Chapter 5

Policy Issues in a Data-driven Society:

A Perspective from Japan

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Chapter 5
Policy Issues in a Data-driven Society: A Perspective from Japan

Yasuhiko Taniwaki

1. Introduction

This chapter provides an overview of the state of digital policy, especially with regard to the contemporary data-driven society from the perspective of Japan. This is based on two recent digital strategy documents, the Priority Plan for the Realization of a Digital Society (approved by the Cabinet in June 2023),[1] and the Comprehensive Data Strategy formulated in June 2021, which is part of the priority plan.

The priority plan clarifies Japan's national data strategy, asserting that 'a consistent data strategy from data development to knowledge creation and AI [artificial intelligence] utilisation is necessary to realise an environment in which diverse, high-quality, and sufficient amounts of data can be easily, safely, and reliably used, and to maintain and improve Japan's international competitiveness whilst solving social issues and cooperating with the rest of the world.'

Based on this recognition, this chapter summarises the concept of a data-driven society and discusses a specific policy menu from the three perspectives of volume, quality, and speed of data flow as a policy agenda for realising a data-driven society.

2. The Data-driven Society

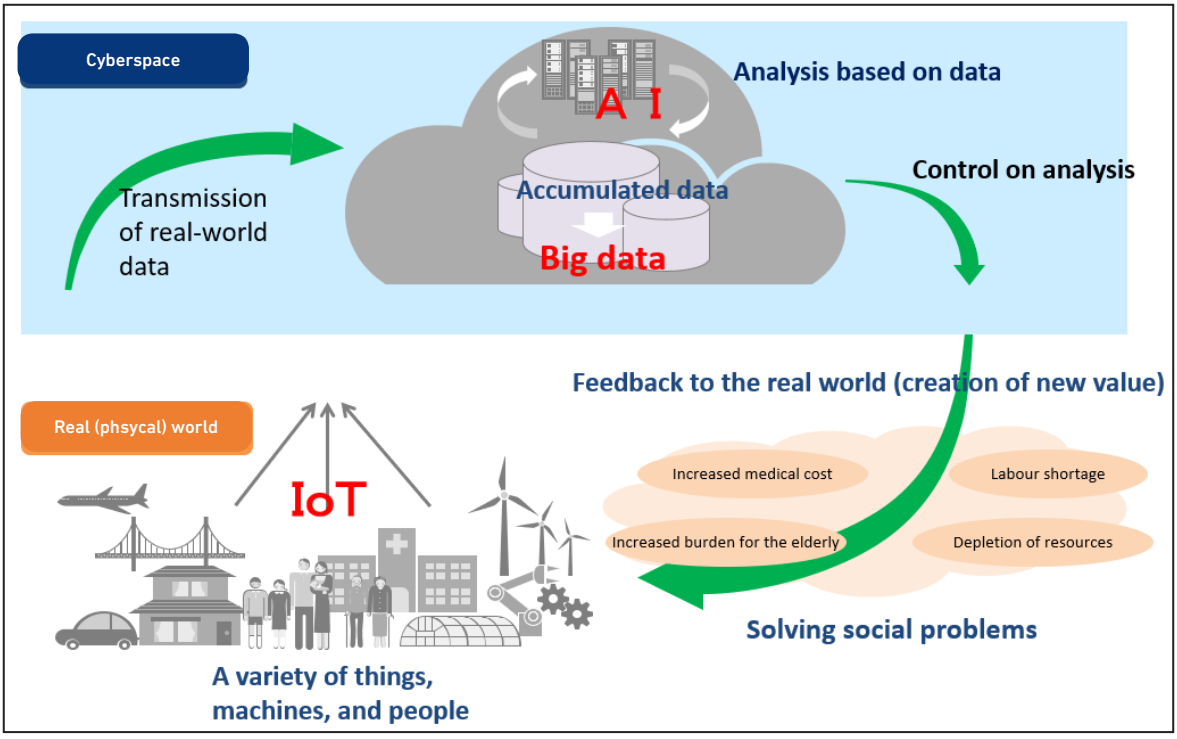
2.1. The Concept of a Data-driven Society

When implementing digital technologies into a socioeconomic system, it is first necessary to confirm the purpose. The greatest impact of digital technology on the socioeconomic system is that it enables collaboration beyond the boundaries of existing business categories because there are no physical constraints in cyberspace. Therefore, the use of digital technology is not simply 'digitisation' to improve efficiency and reduce costs of existing businesses, but 'digitalisation' to bring about reform of business models and the creation of new businesses.

[1] https://www.digital.go.jp/assets/contents/node/basic_page/field_ref_resources/bc5a569f-71d0-44d9-b5c9-cc9b59405507/47b4badd/20231228_en_priority_summary_01.pdf

The concept of a data-driven society is illustrated in Figure 5.1. The lower half of this figure shows the real world, and the upper half shows cyberspace. In the real world, a vast and diverse amount of data is collected via Internet of Things (IoT) devices etc. and stored as big data in cyberspace. This big data is analysed by maximising the use of AI, and the analysis results are fed back to society.

Figure 5.1. Data-driven Society



IoT = Internet of Things.

Source: Prepared by the author.

The results of data analysis will be utilised in the development of solutions to deal with various issues faced by society. The status of operation and areas for improvement of such solutions will also be monitored based on the results of data analysis, and the solutions will be upgraded.

Thus, a data-driven society aims to realise a cyber-physical system in which data constantly circulates between society and cyberspace, integrating them and leading to the resolution of issues and the creation of new value in the socioeconomic system.

2.2. Three Transformations Brought about by a Data-driven Society

We identify the following three factors (transformations) brought about by the advent of a data-driven society: individualisation, automation, and optimisation.

2.2.1. Individualisation

The traditional business model entails manufacturing and selling goods. In this case, the value of a good is at its maximum when it is sold, and then it decreases over time. This is the basic concept of 'goods-dominant logic.' With the rapid progress of digital technology, however, the value of digital goods is depleting faster than ever before, and investment costs cannot be recovered solely from the sale of goods. Therefore, it is necessary to shift to 'service-dominant logic', in which companies are in continuous contact with customers to obtain usage data and create added value by individualising services according to user preferences and other factors. As a result, subscription-type services based on 'X as a service,' which shift from 'owning' to 'using,' will account for a larger share of the market, and there will be an increasing tendency to provide individualised services to users by utilising data.

2.2.2. Automation

With the evolution of AI technology, automation, such as autonomous driving of cars and autonomous aviation of drones, is expected to spread rapidly in the future. In such cases, mechanisms such as smart contracts, which automatically execute the contents of contracts without human intervention, are expected to become common, as already implemented by Ethereum, a cryptographic asset that utilises blockchain technology. The automation of such transactions is expected to accelerate the realisation of a data-driven society, as it will enable the automation of data analysis, including the understanding of correlations between different data sets, as well as the linkage of different forms of data through AI.

2.2.3. Optimisation

Through the development of IoT technology and the technological evolution of communication networks, it will become possible to economically collect, store, and analyse data in areas where it has been difficult to collect data in the past. This is expected to make it possible to realise optimisation based on sufficient data analysis, whereas in the past, this was limited to partial optimisation.

For example, optimisation approaches are expected to increase in the future, such as using the IoT to quickly identify damaged areas of roads and bridges and then using more accurate data analysis to compare and consider the degree of damage to determine the priority of repair areas and optimise maintenance to minimise maintenance costs for social infrastructure.

2.3. Need for Policies based on Data Characteristics

In a data-driven society, where data plays a central role in the socioeconomic system, we must pay close attention to the characteristics of data when considering policies that should be pursued in the future. Three typical characteristics of data are zero marginal cost, non-rivalrous, and network effects.

Unlike physical goods, which incur additional cost or marginal cost when an additional unit of physical goods is produced, data has zero marginal cost because it is non-decreasingly used. This characteristic is called non-rivalrous. [2]

In the case of a platformer such as Google, Amazon, Facebook or Apple, for example, when a company that wants to sell something registers on the platform, users will be attracted to the platform by its product lineup. As the number of users increases, the platform becomes more attractive to companies, and the number of registered companies also increases. In this way, the number of users and the number of companies increase in a spiral, creating a snowball synergistic effect or network effect.

The characteristics of such data are very different from those of traditional goods and services and can easily increase the oligopoly of a small number of platform operators in the market, but on the other hand, the current system is not sufficiently equipped to counter the new oligopoly brought about by the intangible asset of data,[3] and there are no institutional arrangements to encourage data distribution. Therefore, for the realisation of a data-driven society, it will be necessary to conduct an agile review of competition laws or antimonopoly acts and improve the data distribution environment simultaneously.

Furthermore, as we move towards a data-driven society, it will be important to establish a mechanism for calculating the value of data as an intangible asset. In addition to analysing the impact of data generation and distribution on the macroeconomy (Cabinet Office, 2023), companies should reflect the value of their data assets in their corporate accounting in the same manner as intellectual property and other intangible assets. In addition, it is important to deepen international cooperation in this field, as such studies need to be conducted on an international scale.

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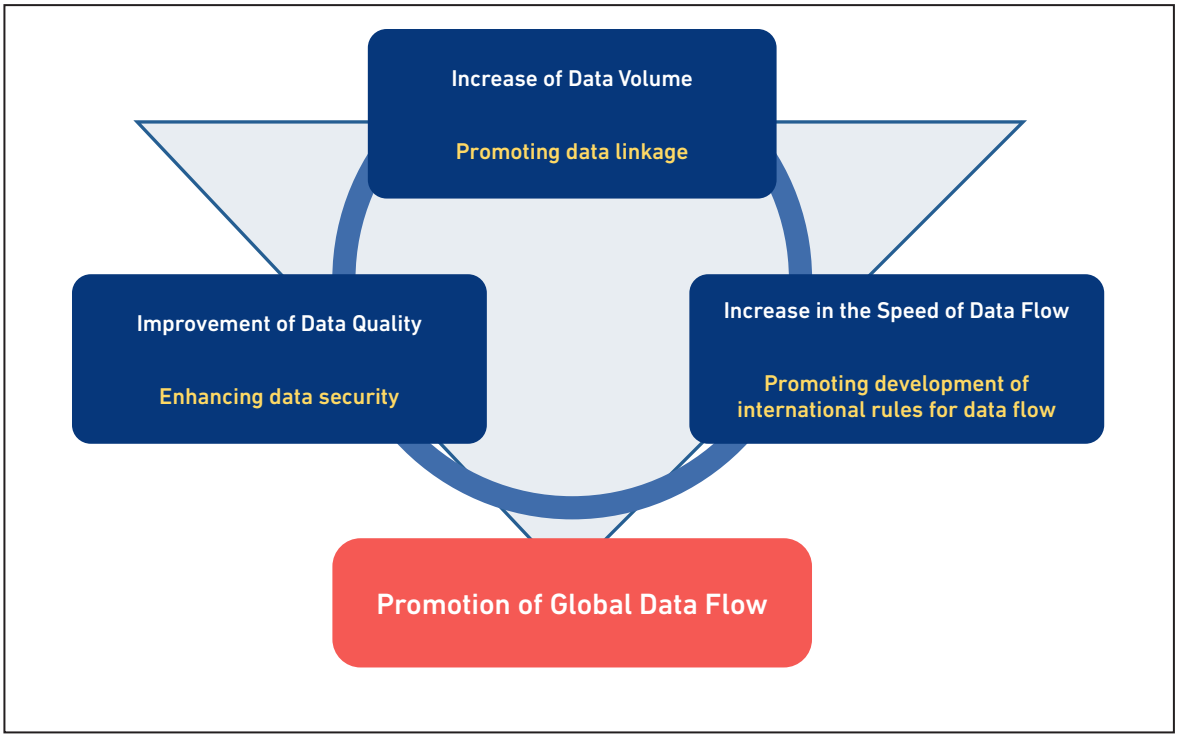
[2] In general, businesses with network effects have diminishing marginal costs, resulting in increased oligopoly in the market. When goods and services are non-rivalrous, meaning that multiple consumers can consume them simultaneously, the marginal cost is not diminishing, but is zero from the beginning, resulting in extremely high oligopoly in the market and a relatively high likelihood that a competitive market will not be established.

[3] It has been pointed out that the concept of 'modified capitalism,' which holds that there is rationality in a certain level of public involvement in the market based on the limitations of the market mechanism, rather than 'neoliberalism,' which maximally respects the functions performed by the conventional market mechanism, is gaining importance.

3 . Policy Agenda for a Data-driven Society

As policies to promote the generation, accumulation, and distribution of data for the realisation of a data-driven society, this chapter classifies data into three elements: data volume, data quality or granularity, and speed of data flow, and examines specific policies to expand the three elements, as shown in Figure 5.2. This chapter discusses specific policies to achieve the expansion of data volume, improve data quality, and increase the speed of data flow to realise a data-driven society.

Figure 5.2. Three Perspectives for Promoting Data Distribution



Source: Prepared by the author.

3.1. Increasing Data Volume

3.1.1. Strengthen data linkage

In order to increase the volume of data available to realise a data-driven society, it is necessary to not only increase the absolute amount of data but also expand the availability of data by promoting data linkage.

Japan's successive information technology (IT) strategies have promoted the introduction of digital technologies and the use of data within each domain or system, such as administration, healthcare, and education. One of the goals of data linkage, however, is to form a virtual 'system of systems' by linking data from each of these domains or systems and to organically link data that were not previously linked to each other to realise 'hidden relationships' and create new value.

One such initiative for data collaboration is Europe's GAIA-X. The European Commission's European Data Strategy, published in February 2020, states that 'the Commission will foster synergies between the work on European cloud federation and Member States' initiatives such as GAIA-X. This is necessary to avoid the multiplication of fragmented cloud federations and data-sharing initiatives (European Commission, 2020).

In Japan, a similar project to GAIA-X is DATA-EX, promoted by the Data Society Alliance (DSA). This project is building a platform to realise 'federated cross-disciplinary data collaboration' and is working to ensure interoperability with GAIA-X and other overseas data collaboration platforms.[4]

In Japan, a concrete and effective example of data linkage at the local level exists in a project called 'Digital Communication Notebook' (*Denshi Renraku-tyou*),[5] which is used to operate medical care services for the elderly at home. In order to realise seamless medical care support in the community, it is necessary for doctors and many other related parties to cooperate with each other, but in reality, information sharing has been limited to telephone calls, faxes, and notebooks. In the Digital Communication Notebook project, each person has a mobile device and uses software as a service-type system to input, view, and share patient information in the style of a social networking service. Of particular importance is that a team of professionals is set up for each patient to share information so that only those who need to can view the data.

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[4] As a recent initiative, the DSA announced the start of a demonstration experiment of 'data usage rights trading' (November 2023), in which the rights to use data will be converted into certificates of rights and made subject to trading, from the viewpoint of promoting data distribution. An overview of the DSA's activities can be found in *https://data-society-alliance.org/en/data-ex/*

[5] The Digital Communication Notebook service was launched by Internet Initiative Japan in 2017. It is currently used by 73 local governments (eight prefectures) and is the largest information sharing platform in the medical care field in Japan, with 23,000 registered medical care-related professional personnel and 41,000 registered support targets (data as at December 2023).

The system can also superimpose data, and various attempts are being made to maximise the effectiveness of data linkage, such as combining patient information with local disaster occurrence information to identify priorities for elderly people in need of assistance.

3.2. Facilitate Data Sharing

In order to expand the volume of data, it is necessary to make the data linkable and to develop an environment that allows more users to share data. Specifically, a review of competition laws and the development of systems to promote data distribution and sharing are required.

3.2.1. Review of competition law

First, with regard to the review of competition law, as mentioned earlier, data have characteristics not found in conventional goods, such as zero marginal cost, non-rivalrous, and network effects, which makes it an environment in which players with market dominance, such as platformers, can easily appear, and the economic losses caused by the abuse of market dominance are often enormous and difficult to repair.

Therefore, in addition to the traditional *ex post* regulation approach in competition law, in which the competition authority determines the market, finds the facts related to the abuse of market dominance, and tries to recover the economic loss of the market by issuing a cease and desist order, it is possible to introduce *ex ante* regulation, like the Digital Markets Act in Europe, in which a certain amount of preventative discipline[6] is applied to platform operators that exceed a certain threshold such as a certain number of monthly active users in advance even if there is no abuse of market dominance.

In Japan, the Act on Improving Transparency and Fairness of Digital Platforms came into effect in February 2021.[7]

[6] For example, in the European Digital Markets Act, there are regulations such as the prohibition of combining data collected from two different services belonging to the same company.

[7] *https://www.meti.go.jp/english/policy/mono_info_service/information_economy/digital_platforms/pdf/1012_001a.pdf*

The act designates platform providers specifically with a high need to enhance the transparency and fairness of transactions as specified digital platform providers and requires them to establish voluntary procedures and systems, including disclosure of information on transaction terms and conditions, prior notification to users when transaction terms are changed, and procedures for dispute resolution, and to submit a report with a self-evaluation of the measures implemented and an overview of their business to the Minister of Economy, Trade and Industry every year. In response, the minister is to conduct a review of the platform's operation status, publish a summary of the report and the results of the evaluation, and request the Fair Trade Commission to take action under the Antimonopoly Law if it becomes aware of a case that is deemed likely to violate the Antimonopoly Law.[8]

In addition to this, in April 2024, the government submitted new legislation to Parliament to designate and regulate larger platform operators that provide specific software (e.g. mobile operating systems, app stores, browsers, and search engines) for smartphone use. The bill will be under the jurisdiction of the Fair Trade Commission and will introduce pre-regulatory targets for the provision of certain apps for smartphones, such as prohibiting other operators from preventing similar provision, and will allow for fines and other measures to be taken if this provision is breached.

3.2.2. Promote data distribution and sharing

It would also be beneficial to promote the development of a market environment to facilitate data distribution. In Europe, the Data Governance Act, which came into effect in September 2023, has institutionalised data intermediary operators (see more details in the next section) and rules for promoting data sharing, such as the Data Act, which entered into force in January 2024.[9]

In Japan, there is currently no legal system in place to promote data distribution. However, efforts are being made as a private-sector-led measure. Specifically, a voluntary certification system for personal data trust banks, which serve as intermediaries between data providers and data users, is implemented under the rules developed by private-sector groups, following the discussion at a study group of the Ministry of Internal Affairs and Communications, and a guideline for personal data trust banks, the Guidelines on Certification of Information Trust Functions were formulated for the implementation (Version 2.0 of the guidelines was released in October 2020). Specifically, the certification service has been conducted by the IT Federation of Japan.

For data trading markets, the DSA has also developed Guidelines for Entry and Participation in Data Trading Markets, the latest version of which was published in January 2024. These guidelines summarise the functions that a data trading market should have and the requirements to realise these functions.

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[8] Based on this law, specified digital platform providers have been designated in three areas: online malls, app stores, and digital advertising. Specifically, Amazon, Rakuten, and Yahoo are designated for online malls, Apple and Google for app stores, and Google, Meta, and Yahoo for digital advertising.

[9] The Data Act will start to apply in September 2025.

3.3. Improvement of Data Quality

3.3.1. Realisation of reliable data

Efforts to ensure data quality are essential to promote data distribution. In a data-driven society, 'data integrity' must be ensured that data in circulation is not being falsified. If data is falsified whilst in circulation, it could cause social and economic confusion through malfunctions of various systems. In addition, there is concern that the deliberate falsification of training data for AI, which is rapidly being developed, could prevent AI from operating properly and cause widespread confusion. Therefore, it is necessary to establish a system to ensure the reliability of data.

Specifically, a system of trust services is required. Trust services consist of the following elements:
(a) electric signature related to the authenticity of the sender of the data;
(b) e-seal related to the authenticity of the sender's affiliation;
(c) timestamp to prove that the data content has not been tampered with; and,
(d) e-delivery, which proves that the data was correctly delivered.

In Japan, the institutionalisation of electronic signatures and time stamps has been completed, and studies are underway to institutionalise e-seals as well.[10] In addition, studies on e-delivery are also continuing within the government. Since data are distributed across national borders, international cooperation and coordination are extremely important in the development of trust services.[11]

3.3.2. Strengthen data security

To improve data quality, data security must be strengthened to reduce the risk of data falsification as much as possible. Falsification of data reduces the integrity of data for the entire country, including AI training data. In particular, there are concerns that the dissemination of disinformation in which the involvement of the state is suspected could seriously affect important decision-making in the country, concerned as cognitive warfare, and this is an important issue to consider from the perspective of national security. Strengthening data security and countermeasures against disinformation are addressed below.

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[10] The report of the Study Group on e-Seals was published in March 2024 by the Ministry of Internal Affairs and Communications (MIC). Based on this report, in April 2024, the MIC published guidelines for e-seals. The MIC also announced its plan to establish an e-seal accreditation system by the Minister of Internal Affairs and Communications by March 2025.

[11] In Japan, the Japan Digital Trust Forum conducts research and studies on trust services; international cooperation can be handled by this organisation.

3.3.3. Development of institutional frameworks for data intermediary services

In order to strengthen data security, it is first necessary to strengthen measures for data integrity in organisations that mediate data distribution. For example, the European Data Governance Act systematically defines data intermediation services that mediate between data owners and data users, requires that such services be notified to the supervisory authority and that advanced security measures be taken for data storage and transmission. The promotion of data utilisation and data security are to be promoted in an integrated manner. Thus, it is necessary to develop institutional frameworks to strengthen data security for data intermediary services also in other countries outside Europe.

3.3.4. Countermeasures against disinformation in Europe

Efforts to combat disinformation are also important. Here again, European efforts can serve as a certain reference. In Europe, in preparation for the European Parliamentary in May 2019, there were concerns about the possibility that certain countries could distort the results of the elections by spreading disinformation.

Therefore, in April 2018, the European Commission developed a Code of Practice on Disinformation (Code of Conduct) (European Commission, 2022). The Code of Practice includes efforts to ensure transparency in advertising serving, sponsored advertisements, etc. and to identify and close fake accounts. In addition, the European Commission called on relevant parties to comply with the Code of Practice on a voluntary basis. In response, Google and other related businesses and organisations agreed to comply with the Code of Conduct. The companies submitted monthly reports to the Commission on their compliance with this Code of Conduct from January to May 2019. In response, the European Commission verified the effectiveness of the Code of Conduct and published a report in June 2019, shortly after the European Parliament elections were concluded. The report stated, amongst other things, that approximately 1,000 cases of disinformation had been identified during the period in question.

In this way, companies voluntarily adopt the operation policy against disinformation established by the public sector, each company periodically reports on the status of its compliance with the operation policy, and the public sector considers whether the operation policy needs to be revised based on the evaluation results. This process is called co-regulation, in which the public and private sectors work together to achieve certain policy objectives.

Based on these achievements, Europe developed the Digital Services Act, which entered into force in August 2023. The new legislation implements the previous approach of co-regulation as a legal system. Specifically, very large online platform (VLOP) operators and very large online search engine (VLOSE) operators, which have more than 45 million users in the European Union, are required to clarify their policies on content moderation, provided the act obliges them to clarify their policies on content moderation, explain to users when content is deleted, and publish a transparency report on the operation status of the system. The specific details are, however, basically left to the voluntary judgement of the VLOP and VLOSE operators, taking an approach that combines the institutionalisation of co-regulation with the autonomy of specific measures to be taken.

3.3.5. Countermeasures against disinformation in Japan

Countermeasures against disinformation in Japan were discussed at an expert meeting held by the Ministry of Internal Affairs and Communications (MIC), and a report was published in February 2020. The government has been promoting countermeasures against disinformation in accordance with the contents of this report. Specifically, the government's basic policy on countermeasures against disinformation is to promote measures based on voluntary efforts by the private sector, taking into consideration the chilling effect on freedom of expression and the difficulty of determining the applicability of disinformation, etc. The government respects the voluntary efforts of the private sector and monitors the status of such efforts. In this way, the countermeasures against disinformation in Japan are based on voluntary measures by the private sector, whilst the government adopts an approach similar to co-regulation that monitors such measures, but from the viewpoint of the private sector, ensuring transparency of the measures and assuming accountability, the government also observes involvement to a certain extent.

Under these circumstances, the government submitted the bill to amend the Provider Limitation of Liability Law in March 2024. In May 2024, Parliament passed the law, which requires platform operators that meet certain requirements for illegal and harmful information, such as slander and libel, to establish and publish removal guidelines, provide explanations to the senders of such information, and publicise the status of removal operations.

3.4. Adoption of Appropriate Level of AI Regulation

The rapid development of AI-related technologies, including generative AI, has prompted debate in many countries on how to introduce regulations for AI. The reliability of AI functions is directly related to the maintenance of data quality.

In July 2023, the United States White House agreed with seven AI-related companies to comply with a voluntary commitment to generative AI (US White House, 2023a). This is the co-regulatory approach described above. In addition, an executive order on AI was issued in October of the same year, clarifying that government agencies should consider developing new standards for AI safety and security US White House, 2023b).

In addition, there have been moves to introduce legal regulations (hard law), such as China's Regulations for the Management of Generative AI Services (effective August 2023) and Europe's AI Act, which was adopted by the Council of the European Union and the European Parliament in May 2024,[12] and other countries are also considering the introduction of AI rules or regulations at an appropriate level. In Japan, the government has decided to start considering the introduction of a new legal system for AI at the AI Strategy Council.

3.5. Increase in the Speed of Data Flow

Increasing the speed of data flow is expected to hasten the matching of data demand and supply, thereby accelerating the realisation of a data-driven society. To this end, it is effective to take the aforementioned domestic measures to expand the volume of data and to improve the quality of data. Since cyberspace has no national borders, however, facilitating data distribution across borders will contribute to increasing the speed of international data flow.

To this end, this section summarises measures that Japan and the Association of Southeast Asian Nations (ASEAN), in particular, can promote cooperation towards the realisation of a data-driven society.

3.6. Knowledge Sharing for Data-driven Projects

In Japan, there are many data linkage projects, many of which are aimed at solving social issues and specifically address such issues as the structuring of wisdom and know-how in the fields of elderly care, traffic accident countermeasures, natural disaster response, disease countermeasures, and agriculture, amongst others.

For example, in March 2011, Japan experienced the Great East Japan Earthquake, and the northeastern region of Japan was devastated by the earthquake and ensuing tsunami. Immediately after the disaster, the probe data on which roads the vehicles were able to pass through were collected in collaboration with car manufacturing companies and a project to display this information on an open map was initiated by the organisation called ITS Japan (Figure 5.3).

[12] This Act is due to come into full force in 2026.

This data was utilised to examine routes for the delivery of relief supplies. In addition, the project provided basic data for relief efforts, such as identifying isolated areas (and villages) in need of emergency assistance where no tyre tracks were visible. Similar efforts were also carried out by ITS Japan for the Noto Peninsula earthquake that occurred in January 2024.[13] Thus, whilst the occurrence of a natural disaster requires urgency, it is difficult to grasp the actual situation in the affected area, and data collection and analysis can help to improve the efficiency and speed of relief efforts.

Figure 5.3. Use of Probe Data in the Event of Natural Disasters

Source: 'Vehicle Traffic Information' provided at the time of the Great East Japan Earthquake (Map: Google, Probe Information: Honda Motor, Pioneer, Toyota Motor, and Nissan Motor) included in Press Release 'Establishing a mechanism to quickly disclose traffic performance information in the event of a large-scale disaster' released by ITS Japan (June 2012).

The implications of these efforts include the possibility of dramatically increasing the potential for data utilisation through intermediary functions between data collectors and data users, the effectiveness of a phase-free data utilisation mechanism from normal times to emergencies, the importance of developing technologies to anonymise and prevent re-identification when utilising personal data, and the importance of building an independent and financially self-reliant business model from data collection to utilisation.

[13] Participating in the ITS Japan initiative are Honda Motor, Pioneer, Toyota Motor, Nissan Motor, Isuzu Motors, UD Trucks, and Hino Motors. https://disaster-system.its-jp.org/map4/map/#map=9/37.255473/137.079162&layer=gsi

Many of these social issues can be shared with the ASEAN countries, and it is conceivable that a data-driven project could be launched as a Japan–ASEAN joint project to promote efforts to share knowledge amongst the parties concerned.

3.7. Establishment of Global Data Distribution Rules

As knowledge sharing is promoted through data-driven projects under Japan–ASEAN collaboration, the next step is to promote linkage between Japan's DATA-EX and similar projects in ASEAN as a cross-disciplinary data collaboration project. In addition, data security is an important factor in promoting such linkage, and it is conceivable that the trust service, which is also being considered in Japan, will be in step with efforts in ASEAN. Furthermore, the most important element of data security is the protection of personal data, and it is appropriate to make efforts to promote and expand the Cross-Border Privacy Rules System, an international certification scheme for the protection of personal information based on the Privacy Framework established by the Asia-Pacific Economic Cooperation (APEC) forum in 2004.

3.8. Establish Digital Governance

As digital technology is increasingly implemented as a socioeconomic infrastructure, it becomes necessary to accelerate efforts to address digital governance issues in a data-driven society. In October 2023, the Internet Governance Forum was held in Kyoto by the United Nations, and the phrase 'From Internet Governance to Digital Governance' was positioned as one of the overall themes. Digital governance broadly sets the question of how to ensure the controllability of digital technologies, which includes three elements: AI governance, data governance, and security governance.

Of these, AI governance is, as already mentioned in this chapter, how to set the appropriate level of regulation between hard law and soft law regarding the controllability of AI. Second, data governance is how to set up a series of institutional arrangements to ensure data security. Third, security governance is how to facilitate the sharing of incident information across national borders and the consideration of a joint response system in the midst of increasingly intense cyber-attacks.

Therefore, as cyberspace becomes increasingly important towards a data-driven society, it would be beneficial for Japan and ASEAN to work together to promote a policy dialogue involving the public and private sectors on the state of digital governance over the controllability of such digital technologies.

3.9. Network Infrastructure Supporting a Data-driven Society

A data-driven society is built on a network infrastructure. Intelligence on the network has a history of repeated concentration and dispersion. For example, looking back at the history of computers, intelligence was dispersed with the spread of personal computers from the era of sharing large computers called mainframes, then intelligence was concentrated again with the emergence of cloud services along with the progress of parallel distributed processing and virtualisation technology. Here again, the importance of edge computing has been pointed out, and at present, the best mix of centralised and decentralised computing is being sought.

Cyberspace has no borders, and in light of the importance of economic collaboration between Japan and ASEAN, it is desirable to promote joint projects in terms of network infrastructure collaboration. In particular, it is significant for Japan and ASEAN to collaborate on projects using distributed ledger technology, as typified by blockchain technology. For example, Japan's ongoing digital currency project (Digital Currency Forum) (Decurret, 2022), which uses blockchain technology to automate the execution of contracts, is currently underway, and Japan–ASEAN collaboration may be considered in the near future.

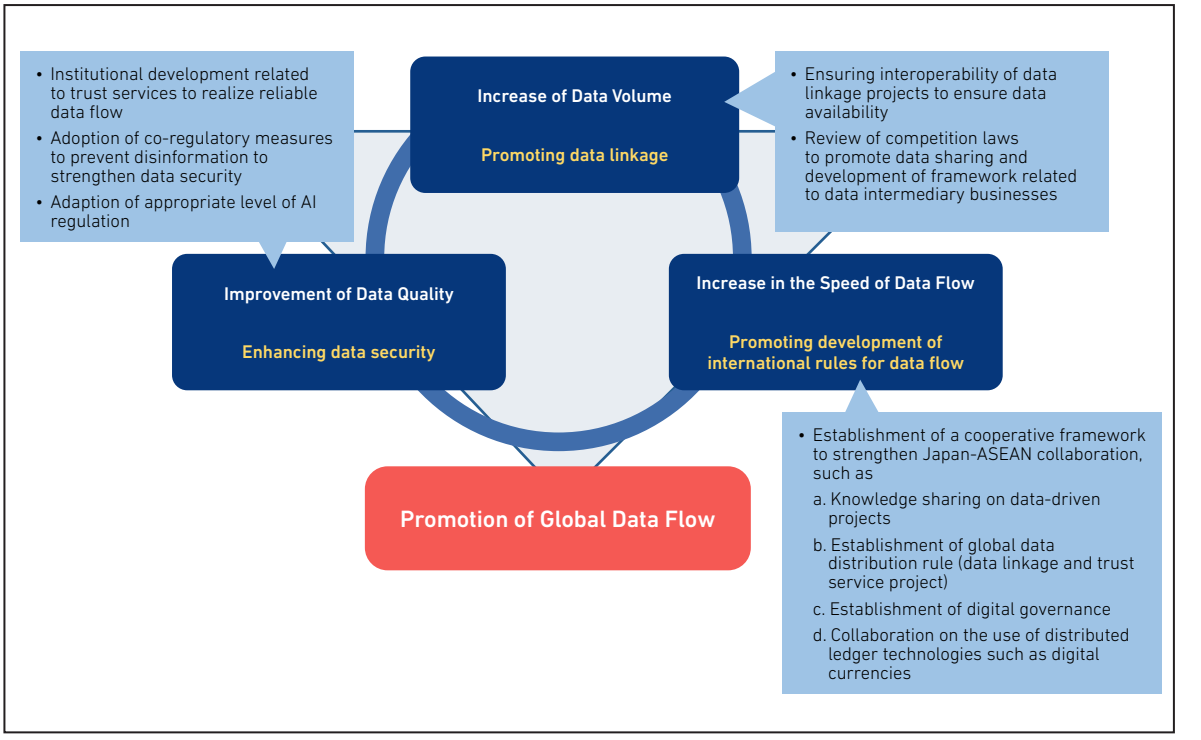
4 . Conclusion

This chapter summarises the policy issues that need addressing to realise a data-driven society. Specifically, it is necessary to shed light on the importance of the three elements of individualisation, automation, and optimisation in a data-driven society, where data is at the core of socioeconomic activities, keeping in mind the need to review institutions and mechanisms to adapt to the characteristics of data.

Based on this, as shown in Figure 5.4, this chapter proposed concrete measures organised from the three perspectives of (i) increasing the volume of data, (ii) improving the quality of data, and (iii) increasing the speed of data flow, as a policy agenda for the realisation of a data-driven society.

In order to build convincing trust in cyberspace, an appropriate balance amongst the three elements of convenience, security, and privacy related to digital technology is required. In particular, the three elements have mutually contradictory characteristics, making it difficult to strike a balance. Moreover, with the advent of generative AI, it is becoming even more difficult to ensure a balance amongst the three elements. Against this backdrop, there is a need to set a common agenda to realise a data-driven society and strategically promote specific initiatives in order to strengthen cooperation between Japan and ASEAN.

Figure 5.4. Policies for a Data-driven Society



AI = artificial intelligence, ASEAN = Association of Southeast Asian Nations.

Source: Prepared by the author.

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