activities and role of institutional CDOs as follows:

Be responsible for life cycle data management.

Co-ordinate with any official in the agency responsible for using, protecting, disseminating and generating data to ensure that the data needs of the agency are met.

Manage data assets of the agency, including the standardisation of data formats, sharing of data assets and publication of data assets in accordance with applicable law.

[...]

Ensure that, to the extent practicable, agency data conform with data management best practices.

Encourage agency employees, the public and contractors in using public data assets and encourage collaborative approaches on improving data use.

Support the performance improvement officer of the agency in identifying and using data to carry out functions described in Section 1124(a)(2) of Title 31.

Support the evaluation officer of the agency in obtaining data to carry out the functions described in Section 313(d) of Title 5.

Review the impact of the infrastructure of the agency on data asset accessibility and co-ordinate with the CIO of the agency to improve such infrastructure to reduce barriers that inhibit data asset accessibility.

Ensure that, to the extent practicable, the agency maximises the use of data in the agency, including for the production of evidence (as defined in Section 3561), cyber security and the improvement of agency operations.

Identify points of contact for roles and responsibilities related to open data use and implementation (as required by the director).

Serve as the agency liaison to other agencies and the Office of Management and Budget on the best way to use existing agency data for statistical purposes (as defined in Section 3561).

Comply with any regulation and guidance issued under Sub-Chapter III, including the acquisition and maintenance of any required certification and training.

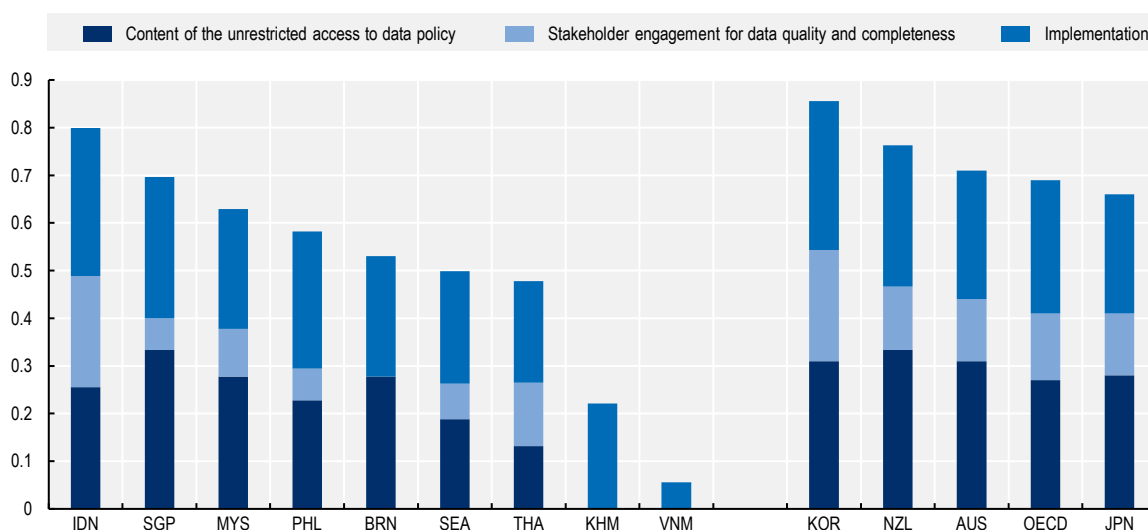
Source: Adapted from OECD (2019^[13]), *The Path to Becoming a Data-Driven Public Sector*, <https://dx.doi.org/10.1787/059814a7-en>, with information from US Congress (2019^[16]), *H.R.4174 – Foundations for Evidence-Based Policymaking Act of 2018*, <https://www.congress.gov/bills/115th-congress/house-bill/4174/text> (accessed on 15 June 2020).

Data accessibility

Pillar 2 on “Data accessibility” is about “refining the user experience of [accessing and using] government data [through the appropriate file formats, publication procedures and entry points]” (OECD, 2020, p. 34^[2]). Creating value out of open data first requires a focus on generating quality data that are standardised, interoperable and usable prior to their publication. OECD member countries have been focused on progressing data accessibility in the past few years by introducing robust policies for unrestricted access to data and publishing data on central open government data portals.

Results for Pillar 2 (Figure 7.6) show that Thailand is slightly below the Southeast Asian average and has much to catch up on all three sub-pillars: Sub-pillar 2.1 on the “Content of the unrestricted access to data policy” (scoring 0.13 in comparison to the Southeast Asian average of 0.19 and the OECD average of 0.27), Sub-pillar 2.2 on “Stakeholder engagement for data quality and completeness” (scoring 0.13 in comparison to the Southeast Asian average of 0.07 and the OECD average of 0.14) and Sub-pillar 2.3 on “Implementation” (scoring 0.21 in comparison to the Southeast Asian average of 0.24 and the OECD average of 0.28). Overall, the results for each of the aforementioned sub-pillars contribute to Thailand’s ranking (scoring 0.48) to be just below the Southeast Asian average (scoring 0.50) and OECD average (scoring 0.70).

Figure 7.6. The OURdata Index for Southeast Asia: Data accessibility (Pillar 2)



Note: The OECD average is from the OURdata Index 2019 (OECD, 2020^[2]) and based on 33 OECD member countries (at which time Colombia was not). Data is not available for Hungary, Iceland, Turkey and the US.

Source: OECD/ADB (2019^[10]), *Government at a Glance Southeast Asia 2019*, <https://doi.org/10.1787/9789264305915-en>; OECD (2020^[2]), “OECD Open, Useful and Re-usable data (OURdata) Index: 2019”, <https://doi.org/10.1787/45f6de2d-en>.

The underlying idea of making data accessible is to go from mere data provision on Data as a Platform (DaaP) to data-driven collaboration that propels Government as a Platform (GaaP) (Table 7.1). This process requires governments to recognise that a critical mass of high-quality and valuable open data for value creation with stakeholder engagement and collaboration for the co-development of public services make up a stronger data-driven public sector. Once the government of Thailand has mastered DaaP, the path to GaaP should revolve around purposefully increasing the production, release and sharing of high-quality data in appropriate structure and formats with a wider ecosystem such that users are able to create value and meet specific needs.

Table 7.1. From Data as a Platform (DaaP) to Government as a Platform (GaaP)

DaaP	GaaP
Data as an infrastructure: Data are used as a basis for the development of products and services.	DaaP approach and...: <ul style="list-style-type: none"> • Data-driven: Portals are built for open data, data crowdsourcing. • User-driven: Portals are collaborative online spaces for the open data ecosystem, collective knowledge.
Data supply and demand are balanced: Strategic data publication that meets users' needs.	
Data flows are of quality, timely and regular: Using enablers like APIs.	
Data access are streamlined: Portals are data-centred.	

Source: Adapted from OECD (2018^[12]), *Open Government Data Report: Enhancing Policy Maturity for Sustainable Impact*, <https://doi.org/10.1787/9789264305847-en>.

Sub-pillar 2.1 on “Content of the unrestricted access to data policy” looks at the increasing the production and sharing of quality data that are released proactively, timely and in understandable and re-usable formats for users and machines (OECD, 2020, p. 36^[2]). It specifies that there should be the provision of requirements and guidance on metadata, the active addressing of quality issues and biases throughout the data value cycle and the free provision of data (OECD, 2020, p. 37^[2]).

During the OECD mission to Bangkok and in line with earlier assessments, the DGA underlined how most government agencies disclose data in non-machine-readable formats (DGA, 2018, p. 50^[8]). This is because the government of Thailand has no formal requirements but only guidelines for its government agencies to publish data in machine-readable formats, with their associated metadata or that are interoperable, as shared in the Open Government Data Survey for the OECD and Asian Development Bank (ADB) report *Government at a Glance Southeast Asia 2019* (2019^[10]). This poses a key challenge to derive value from data and poses a barrier to meet policy objectives in line with the Digitalisation of Public Administration and Service Delivery Act (2019).

A large majority of OECD member countries are now putting in place requirements to publish government data free of charge with open licenses and in appropriate machine-readable formats like comma-separated values (CSV) and JavaScript Object Notation (JSON) (OECD, 2020, p. 36^[2]) but some like Australia, Japan and Lithuania still provide datasets in non-machine-readable formats like PDF and proprietary formats like Excel (OECD, 2020, p. 39^[2]). Germany has made the most noteworthy policy advancements to encourage unrestricted access to government data for federal authorities, placing data processing for archiving purposes for the public interest as a priority. Section 28(4) of the Federal Data Protection Act enumerates this right to access data in structured, machine-readable and interoperable formats that enable data portability and does not compromise the public interest (Bundesamt für Justiz, 2019^[17]). This confirms that building an open data culture and architecture before the data integration and publication stages takes time and effort.

To further promote the publication of open data in machine-readable formats with metadata descriptions and APIs, the government of Thailand could also consider further developing KPIs in the implementation of open government data requirements. Performance indicators and metrics are important policy tools to encourage public sector organisations to follow standards and guidelines for open government data. They assist in the cohesive dissemination and application of open data policies across the public sector and allow space for adaptation at an organisational level where necessary.

The US had developed the Open Data Dashboard early on in its journey towards increasing data availability and accessibility, which aims to hold government agencies accountable in terms of project implementation and data publication (Box 7.3).

Box 7.3. US Open Data Dashboard

The Open Data Dashboard is an online government tool that seeks to monitor the progress of Federal agencies in the implementation of the M-13-13 Open Data Policy that requires the collection or creation of information such that it supports downstream information processing and dissemination, interoperability and information accessibility, data management and release practices, privacy and confidentiality and new interoperability and openness requirements. It is also informed by the Open Data Implementation Guide along with other performance assessment frameworks.

The Open Data Dashboard is based on quarterly milestones to assess public sector organisations' performance for each indicator at different stages in time. Automated metrics are also added in the measurement of the performance. They focus on analysing different characteristics of machine-readable files such as JSON and their associated metadata to check their validity. A range of indicators are used for assigning a particular score on the status of implementation:

- **Enterprise Data Inventory:** A collection of qualitative and quantitative measures with an objective assessment of: meeting the milestone for whether the inventory was updated by milestone deadlines; the total number of datasets in comparison to the public data listing; the delivery of a schedule of deliverables; the number of bureaus represented in the datasets; the number of programmes represented; the number of datasets that are publicly available; the number of datasets available under use restrictions; the number of non-public datasets.
- **Public Data Listing:** A collection of qualitative and quantitative measures focusing on: the release of open government data in terms of the number of datasets that are publicly listed; the number of downloadable publicly listed datasets; the number of access and download links; the number of working, redirected, broken, error or unreachable links; the validity of metadata; the growth in datasets since the last quarter; the publication of open data activities containing links to their data catalogue, open data-related documents and strategy; the publication of a JSON file that contains the whole public data listing.
- **Public Engagement:** A collection of qualitative and quantitative measures assessing the efforts to engage open data users such as providing a description of and the link to feedback mechanism; the prioritisation of data release through free information mechanisms or formal request mechanisms; the quality of the feedback loop and communication with the public.
- **Privacy and Security:** A collection of qualitative and quantitative measures assessing the privacy and security of the data by the process of data publication; the information that should not have been made public and is documented with the Office of the General Counsel.
- **Human Capital:** A collection of qualitative and quantitative measures assessing the availability of information on the primary point of contact for the government agency's open data initiatives and activities; and the required responsibilities.

All these elements enable both governmental and non-governmental actors to assess the performance of different public sector organisations openly and make comparisons among them while increasing their accountability on the front of open government data policies and actions.

Source: Adapted from OECD (2018^[12]), *Open Government Data Report: Enhancing Policy Maturity for Sustainable Impact*, <https://doi.org/10.1787/9789264305847-en>, with information from US Federal Government (n.d.^[18]), *Project Open Data Dashboard*, <https://tabs.data.gov/dashboard/docs/about> (accessed on 15 June 2020).

Sub-pillar 2.2 on “Stakeholder engagement for data quality and completeness” stipulates that the open government data portals should be treated as spaces for open engagement with the larger ecosystem rather than top-down approaches just to provide data supply. The larger goal should encourage innovation,

collaboration, knowledge sharing and value creation towards enabling GaaP (OECD, 2020, p. 39_[2]). According to the Open Government Data Survey results for the OECD and ADB report *Government at a Glance Southeast Asia 2019* (2019_[10]), the feedback loop and engagement with users on the Open Government Data Centre (data.go.th) is still largely one-way as users are not allowed to add a dataset or create other outputs like data visualisation and are not notified about issues or the re-use of their data. While the government of Thailand enforces standards for accessibility, strengthening stakeholder engagement on the design and use of the Open Government Data Centre (data.go.th) would serve well to allow data communities to better access, benefit from and contribute to the ecosystem.

France is an early adopter of open government data policies and has one of the most highly developed centralised open government data portals (data.gouv.fr). On this portal, users are able to add datasets that are of public interest with virtual stamps – differentiated from the certified datasets that are published by public sector organisations. Estonia allows users to add data through a GitHub account. Finland let its users join with a profile and contribute datasets and data visualisations collaboratively (OECD, 2020, p. 38_[2]). In the transformation for the open government data portals to be more user-driven, it is paramount to allow users to participate freely and actively so that the portal act as a platform for the open data communities.

In a similar fashion, the DGA can consider creating fora for discussion and notifications on chosen datasets beyond feedback sections, where users can connect, collaborate and share ideas directly with each other on the use of the open government data – a rare practice that only several OECD member countries have in place (OECD, 2020, p. 38_[2]).

Sub-pillar 2.3 on “Implementation” emphasises that the non-formal requirements, cultural changes, political willingness and expertise among public officials are also a necessary part of the equation to enable the release of and access to re-usable datasets on open government data portals. The Open Government Data Survey results for Thailand in the OECD and ADB report *Government at a Glance Southeast Asia 2019* (2019_[10]) showed that even though there are points of contact for datasets provided on the Open Government Data Centre (data.go.th), in practice there is a very low proportion of data that are structured, provided in multiple formats and machine-readable formats. The use of uniform resource identifiers, the provision of data visualisation tools and the provision of associated metadata were also minimal – which is consistent with the findings that have been elaborated in-depth above.

Thailand can learn from the progress and experiences of OECD member countries, where a majority of them have already removed barriers to access and re-use open government data without a registration process. At the same time, there is still much to be done across OECD member countries to put in place standards and guidelines on the release of high-quality, timely, disaggregated data in machine-readable, structured and non-proprietary formats (OECD, 2020, p. 39_[2]).

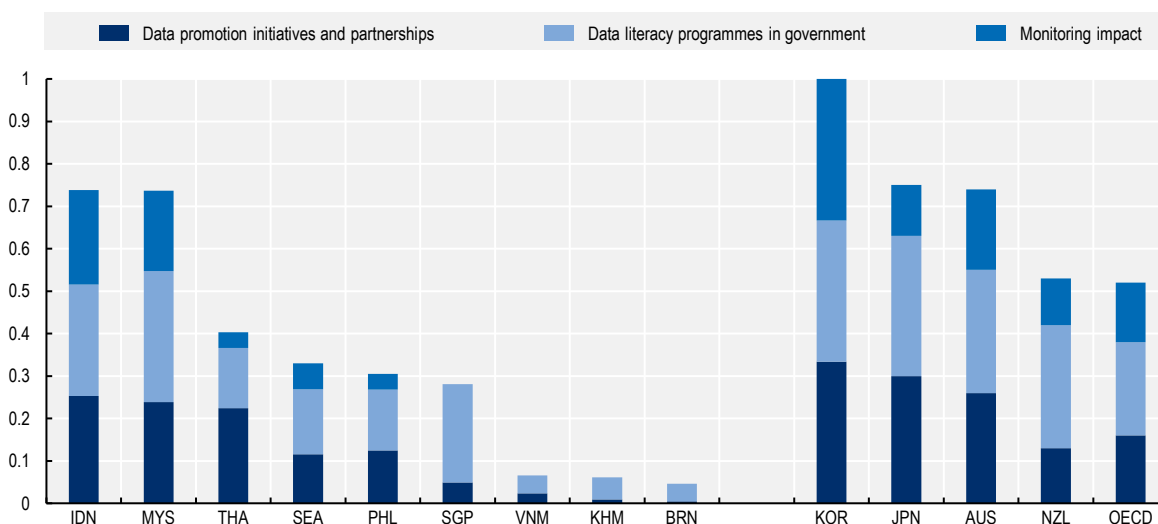
Government support for data re-use

Pillar 3 on “Government support for data re-use” is increasingly seen by governments as a key requirement for value creation and builds upon the previous two pillars addressing the availability and accessibility of good quality government data (OECD, 2018, p. 88_[12]). In the last stage of the data value cycle, governments play a vital role in enabling and incentivising data re-use and democratising its value for all user segments: from non-technical experts, who extract value from data dashboards, to data professionals that aim at feeding the data into innovative services and applications.

Governments are central in the open data ecosystem: raising awareness, building capacity and capability, monitoring outcomes and engaging with stakeholders from the public and private sectors and civil society to promote data re-use. The discovery, interest and use of open data by the communities are essential for the long-term continuity of open data policies and practices – because evidence of value creation can help to legitimise and strengthen efforts to become fully data-driven (OECD, 2020, p. 40_[2]).

From the results (Figure 7.7), it is apparent that Thailand has strong government support for data re-use in comparison to the Southeast Asian average and is almost on par with the OECD average. Thailand performs well in Sub-pillar 3.1 on “Data promotion initiatives and partnerships” (scoring 0.22 in comparison to the Southeast Asian average of 0.12 and the OECD average of 0.16) but there is still a big gap especially for Sub-pillar 3.2 on “Data literacy programmes in government” (scoring 0.14 in comparison to the Southeast Asian average of 0.15 and the OECD average 0.21) and Sub-pillar 3.3. on “Monitoring impact” (scoring 0.04 in comparison to the Southeast Asian average of 0.06 and the OECD average of 0.14). Overall, the results for each of the aforementioned sub-pillars contribute to Thailand’s ranking (scoring 0.40) just above the Southeast Asian average (scoring 0.33) and markedly below the OECD average (scoring 0.52).

Figure 7.7. The OURdata Index for Southeast Asia: Government support for data re-use (Pillar 3)



Note: The OECD average is from the OURdata Index 2019 (OECD, 2020^[2]) and based on 33 OECD member countries (at which time Colombia was not). Data is not available for Hungary, Iceland, Turkey and the US.

Source: OECD/ADB (2019^[10]), *Government at a Glance Southeast Asia 2019*, <https://doi.org/10.1787/9789264305915-en>; OECD (2020^[2]), “OECD Open, Useful and Re-usable data (OURdata) Index: 2019”, <https://doi.org/10.1787/45f6de2d-en>.

Sub-pillar 3.1 on “Data promotion initiatives and partnerships” measures the extent to which governments regularly conduct assessments, information sessions and focus groups with citizens, businesses and other stakeholders, hold co-creation and crowdsourcing events to promote data re-use, and create partnerships with business incubators and civil society organisations that aim at solving specific public policy challenges. Results from the 2019 OURdata Index (OECD, 2020^[2]) indicates that OECD member countries are no longer as active in user engagement to promote the re-use of open government data as compared to 2017. This suggests that formal requirements do not guarantee sustained implementation. Sustainable long-term approaches are needed to promote open government data re-use outside the public sector, notwithstanding contextual changes (OECD, 2020, p. 42^[2]).

Results from the OECD Open Government Data Survey also reveal that the government of Thailand does not formally encourage its public sector organisations to raise awareness among businesses on open government data opportunities but does so with citizens and non-governmental organisations. Public sector organisations are not regularly involved in the events or activities aimed at promoting the re-use of open government data, except for a few annual hackathon events. As this is well within the current scope of the DGA (see Box 6.3 in Chapter 6), the DGA should step up its leadership and initiative here.

The government of Thailand has also not been actively conducting assessments and reports to understand the challenges and barriers to the re-use of open government data. Since Thailand is still at a relatively early stage of developing its open government data policies, it can still get a head start by including strong data re-use promotion as another high priority in addition to increasing quality data availability in the appropriate formats and access. One good area is the effort to organise hackathons and develop partnerships with business incubators to support the re-use of open government data by the private sector and civil society, headed by the Open Government Data Committee.

Long-term partnerships with the open data ecosystem can also sustain user engagement and data reuse. The US Government Accountability Office organises several multi-stakeholder fora and communities of practices with the public sector, private sector and civil society to explore how the government can maximise the benefits of data and limit the possible drawbacks – giving a holistic and clear view on their work (OECD, 2019, p. 139^[13]). Across the national and subnational levels in Ireland, local authorities co-operate with the national Open Data Initiative by linking their data to the national open data portal and encourage the use of open data among their stakeholders – and this resulted in stronger collaboration and a government hackathon (OECD, 2018, p. 217^[12]). France's Etalab or the Taskforce for Open Data has established partnerships with several private sector and civil society organisations on specific issues relating to government data (OECD, 2018, p. 211^[12]). The Swedish government mission Hack for Sweden involves over 95 government agencies and businesses to drive innovative citizen-centred solutions – with a focus on open data – to meet economic and societal needs (OECD, 2020, p. 42^[2]; Hack for Sweden, 2019^[19]).

Yet, targeted partnerships and collaboration will play a key role in the roadmap towards value creation. Korea's start-up hub Open Square-D serves as a community and one-stop centre for open government data start-ups to receive funding and share ideas with open data public officials, experts and investors (OECD, 2020, p. 42^[2]; Yeon, 2016^[20]). In this instance, in Thailand, the National Innovation Agency (NIA) and the Department of Business Development (DBD) could explore greater synergistic opportunities with the private sector to promote data-driven innovation and entrepreneurship in the technology business ecosystem of Thailand and the widespread use of the G2B services like digital registration, e-licensing and the use of government data.

Sub-pillar 3.2 on "Data literacy programmes in the government" is indispensable for building skills and capacity in the public sector to support open data and data sharing efforts. The government of Thailand is progressing well, in general, with the creation of the Thailand Digital Government Academy (TDGA) that promotes, supports and provides skills and standards training between the public and private sectors, and the definition of digital and data roles as defined in the DGA's Data Governance Framework (covered in Chapter 6) and the Office of the Civil Service Commission (OCSC) Skills Framework (covered in Chapter 4).

However, as also discussed in Chapter 4, Thailand is lacking the necessary human resources to unlock the full potential of a data-driven public sector and could channel more into this area. Based on the results of the Open Government Data Survey for Thailand, much more needs to be done to conduct information sessions, focus groups and training within the public sector and with public officials on the benefits, needs and methods of promoting the re-use of open government data – at all levels of the government and leadership. These programmes should raise public officials' understanding and awareness on how data should be published and reused within the public sector to improve internal processes, public policies and services. This involves invoking the interest of public officials by providing guidelines and performance incentives to re-use open government data within the public sector too – something that still only eight OECD member countries do. Finally, increasing the level of digital literacy can also help to build an organisational culture that embraces data, which the government of Thailand presently has as a programme but needs to further deploy through practical and consistent training sessions on the DGA's Open Government Data Handbook. The Open Government Data Conference as a platform for internal

consultation is another good channel to be exploited not just for feedback collection but for strengthening the awareness and effective rolling-out of open government data efforts.

Sub-pillar 3.3. on “Monitoring impact” should be done by financing or conducting research on the economic, social and public sector performance impact of open government data. Indicators can include the amount of re-use of open government data and the types of re-use carried out such as data visualisations, mobile applications and news articles – through usage cases that are documented, displayed and promoted openly. Testimonies from OECD member countries in 2019 demonstrate that governments that proactively attempt to log evidence and the impact of open government data initiatives also increase the sustainability of releasing, funding and creating valuable impact (OECD, 2020, p. 44^[21]).

The Danish Agency for Data Supply and Efficiency collaborated with PricewaterhouseCoopers to assess the impact of its open geographical government data in 2017 as part of the common public digitalisation strategy (2011-15) and its new digital strategy (2016-20). The aim was to understand the potential and increase the efficiency of implementation and drive new business opportunities – and finally, build a positive business case illustrating the benefits for the public and private sectors (OECD, 2020, p. 44^[22]; SDFE, 2017^[21]). Spain’s Multisectoral Information Association publishes an annual report on the infomediary sector of over 630 companies. This report analyses market behaviour, growth and revenues to understand how businesses re-use open government and private sector data to develop products and services for society across 11 different policy areas: infomediation technology, technical consulting, market research, economic and financial, culture, publishing, geographical information, directory services, tourism, meteorological and others. Results reveal that information and data are important resources for socio-economic growth in Spain overall and in specific sectors (datos.gob.es, 2017^[22])

In reference to the results of the Open Government Data Survey for Thailand in the OECD and ADB report *Government at a Glance Southeast Asia 2019* (2019^[10]), the government has not conducted research on the economic or public sector performance impact of open government data but has done so for the social impact since 2015. While building the data architecture and infrastructure for GaaP, the DGA could continue to identify, collect and display to the public good examples of re-use on centralised and local open government data within and outside the public sector. In sum, attaining this stage of opening and sharing meaningful, accessible and re-usable data to generate value for stakeholders requires data-driven and user-driven approaches – with open government data laws and regulations that oblige public sector organisations to publish and share their data in complete, updated and appropriate formats and strong user engagement in the open data ecosystem.

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