

Open Government Data Strategies in South Korea and Japan: A Comparative Case Analysis

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Abstract

Open Government Data (OGD) has become an increasingly important asset for public administrations and governments around the globe. Technologically advanced nations such as South Korea and Japan aim to make government data more open, available, and usable for anyone to unlock its full potential. In this paper, we utilize comparative case analysis methodology to compare and discuss both countries' current governance structure, open government approach and open government data strategies. The findings indicate that South Korea faces arising privacy and data protection concerns, while at the same time needing to improve the management and value of its datasets. In contrast, Japan needs to focus on developing more structured implementation strategies similar to the Korean action plan. It also needs to increase the availability and openness of its OGD. The research at hand is a starting point to gather a more systematic overview of the progress of OGD in different countries. Future research can expand upon these findings and identify best practices and common challenges amongst leading countries in the field of OGD.

Keywords

Open Government, Open Data, Open Government Data, Comparative Case Analysis

1. Introduction

With the ongoing digital transformation in the public sector, Open Government Data (OGD) has become increasingly important. In the last years, technologically advanced nations like Japan and South Korea invested in several OGD initiatives to reap benefits such as higher government transparency and increased data value by increasing the availability and openness of public data [1], [2]. OGD is based on the understanding of open data. It requires that government data must be made open, accessible, and reusable in a machine-readable format for anyone, and it must allow republications without complicated legal restrictions [1], [3]. Japan's OGD approach focuses on specific concepts such as disaster risk management [4] and public trust [5], whereas South Korea's approach supplements an already vast Open Data landscape [6], [7]. Furthermore, Japan currently aims to increase the availability and openness of OGD while continuing to expand their Open Data portals, whereas South Korea is currently concerned with data protection and privacy issues as well as increasing the value of its OGD landscape [8]. This paper investigates the status quo and differences between South Korea and Japan in terms of their governance structure, Open Government approach and OGD strategy (chapters 4 and 5) by utilizing comparative case analysis [9] (cf. chapter 2). The underlying research question is: "What is the current status regarding Open Government Data strategies and implementations in South Korea and Japan, and which practices can both countries learn from each other to improve their own OGD strategy?". To answer this research question, theoretical foundations are developed in chapter 3 along a systematic literature analysis, combining [10] and [11] as outlined in chapter 2. Chapter 4 introduces

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the case studies, while the results of the comparison are synthesized and lessons are formulated in chapter 5. Chapter 6 concludes with reflections on the research conducted.

2. Methodical Foundations

The scientific knowledge base is established through a literature analysis according to Webster and Watson [10] and the methodology of Rowley and Slack [11]. The scientific literature is searched through search engines such as google scholar and literature databases like IEEE, using the search strings “Public Governance”, “Governance Structure”, “Open Government”, “Open Government Strategy”, “Open Government Data”, “Open Data Strategy” and “Open Government Data portals” and combining them with the countries “Japan” and “Korea”. Literature is identified as relevant through chronologically scanning the title, abstract, conclusion and, if relevant, the whole paper. Additional literature is searched by scanning the references of relevant literature through forward and backward search [11]. The articles are then mapped to the corresponding concepts of this paper, such as Open Government and Open Government Data, and additionally supplemented by grey literature such as government websites, laws and third-party reports [10]. In total, 113 publications are scanned, of which 52 are initially considered, and 41 are ultimately identified as relevant and thus referenced in this paper. For the comparative case analysis, Bartlett and Vavrus [9] is utilized to systematically compare the current public governance structure, Open Government approach and Open Data strategies in the countries of South Korea and Japan (see chapter 4). Applying this methodology enables the comparison of both countries’ governance structures and OGD strategies as well as their individual interdependencies between different actors and artifacts by applying the proposed tracing approach [9]. The public governance structures of both countries are illustrated by adopting the governance framework of [12], which groups relevant actors of public governance into the governance levels: political, strategic, tactical, operational, and summarizes their governance artifacts as well as their interdependencies among each other. The main goal of this comparative case analysis is to highlight the key differences and best practices within both countries’ OGD strategies to find out which lessons both countries can learn from each other (see chapter 5).

3. Theoretical Foundation

Along the systematic literature analysis introduced before, different related concepts of digital transformation - E-Government, Public Governance, Open Government, and Open Government Data (OGD) - are studied. A fundamental concept of this paper is digitization of the public sector, which is according to Gideon the application of ICT solutions to improve accessibility and efficiency of public organizations. It is a critical factor in promoting the effectiveness of public administrations and the preservation of democratic values and mechanisms [13]. In a similar way, Chun et al. describe electronic government (E-Government, also known as digital government) as a “*form of public organization that supports and redefines the existing and new information, communication and transaction-related interactions with stakeholders (...) through ICT, especially through the Internet and Web technologies, with the purpose of improving government performance and processes*” [14]. In line with [15], we use the terms electronic government and digital government synonymously; however, we also argue that electronic government is a term more frequently used in the context of government strategies and implementations, while digital government is now more commonly used in recent academic literature. Public governance is another concept that is essential in the context of this paper. Boivard and Löffler define public governance as “*the way in which stakeholders interact with each other in order to influence the outcomes of public policies*”. Additionally, they define good public governance as “*the negotiation by all the stakeholders in an issue (or area) of improved public policy outcomes and agreed governance principles, which are both implemented and regularly evaluated by all stakeholders*” [16]. Scholars

have discussed principles of good governance in scientific literature [16], [17], [18]. [17] argue strong evidence for universal recognition of the good governance principles set by the United Nations Development Program (UNDP) [19]. Open Government is a term coined during the Obama presidency in the US more than a decade ago. It is grounded in the understanding of E-Government [20]. In 2009, the Obama administration has announced a transparency strategy that enforces traditional principles of good governance for the US government². In the same year, the Office of Management and Budget releases the Open Government Directive³, which state four core principles of good governance – transparency, accountability, participation, and collaboration – to form the foundation of a government rich in openness [21]. Open Government is a core concept studied in this paper, building the unit of analysis in the comparative case analysis of South Korea’s and Japan’s current high-level strategies (see chapters 4.1.2 and 4.2.2). [20] argue that Open Government is motivated by technologies, which enable new government services based on Open Data, and new government services and social engagement based on Open Government Data (OGD). Attard et al. argue three main reasons to publicly release government data: i) An increase in transparency, which happens e.g. by allowing stakeholders to not only access, but also use, reuse and distribute data. This, inter alia, leads to a considerable increase in social control. ii) All government data has an innate commercial and social value that is different from its originally envisaged value. Publishing this data therefore allows for stakeholders to innovate and create new services – beyond the envisioned purpose of the data. iii) OGD allows citizens to actively participate in government decision and policy making. OGD initiatives and portals, in turn, serve to thoroughly inform citizens for these decisions [23]. The most notable initiative for Open Government is the Open Government Partnership (OGP), founded in 2011 with now over 70 countries participating in the partnership⁴. OGP promotes “*transparent, participatory, inclusive and accountable governance*” and calls its members to create two-year action plans with concrete steps, so called “commitments” that are later reviewed within the partnership⁵. The OGP’s foundation is its Open Government Declaration that includes a set of principles, norms and standards that all OGP members need to endorse⁶. OGP is a relevant organization in our research, as South Korea’s governance structure and Open Government strategy are heavily shaped by its OGP membership and current national action plan (see chapters 4.1.1 and 4.1.2). Beyond the OGP, several Open Data indices rank and evaluate countries based on factors like OGD initiatives, data availability and more [23], [24]. One of these indices is the OECD OURdata index that benchmarks the design and implementation of the countries’ Open Data policies based on openness, usefulness, and reusability⁷. We therefore use OURdata benchmark rankings as an additional performance indicator for the comparative case analysis (see chapters 4 and 5).

4. Governance structures and Open Government assets of the case studies

The Governance structures, Open Government approach and OGD strategies of South Korea and Japan are outlined in this chapter. The comparative case analysis is described in chapter 5.

4.1. South Korea

South Korea currently has a population of 51,4 million people⁸. The current President of Korea is Yoon Suk Yeol. As a leader of the State Council and therefore the executive branch, the President is the country’s main executive force. The legislative branch is represented by the National Assembly, which

² <https://obamawhitehouse.archives.gov/open/about> last access 09.01.2023

³ <https://obamawhitehouse.archives.gov/open/documents/open-government-directive> last access 09.01.2023

⁴ <https://www.opengovpartnership.org/about/> last access 09.01.2023

⁵ <https://www.opengovpartnership.org/about/approach/> last access 09.01.2023

⁶ <https://www.opengovpartnership.org/process/joining-ogp/open-government-declaration> last access 09.01.2023

⁷ <https://www.oecd.org/gov/digital-government/policy-paper-ourdata-index-2019.htm> last access 10.02.2023

⁸ <https://www.worldometers.info/world-population/south-korea-population/> last access 09.01.2023

consists of 253 members that are elected in local constituencies and 47 members that are elected through proportional representation. The Supreme Court, consisting of a Supreme Court Chief Justice and several Supreme Court Justices, is South Korea’s main judiciary power⁹. Additionally, a number of different ministries, committees and institutions within the Republic of Korea handle different political tasks and responsibilities¹⁰. In this research, we focus on those related to Open Government and OGD.

4.1.1. Public Governance Structure

South Korea has different programs, strategies and frameworks in place that shape its public governance [7], [25], [26], [27], [28]. Most notably, South Korea has been a member of the Open Government Partnership (OGP) since 2011¹¹. Consequently, it formulates two-year action plans that influence its public governance and Open Government functions (see chapter 3). Currently, the 5th national action plan, 2021 to 2023, is in place and offers concrete guidance on different levels of governance, ranging from the political to the operational level. Additionally, the Presidential Committee on the Fourth Industrial Revolution (PCFIR), founded by former President Moon Jae-In in 2017 to address issues related to new advancements such as AI and big data, is a presidential coordination body that is responsible for coordinating policies and strategies across different Korean ministries¹² [26]. Another key player for the development of public governance is the Ministry of the Interior and Safety (MOIS). It is responsible for developing and maintaining the Government Innovation Master Plan¹³ [29], the E-Government Standard Framework (eGovFrame)¹⁴ and several policies on digital government and public data¹⁵. Based on Korea’s current action plan, different civil-sector divisions are responsible for committing to concrete goals in cooperation with smaller ministries on operational & tactical level [28].

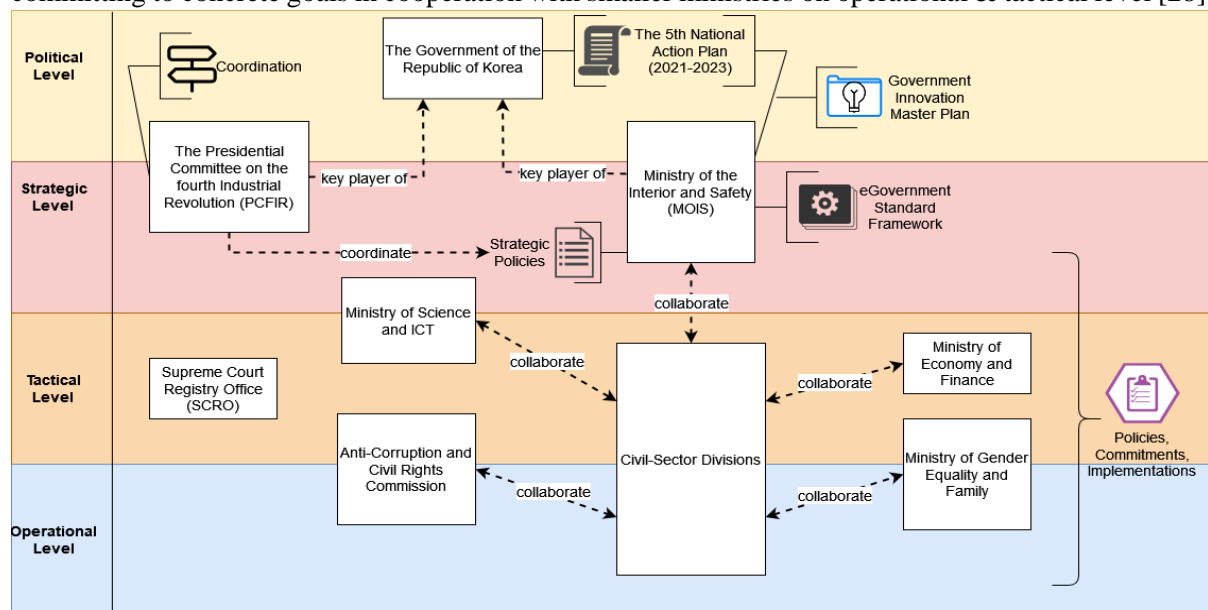


Figure 1: Governance Structure of South Korea based on the template in [30]

To visualize South Korea’s governance structure, we adopt the governance framework from [30], which displays four different levels at which an actor can perform governance functions, while also enabling the definition of roles and relationships between these actors. Additionally, relevant policy initiatives and programs are highlighted within the model. Figure 1 shows a simplified version of South Korea’s

⁹ <https://www.koreanculture.org/korea-information-government> last access 09.01.2023

¹⁰ https://www.mofa.go.kr/eng/wpge/m_5810/contents.do last access: 09.01.2023

¹¹ <https://www.opengovpartnership.org/members/republic-of-korea/> last access 09.01.2023

¹² <https://stip.oecd.org/stip/interactive-dashboards/policy-initiatives/2021%2Fdata%2FpolicyInitiatives%2F16688> last access 09.01.2023

¹³ <https://www.mois.go.kr/eng/sub/a03/GovernmentInnovation/screen.do> last access 09.01.2023

¹⁴ <https://www.egovframe.go.kr/eng/sub.do?menuNo=7> last access 09.01.2023

¹⁵ <https://www.mois.go.kr/eng/sub/a02/functions/screen.do> last access 09.01.2023

governance structure based on its public governance and Open Government strategies. On the political level, the Government and the MOIS collaborate to develop and maintain the two-yearly national action plans and the Government Innovation Master Plan. PCFIR is responsible for coordinating all plans, frameworks, and policies on the political and strategic levels. On the strategic level, MOIS releases several strategic policies and maintains the eGovFrame [28]. At the core of the tactical and operational level are the many different civil-sector divisions, which collaborate with different ministries to work on commitments from the action plan and develop solutions for them. A limitation of this model is that not all different civil-sector divisions and Ministries are depicted; only those which were repeatedly mentioned within the 5th National Action Plan are included in this model. The last remaining actor in the model is the Supreme Court Registry Office (SCRO)¹⁶, which was among the first actors in South Korea to implement e-government practices. It is a representative case of how Korean government bodies may strategically or tactically innovate their own governance functions [29].

4.1.2. Open Government Strategy

South Korea currently employs two key Open Government strategy plans: First, the 5th National Action Plan that has been active since 2021 and contains a total of 16 commitments to Open Government. The three main goals of the action plan are to strengthen civic space and public participation, to tackle corruption and to promote inclusive digital innovation. Each of these goals is broken down into several concrete commitments that require a government ministry and a civil sector division to collaborate to work towards completing the commitment and implementing a concrete solution. Each commitment includes descriptions of the problem it addresses, the contents of the commitment and the planned means to solve the problem. Additionally, there are associated milestone activities with verifiable deliverables and a start and end date [28]. In June 2022, the Independent Reporting Mechanism (IRM) released a review of Korea's 5th National Action Plan that analyzes how well the action plan can meet these milestones. In the review, the IRM highlights those previous commitments to fields such as Open Data, which have been carried over from the last action plan, and new commitments such as social inclusion and budgeting. The review acknowledges the action plan's compliance with the OGP requirements and classifies 14 commitments as modest and 2 commitments as substantial regarding their overall potential [31]. Second, South Korea developed the Government Innovation Master Plan in 2018. It consists of seven key commitments towards pursuing Open Government in partnership with the civil society and aims to make the government more transparent and accountable¹⁷. The plan itself is partially based on the results of an open online poll from a Korean government website, in which Korean citizens wished for improving the quality of people's live and realizing social value, removing outdated practices and work towards more participation and cooperation. The Government Innovation Master Plan also contains the Government Innovation Framework with three major strategies, partially rooted within the survey results, towards improving Open Government¹⁸. Additionally, a list of twenty-one government innovation projects are allocated to the seven commitments [29].

4.1.3. Open Government Data Strategy

In South Korea, the Ministry of the Interior and Safety (MOIS) and the National Information Society Agency (NIA) are responsible for Open Data policies. Additionally, the Open Data Strategy Council¹⁹ is responsible for strategic Open Government Data (OGD) releases as well as for approving MOIS' and NIA's Open Data policies and monitoring their implementation. These policies revolve around the Open Data Master Plan, which is updated every three years and supported by the Open Data Implemen-

¹⁶ [https://uk.practicallaw.thomsonreuters.com/4-376-3616?transitionType=Default&contextData=\(sc.Default\)](https://uk.practicallaw.thomsonreuters.com/4-376-3616?transitionType=Default&contextData=(sc.Default)) last access 09.01.2023

¹⁷ <https://www.mois.go.kr/eng/sub/a03/GovernmentInnovation/screen.do> last access 09.01.2023

¹⁸ <https://www.pipc.go.kr/eng/user/lgp/pbp/mlp/masterPlan.do> last access: 24.05.2023

¹⁹ <https://www.odsc.go.kr/eng> last access 09.01.2023

tation Plan²⁰ and the Open Data Management Guidelines [32]. According to Nam, several programs exist in cooperation with the private sector (e.g. Korea Data 119 from PCFIR), which aim to promote good Open Data practices in closer collaboration with the private sector. Nam argues that there is a vast number of different policies, programs and implementations, which are becoming increasingly complex to manage because of an underlying legal framework of contradicting laws; this framework consists of the Act on Intelligent Informatization, the Personal Information Protection Act, the Act on Promotion of the Provision and Use of Public Data and additional Open Data Laws²¹ [33]. South Korea also runs several OGD-portals with the central one being www.data.go.kr. It contains public data from all Korean public sector organizations²² and currently offers around 77.500 datasets with the additional possibility to even request data sets that are not yet available through a standardized online process²³. South Korea has a vast landscape of different OGD policies and implementations. Although there are some points of critique for South Korea's overall OGD approach, most notably the complex legal framework and a non-optimized Open Data ecosystem of published data sets [33], the country still ranks first overall in the OECD's 2019 Index on Open, Useful and Re-usable data (OURdata) with a score of 0.93 out of 1 [34]. The OECD argues that South Korea has a very high data availability and government support for data reuse but could still improve its data accessibility by improving its central data portal²⁴ with higher openness and more citizen participation in terms of providing data and feedback [32], thus matching some of Nam's main data ecosystem criticisms [33]. The current Open Data Master Plan is one of the main drivers for South Korea's overall OGD Strategy. It is established by the Personal Information Protection Commission (PIPC) and focuses on the improved protection of personal information rather than just increasing the number of initiatives and projects on OGD.²⁵ It aims to implement "Privacy by Design" as a supporting principle for South Korea's "Open by Design" approach to OGD [28], [33]. According to the PIPC, the current Open Data Master Plan consists of three main strategies with a total of ten tasks to achieve the previously described vision of improved personal information protection for a "Reliable [Korean] Data Powerhouse". The plan aims for more secure protection of personal information, handier and safer use of personal information, while simultaneously increasing its value and a more robust and fairer balance between protection and use of information [8]. To sum up, the current Open Data Master Plan appears to be an information protection and privacy strategy. South Korea wants to implement "Privacy by Design" as a good Open Data governance principle in the upcoming years. The MOIS and NIA may use the ten tasks to design and formulate new Open Data policies that shift the past focus of increasing the already vast Korean OGD ecosystem [33], [35] to increasing the privacy, protection and value of South Korea's past, present and future datasets.

4.2. Japan

Japan has a population of 125.5 million people²⁶ and is a parliamentary monarchy. The current emperor is Hironomiya Naruhito and although he has no political power, he performs state functions of a formal and ceremonial nature like receiving royals, head of states or foreign ambassadors. The political power is divided between the Kokkai (National Assembly), the cabinet (Government) [36] (both legislative power) and the public entities with executive power²⁷, which include 47 prefectures that are subdivided

²⁰ <https://www.pipc.go.kr/eng/user/lgp/pbp/mlp/masterPlan.do> last access 09.01.2023

²¹ www.law.go.kr/LSW/eng/engLsSc.do?menuId=1&query=%EA%B3%B5%EA%B3%B5%EB%8D%B0%EC%9D%B4%ED%84%B0%EB%B2%95&x=0&y=0#liBgcolor0 last access 09.01.2023

²² https://www.data.go.kr/en/ugs/selectPortalInfoView.do#portal_info last access 19.01.2023

²³ <https://www.data.go.kr/en/tcs/dor/insertDataOfferReqstProcssView.do> last access 19.01.2023

²⁴ <https://www.data.go.kr/en/index.do> last access 09.01.2023

²⁵ <https://www.pipc.go.kr/eng/user/lgp/pbp/mlp/masterPlan.do> last access 16.01.2023

²⁶ <https://data.oecd.org/japan.htm> last access 28.05.2023

²⁷ https://japan.kantei.go.jp/constitution_and_government_of_japan/fundamental_e.html last access 18.06.2023

into cities, towns and villages.²⁸ The parliament is a bicameral system. Since the diet²⁹ after World War 2, the citizens directly elect the house of representatives and the house of councilors. Those two houses introduce draft laws and pass the legislation to the cabinet. The Judiciary consists of the supreme court, eight high courts, 50 family courts, 50 district courts and 438 summary courts [37]. There are further ministries and agencies³⁰ for different tasks of responsibility. In this paper, we focus on the Digital Agency, Ministry of Internal Affairs, Ministry of Economic, Trade and Industry (METI), IT strategic headquarters, national institute of information and communications technology, national security council and the cybersecurity strategic headquarter.

4.2.1. Public Governance Structure

Figure 2 depicts the structure and collaboration of the actors of Japan’s governance structure based on its public governance and Open Government strategies. The diagram adopts the same concept (see [30]) as introduced for Figure 1 in section 4.1.1, allocating the different actors to the four governance levels.

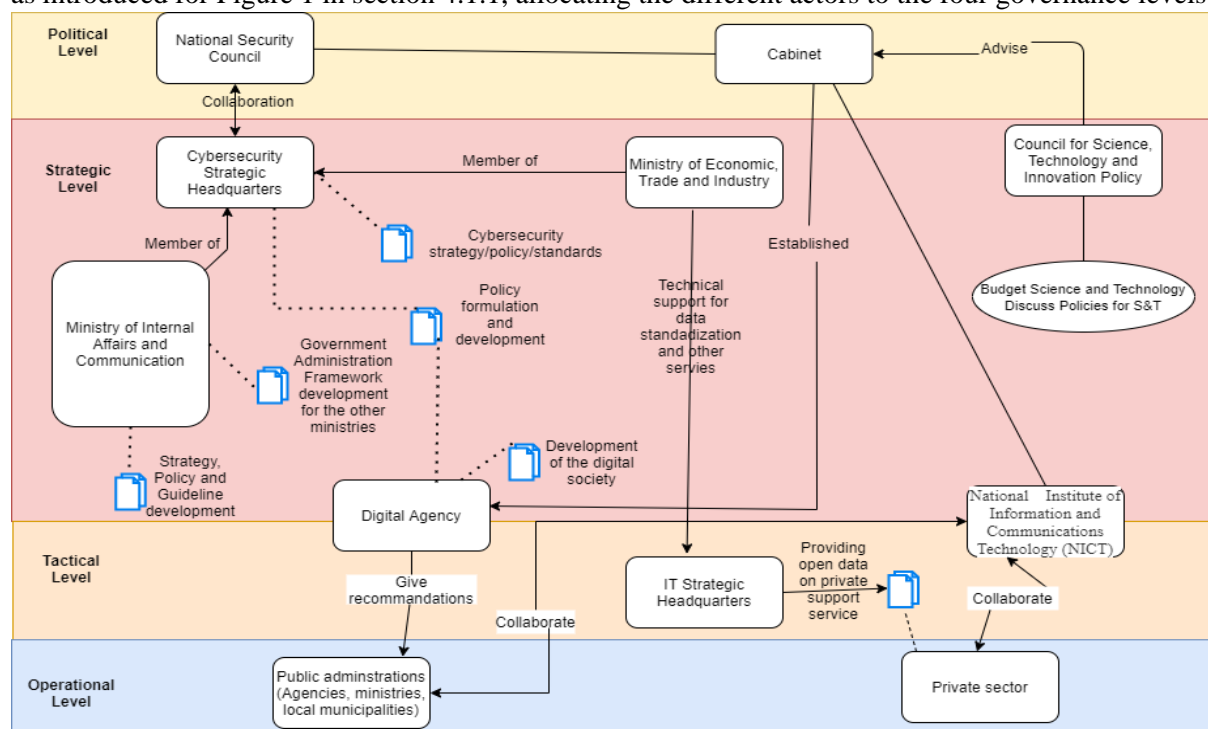


Figure 2: Governance Structure of Japan

The cabinet has the greatest political power. It covers the ministers responsible for and in charge of the mentioned institutions, of which all are present in the cabinet. The ministry of internal affairs and communication (MIC) is responsible for the development of the government administration framework for the other ministries. This includes incorporated public entities³¹, general rules to administrative institutions³², the office reform³³ and international relations³⁴. The MIC and the METI are members of the cybersecurity strategic headquarter and participate in the cybersecurity strategy, policy, and standard development. The Cybersecurity strategic headquarter collaborates with the national security council and furthermore develops policies together with the digital agency. Besides that, the METI

²⁸ <https://www.britannica.com/place/Japan/Government-and-society> last access 18.06.2023

²⁹ <https://www.sangiin.go.jp/eng/guide/history/index.htm> last access 28.05.2023

³⁰ <https://www.japan.go.jp/directory/index.html#cabinet> last access 28.05.2023

³¹ <https://www.soumu.go.jp/english/amb/incorporated.html> last access 28.05.2023

³² <https://www.soumu.go.jp/english/amb/general.html> last access 28.05.2023

³³ <https://www.soumu.go.jp/english/amb/office.html> last access 28.05.2023

³⁴ <https://www.soumu.go.jp/english/amb/international.html> last access 28.05.2023

provides technical support for the IT strategic headquarters in data standardization and other services. Additionally, the IT strategic headquarters provide Open Data on private support services to the private sector. The National Institute for Information and Communications Technology (NICT), is a research institute that collaborates with the public administration, the private sector, and international organizations to develop the newest ICT technologies for Japan. Finally, the Council for Science, Technology, and Innovation (STI) advises the cabinet and develops innovation strategies, STI plans and more³⁵, while also discussing policies for Science and Technology.

4.2.2. Open Government Strategy

The Declaration to be the World's Most Advanced IT Nation: Basic Plan for the Advancement of Public and Private Sector Data Utilization³⁶, published in 2017 by the IT Strategic Headquarters, includes two parts to develop the society in Japan. The first part, "Entering a new phase in Japan's IT strategy" inspects on the one hand the state of the art in IT and defines the usage of technologies. On the other hand, it defines initiatives of central and local government like information system reforms, promoting the adoption of cloud functions and promoting Open Data. The basic plan, integrated into the first part, formulates eight priority fields: (1) Digital Government; (2) Healthcare, Medical, and Nursing care; (3) Tourism; (4) Finance; (5) Agriculture, Forestry, and Fisheries; (6) Manufacturing; (7) Infrastructure, Disaster Prevention, and Disaster Mitigation; and (8) Mobility³⁷. The data utilization in these fields is expected to create benefits for citizens. The second part of the basic plan defines concrete measures and tasks to reach the goal of addressing the eight priority fields. Article 10, for example, describes the principles of online applications for administrative procedures in healthcare and promotes one-stop services for nursing care. Articles 11, 12 and 15 define Open Data utilization and cross sectoral linkages between the public administration and the private sector. Article 19 is more strategic and aims to achieve consistency between central and local government measures in the form of templates for local plan formulation. The overall goal of the open government strategy is to become the most advanced IT nation and to overcome difficulties faced by the changing population.

4.2.3. Open Government Data Strategy

Japan has developed different plans, programs^{38, 39} [38] and a national data strategy [39] for the future of Japan. The Open Data Charter Action Plan [40] has been established already in 2013. Since the update of 2023 is not accessible, we consider the action plan from 2013 in this paper.⁴⁰ On 4th July 2012, the Open Government Data Strategy was proposed and adopted by the IT Strategic Headquarters as the basis for the Open Data Charter Action Plan. According to this plan, the central government has the authority to direct the ministries but does not have the authority to direct the local governments. So, the local actors release data at their own discretion [40]. To engage with the private sector, the Japanese government has established the E-Government Open Data Executive Meeting with experts of the private sector. Besides that, the government participates in regional hackathons to facilitate the exchange of opinions with users and developers [40]. The participation in surveys and studies conducted by OECD or other organizations is expected to accelerate Open Data. Japan is ranked fourth in the OECD's OURdata index [34]. The action plan consists of six commitments: (1) publication of key datasets, (2) publication of high value data sets, (3) publishing on a national Open Data portal, (4) public

³⁵ <https://www8.cao.go.jp/cstp/english/index.html> last access 28.05.2023

³⁶ https://japan.kantei.go.jp/policy/it/2017/20170530_full.pdf last access 28.05.2023

³⁷ https://japan.kantei.go.jp/policy/it/2017/20170530_summary.pdf last access 28.05.2023

³⁸ https://www.ismap.go.jp/csm?id=kb_article_view&sysparm_article=KB0010301&sys_kb_id=4d06b8701b4f011013a78665cc4bcb2&spa=1 last access 28.05.2023

³⁹ https://www.digital.go.jp/assets/contents/node/basic_page/field_ref_resources/0f321c23-517f-439e-9076-5804f0a24b59/fdefa215/20220722_en_priority_summary_01.pdf last access 28.05.2023

⁴⁰ The updated plan from 2023 is not accessible due to a broken URL. https://data.e-gov.go.jp/data/en/dataset/digi_20220315_0036/resource/18424a7b-5384-42cd-a888-feeaf01b2942?inner span=True. The Japanese government still refers to the one of 2013: <https://japan.kantei.go.jp/policy/it/20120704/text.pdf> last access 28.05.2023

engagement, (5) sharing information on experiences relating to operations using Open Data and (6) specification of the direction of Open Data measures in Japan [40]. Many of these commitments have been fulfilled and the portals are structured as follows: The Japanese government provides Open Data via a data portal⁴¹. Currently, more than 22.000 datasets are available, provided by 23 organizations and searchable through different filters. The portal also provides a section for communication and a technical section for developers. The IT Strategic Headquarters, MIC and METI standardize data on support measures provided by the respective ministries and agencies, and they provide it as Open Data⁴². They also provide a website⁴³ for the navigation of information on support measures. E-Stat⁴⁴ provides all statistics from the ministries with a respective filtering functionality, which can either be browsed through or visualized as graphs. The government also provides a developer section with machine readable formats that allow everyone to further use and reuse the data. A schedule informs about the upcoming data releases. The Public Transportation Open Data Center⁴⁵ provides 147 datasets in the categories of railway, bus, airline, ferry and bike sharing, and a developer and stakeholder section. Public transportation data shall be expanded in future in specific cities.

5. Comparative Analysis of South Korea's and Japan's OGD Approach

The comparative case analysis (cf. chapter 2) and synthesis of both countries puts focus on revealing the similarities, differences and lessons learnt in both countries' approaches to OGD within their respective governance structure and Open Government approach (table 1). While South Korea is a member of the Open Government Partnership (OGP) since 2011, Japan relies on a rather solitary approach. This leads to some notable differences in both countries' strategies. Although both countries share a somewhat similar high-level strategy (Government Innovation Master Plan for South Korea and Declaration to be the World's Most Advanced IT Nation for Japan), South Korea's OGP membership obliges the development of biennial action plans that define concrete commitments towards their high-level strategic goals. These commitments are assigned to specific, concerned stakeholders from the government and the civil sector and range from the strategic level down to the tactical and operational levels. Japan does not have a strategic plan or policy that match the meticulousness of South Korea's action plans. Thus, Japan somehow lacks structured definitions of how certain strategic goals may be achieved through the collaborative work of specific stakeholders. Japan's high-level strategies do not match the clear structure and timeline that South Korea's action plan provides. This does not imply that Japan's high-level approach is poorly designed or executed; Japan maintains close relationships between the public and private sector and has successfully implemented many OGD initiatives and policies [34]. The main lesson that Japan may learn from South Korea here, though, is that concrete and concise strategic plans with well-defined steps, structures and timelines can contribute to become even more successful when advancing in the field of Open Government and Open Government Data. In terms of current strategies and policies on OGD, South Korea's Open Data Master Plan is concerned with data privacy, personal information protection and the increase of Open Data value, whereas Japan focuses on the provision of datasets from the local and central public administration. Both countries currently need to concentrate on different goals that are rooted within their different circumstances. South Korea has a vast landscape of usable and readily available Open Data that needs to be more carefully regulated for data protection and privacy concerns, while Japan aims to increase the availability of Open Data in an environment of sustainable development. This is further substantiated when comparing both countries' approach to Open Data portals. South Korea employs a centralized data portal that contains almost eighty thousand datasets, whereas Japan has several smaller Open Data portals for different purposes. The issues concerning South Korea's centralized database lie within the challenge to find specific information in this vast landscape of Open Datasets, while specific datasets are well maintained and easy to find in the respective portal in Japan, although it can be challenging to

⁴¹ <https://www.data.go.jp> last access 28.05.2023

⁴² https://docs.google.com/spreadsheets/d/1R1tS27iOfJe0fryN6mc_0Sz6lKE3846_jWEeVlz9cpc/edit#gid=0 last access 28.05.2023

⁴³ <https://seido-navi.mirasapo-plus.go.jp/catalogs> last access 28.05.2023

⁴⁴ <https://www.e-stat.go.jp/en> last access 28.05.2023

⁴⁵ <https://www.odpt.org/en/> last access 28.05.2023

find the right portal. Consequently, both countries are currently, in terms of Open Data portals, concerned with similar issues that also arise within their respective OGD strategies.

Table 1:

Comparison of South Korea and Japan with regard to Open Government Data Strategies

Cat.	South Korea	Japan	Synthesis
Plans & Strategies	Government Innovation Master Plan	Declaration to be the World's Most Advanced IT Nation: Basic Plan for the Advancement of Public and Private Sector Data Utilization	Similar high-level document on a political/strategic level
	5th national action plan (2021-2023)	///	Japan does not have a national action plan or a comparable document
	4th Korean Open Data Master Plan (Privacy by Design)	Open Data Charter Action Plan	SK focuses on data protection, privacy and increasing data value
	Open Data Policies on data security	Cybersecurity strategy	Japan maintains more Open Data platforms and aims to increase data openness and availability
			SK policies aim for more privacy and information protection
Operational implementations	Centralized Open Data Portal data.go.kr: 77.500 datasets	Open Data Portal data.go.jp: over 22.000 datasets	SK has got one central database, but some datasets are not well maintained
		E-Stat: ~12.000 datasets	Japan has several databases with different focuses, but good structure and publish schedule
		Association for Open Data of Public Transport 138 datasets	
	Member of OGP since 2011, with National Action Plans	No OGD Member	Japan aims to be the most advanced IT Nation, but is clearly lacking a more structured Open Government and OGD approach
	Large participation of the Civil Sector and Citizens	Fostering Civil Sector Participation	Similar, but SK is somewhat dependent on the commitments within the action plan
Japan maintains different committees, executive meetings, and engagements w. private sector			

To sum up, South Korea has need to solve the arising privacy and data protection concerns, while simultaneously improving the management and value of its OGD. Japan has need to focus on i) developing a more concrete strategy for implementation such as an action plan by either joining the OGP or creating a similar document from scratch, ii) increasing availability and openness of their OGD and iii) maintaining a central web portal with an overview of all Open Data portals.

6. Conclusion

This paper compares South Korea and Japan in terms of public governance, Open Government and Open Government Data, and identifies good practices that both countries can learn from each other. To answer the research question introduced in chapter 1, a literature analysis builds the scientific knowledge base. A comparative case analysis methodology is applied to analyze both countries and to synthesize the comparison. South Korea is a member of OGP and a leading country in terms of OGD initiatives. It ranks first on the OECD OURdata index [34]. It currently follows highly structured Open Government and Open Data strategies and is concerned with governing a vast OGD landscape that requires the handling of arising privacy and data protection concerns while simultaneously improving the management and value of OGD. Japan is also one of the leading OGD countries and ranks fourth on the OECD OURdata index [34]. In contrast to South Korea, Japan pursues a solitary approach to both Open Government and Open Data without being a member of the OGP. While Japan is also successful within their solitary approach, it is clearly missing a highly structured implementation

strategy like the South Korean action plan that provides well-defined steps, affiliations, structures, and timelines. South Korea maintains one centralized Open Data portal for all datasets (although some datasets are not well maintained and challenging to find). Japan misses a centralized overview for its different types of Open Data portals and needs to increase the availability of its government data by publishing more public datasets. Thus, South Korea could improve the maintenance of its existing datasets while Japan should investigate a more centralized approach for its data portals. The main limitation of this paper is the limited scope of synthesizing between just South Korea and Japan. Whereas many findings such as both countries' high civic sector engagement, South Korea's structured approach to build its OGD landscape and the different challenges regarding Open Data portals are relevant for other countries world-wide, future research should identify and synthesize best practices and common challenges amongst leading countries in the field of OGD. This would enable other nations to prepare and adjust their own OGD strategies and implementations in accordance with the identified lessons. Future research should also evaluate the impact the availability and actual usage of OGD has on a countries' businesses, citizens, and their relationship with public authorities.

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