Data Space Business Models

Session on 2nd BDSA Day, Bluepoint Brussels, May 27th 2024

Data Space Business Models Data spaces operate like multisided platform models, attracting participants to create value and drive network effects. This session explores business models, data spaces, and their impact on participants' strategies from the perspective of existing data space initiatives.

Context & background information

In the context of the Belgian Data Spaces Alliance, we organize sectorial work groups focused on health, mobility, logistics, and lifelong learning. Industry partners frequently ask how the concept of data spaces impacts their business models, how to adapt, and what opportunities arise. Therefore, in this break-out session on data space business models, we aim to:

- Clarify general understanding of business models in a data space context, discussing the transition from public to more sustainable revenues.
- Provide inspiration from real-life cases.

Short abstract of the general presentation

Speaker: Sofie Verbrugge, imec-IDLab-UGent

Data spaces enable secure and sovereign data sharing for joint value creation, presenting a strong value proposition. However, the appropriate business model for data spaces remains unclear. A business model revolves around a value proposition, understanding how value is created, delivered, and captured. This value can be economic or societal, and the model varies based on the actor's perspective, whether a company, non-profit, or government.

A data space facilitates data sharing among participants, enabling practical use cases, such as logistics or automotive applications. It's a distributed system governed by frameworks that ensure secure data transactions. Understanding the business model for a data space involves considering the different actors involved, and aligning their individual models, which might not always be in sync.

The value of a data space increases with more participants, a characteristic of platform business models. However, unlike a centralized platform, a data space is distributed, allowing participants to maintain data sovereignty. Strategies for launching data spaces could involve strengthening one side of the market, attracting marquee users, or redistributing value.

Public involvement often plays a role in data space business models, with funding evolving as the data space generates value. As more use cases emerge, economies of scale can reduce costs over time.

In conclusion, there is no one-size-fits-all business model for data spaces. Effective models depend on the perspective and level of analysis, requiring study of concrete data spaces to understand best practices.

The concepts brought forward here link to some of the core concepts of business model development indicated under the 'business and organizational blocks' in the DSSC Blueprint. Future work will help to extract best practices from use cases and link them to these theoretic concepts.

Panel discussion

The panel discussion aims at learning from real-life uses cases and want to link the theoretic concepts from the general introduction presentation to what happens in practice.

Host / moderator: Aron-Levi Herregodts, imec

Panelists

- Annelies De Craene, Digitaal Vlaanderen
- Christoph Mertens, IDSA
- Mike de Roode, TNO-CoE-DSC
- Stephanie Van Weyenberg, ILVO

Perspectives taken by the panelists

Annelies De Craene takes the perspective of the **Flemish Smart Data Space (VSDS).** The Flemish Smart Data Space wants to create a shared agreement framework with open standards and reusable assets to facilitate local ecosystems to kickstart data space initiatives. In this sense, VSDS wants to act as a Flemish 'DSSC' (referring to the European DSSC initiative).

Christoph Mertens takes the perspective of adoption of data spaces in European context, as captured by the **IDSA**, **Data Spaces Radar**. The International Data Spaces Association mission is to lay the groundwork for a fair data economy, contributing to interoperable (international) data spaces via a reference architecture model (IDS-RAM), a rulebook to serve as foundational guides for organizations (IDSA Rulebook), certification of data space connectors and a testbed to test connectors and a knowledge base.

Mike de Roode takes the perspective of a concrete data space initiative in the supply chain context, the **Smart Connector Supplier Network (SCSN)**. The value propositions of SCSN are to have one communication standard to overcome the pain of having different IT (e.g., ERP) systems; to save time for manufacturing companies & retailers; and to provide faster response to accept or reject offers

Stephanie Van Weyenberg takes the perspective of a concrete data space initiative aimed at data sharing in an agricultural technology context: **DJustConnect**. The value propositions of DJustConnect are a legally covered consent to consume and share data; and a lowered administrative burden for farmers and / or sector organizations / cooperatives.

? The data space business model does not exist. It depends on the perspective you are taking. To understand what can be working business models in practice, we need to analyze actual use cases and working initiatives.

Both SCSN (Smart Connected Supplier Network) as well as Djustconnect started from concrete pains, as tackled via use cases. In the context of Djustconnect, farmers were confronted with administrative overhead of data partners asking for consent to use data from machines. Every time the farmers wanted

to use a new tool, the same information needed to be provided via some sort of consent. Farmers were either blocking most if not all requests for consent, or giving consent to all, unable to understand the implications. For SCSN the concrete use case for data sharing departed from the same administrative burden: different IT systems are used for Enterprise Resource Planning (ERP) over the different (parts of) the supply chain. These systems are often non-interoperable and this forced players to resort to e-mail, WhatsApp, or even manually copying of system information.

The initial trigger for the Flemish Smart Data Space was the question : 'how to publish data more efficiently, to facilitate better reuse'. This initial challenge was approached in 2 thematic domains : mobility and water.

IDSA is capturing a broad range of working use cases in its Data Spaces Radar dataspaces-radar.org, capturing various data space initiatives worldwide. It provides insights into these initiatives' sectors, locations, and development stages, as well as use cases which are enabled by a data space.

? A data space business model is collaborative. 'Collaborative' means that the business models of the different actors involved are to be aligned.

For Djustconnect, besides the business model for the Djustconnect platform itself, the business models of the farmers, data providers and data consumers are impacted by the Djustconnect platform. Teh platform is providing low entry barriers and a lot of extra services that data providers and consumers are willing to pay for. Farmers are connected for free. Data providers pay a fixed annual fee. Data consumers pay a fee depending on the amount of asked consents.

Compared to Djustconnect – which also onboards new data providers and consumers with farmers - SCSN used an interesting bootstrapping method. It involves IT service providers, by providing them with a clear business need, the lack of interoperable IT systems, and uses the IT providers to onboard their own clients (manufacturing companies over different supply chains) to the SCSN data space.

? A data space business model is multi-sided. 'Multi-sided' indicates that the value of the dataspace for the data providers grows when more data consumers take part in the data space and the other way around.

For SCSN, larger parties (OEMs) were already digitizing portals at the beginning and the end of the supply chain. SMEs in the middle of these supply chains were overwhelmed with portals on all sides. SCSN kickstarted / overcame the recurring chicken & egg problem of platform business models in an interesting way. It incentivized IT Service providers to onboard their SME clients with the SCSN Data Space Connector. The clients of the IT Service providers are manufacturing companies active in different manufacturing value chains. Onboarding new actors from a certain supply chain, enabled SCSN to grow their user base in an accelerating way. Not just focusing on one value chain but across multiple ones. Every additional manufacturer opens new Tier N-1 and Tier N+1 actors in different value chains, once more creating additional value.

VSDS acknowledges the chicken & egg problem and started with a 'coalition of the doing' (small coalition), they started with existing (data) products and optimized from there (e.g., leveraging OSLO).

IDSA is following up on several promising new business models. An emerging pattern is for example the creation of an association that governs the ecosystem. After this is installed, the data space can

become creative with revenue models. One idea would be to pay those that bring in data into the ecosystem.

? A data space business model is evolving. 'Evolving' highlights that the importance of public funding and other characteristics evolve over time.

For both cases, Djustconnect and SCSN, public funding was important for the initial kickstart of the initiative. SCSN used public funding to develop some of the essential building blocks (e.g., the connector). Here, SCSN, in collaboration with public funding incentivized companies by lowering the barrier to entry, however still demanding an initial and clear cash investment to show buy-in and an incentive to collaborate. Djustconnect used public funding projects to act as a base financing to rapidly showcase added value to multiple sides of the platform and choose use cases with immediate relevance.

For the Flemish Smart Data Space (VSDS), public funding has been critical. It was kickstarted via Covid recovery plan resources and this acted as a runway to install a competence centre, a project centre and execute interoperability modules. Now, this runway comes to an end and strategic choices have to be made which aspects of the VSDS will remain operational, which aspects will be 'released' to the open source community and others that will be stopped. VSDS wants to install certification and compliance.

SCSN evolved from (limited) public funding to recover costs via the IT providers, who pay a fee to use and provide the SCSN data space connector.

Djustconnect captures monetary value with the data providers – they pay a fixed annual fee – and the data consumers – who pay an annual fee depending on the number of consents.

More information

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