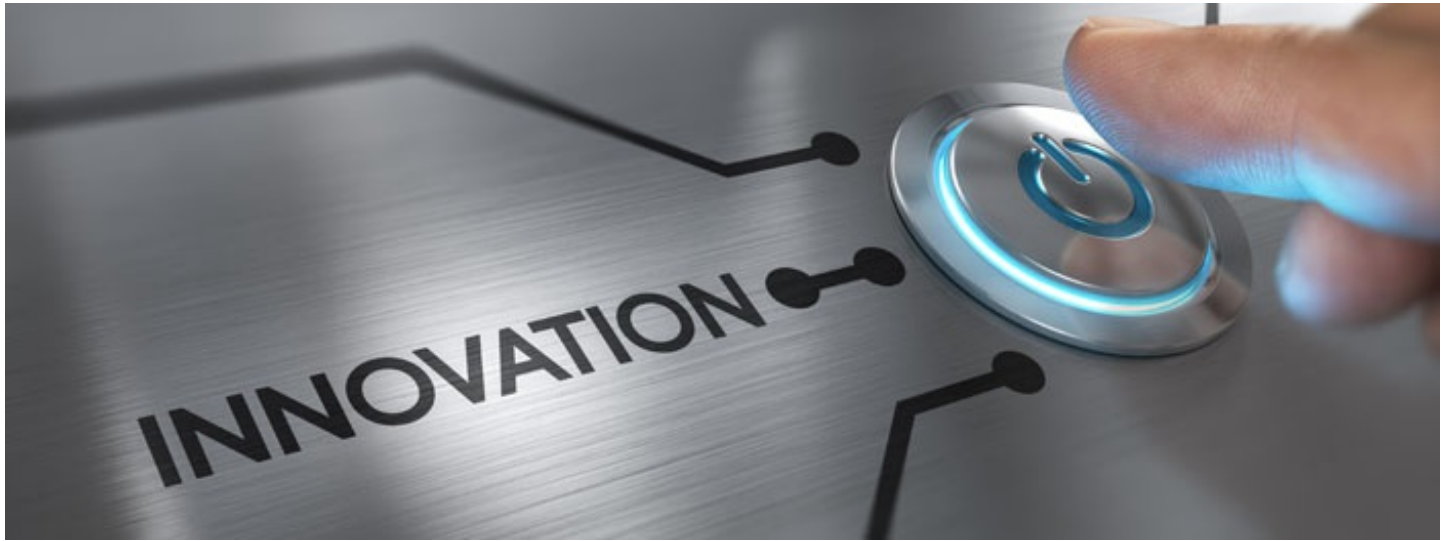


The Key Elements for Data Intermediaries to Deliver Their Promise



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As human history enters the era of data economy, data has become the new oil. It feeds artificial intelligence algorithms that are disrupting how advertising, healthcare, transportation, insurance, and many other industries work. The excitement of having data as a key production input lies in the fact that it is a non-rivalrous good that does not diminish by consumption.^[1] However, the fact that people are reluctant in sharing data due to privacy and trade secrets considerations has been preventing countries to realize the full value of data. ^[2]

To release more data, policymakers and researchers have been exploring ways to overcome the trust dilemma. Of all the discussions, data intermediaries have become a major solution that governments are turning to. This article gives an overview of relevant policy developments concerning data intermediaries and a preliminary analysis of the key elements that policymakers should consider for data intermediaries to function well.

I. Policy and Legal developments concerning data intermediaries

In order to unlock data's full value, many countries have started to focus on data intermediaries. For example, in 2021, the UK's Department for Digital, Culture, Media and Sport (DCMS) commissioned the Centre for Data Ethics and Innovation (CDEI) to publish a report on data intermediaries^[3], in response to the 2020 National Data Strategy.^[4] In 2020, the European Commission published its draft Data Governance Act (DGA)^[5], which aims to build up trust in data intermediaries and data altruism organizations, in response to the 2020 European Strategy for Data.^[6] The act was adopted and approved in mid-2022 by the Parliament and Council; and will apply from 24 September 2023.^[7] The Japanese government has also promoted the establishment of data intermediaries since 2019, publishing guidance to establish regulations on data trust and data banks.^[8]

II. Key considerations for designing effective data intermediary policy

1. Evaluate which type of data intermediary works best in the targeted country

From CDEI's report on data intermediaries and the confusion in DGA's various versions of data intermediary's definition, one could tell that there are many forms of data intermediaries. In fact, there are at least eight types of data intermediaries, including personal information management systems (PIMS), data custodians, data exchanges, industrial data platforms, data collaboratives, trusted third parties, data cooperatives, and data trusts.^[9] Each type of data intermediary was designed to combat data-sharing issues in specific countries, cultures, and scenarios. Hence, policymakers need to evaluate which type of data intermediary is more suitable for their society and market culture, before investing more resources to promote them.

For example, data trust came from the concept of trust—a trustee managing a trustor's property rights on behalf of his interest. This practice emerged in the middle ages in England and has since developed into case law.^[10] Thus, the idea of data trust is easily understood and trusted by the British people and companies. As a result, British people are more willing to believe that data trusts will manage their data on their behalf in their best interest and share their valuable data, compared to countries without a strong legal history of trusts. With more people sharing their data, trusts would have more bargaining power to negotiate contract terms that are more beneficial to data subjects than what individual data owners could have achieved. However, this model would not necessarily work for other countries without a strong foundation of trust law.

2. Quality signals required to build trust: A government certificate system can help overcome the lemon market problem

The basis of trust in data intermediaries depends largely on whether the service provider is really neutral in its actions and does not reuse or sell off other parties' data in secret. However, without a suitable way to signal their service quality, the market would end up with

less high-quality service, as consumers would be reluctant to pay for higher-priced service that is more secure and trustworthy when they have no means to verify the exact quality.^[11] This lemon market problem could only be solved by a certificate system established by actors that consumers trust, which in most cases is the government.

The EU government clearly grasped this issue as a major obstacle to the encouragement of trust in data intermediaries and thus tackles it with a government register and verification system. According to the Data Government Act, data intermediation services providers who intend to provide services are required to notify the competent authority with information on their legal status, form, ownership structure, relevant subsidiaries, address, public website, contact details, the type of service they intend to provide, the estimated start date of activities...etc. This information would be provided on a website for consumers to review. In addition, they can request the competent authority to confirm their legal compliance status, which would in turn verify them as reliable entities that can use the 'data intermediation services provider recognised in the Union' label.

3. Overcoming trust issues with technology that self-enforces privacy: privacy-enhancing technologies (PETs)

Even if there are verified data intermediation services available, businesses and consumers might still be reluctant to trust human organizations. A way to boost trust is to adopt technologies that self-enforce privacy. A real-world example is OpenSAFELY, a data intermediary implementing privacy-enhancing technologies (PETs) to provide health data sharing in a secure environment. Through a federated analytics system, researchers are able to conduct research with large volumes of healthcare data, without the ability to observe any data directly. Under such protection, UK NHS is willing to share its data for research purposes. The accuracy and timeliness of such research have provided key insights to inform the UK government in decision-making during the COVID-19 pandemic.

With the benefits it can bring, unsurprisingly, PETs-related policies have become quite popular around the globe. In June 2022, Singapore launched its Digital Trust Centre (DTC) for accelerating PETs development and also signed a Memorandum of Understanding with the International Centre of Expertise of Montreal for the Advancement of Artificial Intelligence (CEIMIA) to collaborate on PETs.^[12] On September 7th, 2022, the UK Information Commissioners' Office (ICO) published draft guidance on PETs.^[13] Moreover, the U.K. and U.S. governments are collaborating on PETs prize challenges, announcing the first phase winners on November 10th, 2022.^[14] We could reasonably predict that more PETs-related policies would emerge in the coming year.

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