

## REPORT REPRINT

# The renaissance of data marketplaces

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## Introduction

The concept of data marketplaces and exchanges is not exactly new – there were a number of early, mostly short-lived attempts about a decade ago. We are now seeing data marketplaces enjoying a renaissance with some fresh ideas and value propositions.

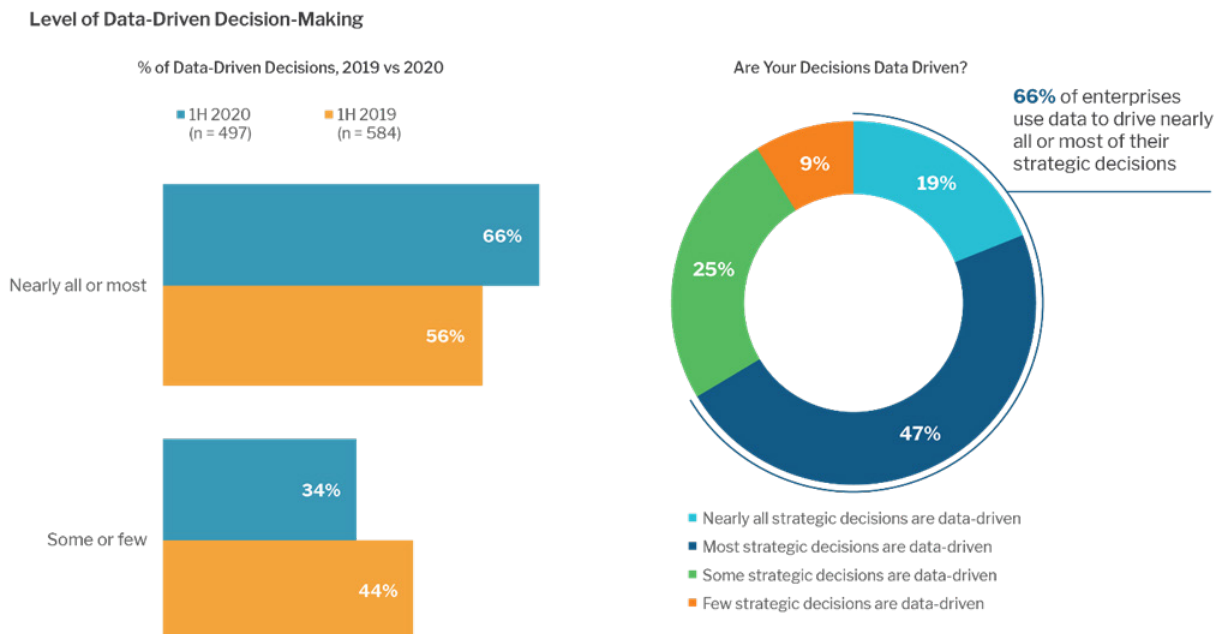
### 451 TAKE

The lack of market readiness did not help the case for that first batch of data marketplaces; however, we believe that those early offerings didn't have the means to address the unique characteristics of a data asset, or the necessary trust. We see more sophistication in the current wave of data marketplace offerings, both in terms of the underlying technology and the value propositions. We present three categories that we see unfolding, and we will have to see whether these groupings solidify and how this space will shake out over the next few years.

## Data-driven decision-making

Data-driven decision-making is becoming increasingly important for organizations for a variety of reasons – responding faster to business needs, gaining competitive advantage, lowering costs or improving customer experience, just to mention a few. According to our latest end-user research, a growing majority (66%) of enterprises say that most or nearly all of their strategic decisions are driven by data, compared with 56% in the same survey in 2019.

**Figure 1: The Shift to More Data-Driven Decision-Making**



Source: 451 Research's Voice of the Enterprise: Data & Analytics, Data Platforms 2020

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Where does this data come from? Organizations may collect the data themselves or acquire it from data providers, for a fee or for free. In most cases, they would use an array of internal and external sources, especially the 'data drivers' – those businesses that make nearly all of their strategic decisions based on data (nearly 20% of organizations). This brings about some challenges.

To begin with, finding and accessing useful and trusted data – whether internal or external – is at the very least a time-consuming effort. Moreover, there is a great deal of data kept behind company firewalls that never gets leveraged because many organizations don't have the resources or skills to make this data available and monetize it.

In the current landscape, we see people and organizations being more open to sharing and collaborating; at the same time, data owners and providers are concerned about data privacy, as well as the loss, theft or misuse of their data and data products. Therefore, establishing and enforcing the terms of use and rules of engagement between data owners, providers and consumers will be critical.

### Data marketplaces

Just as other assets are traded on exchanges and marketplaces, data can be too. Data – be it business, IoT or personal data – is a tradeable asset. Data marketplaces are meant to connect data providers with data consumers, and provide an online platform where they can interact and trade in an easy and fairly automated way.

The renaissance of data marketplaces features different approaches and value propositions. First of all, we can find vendors that operate data marketplaces, such as AWS or DemystData. Others sell the underlying technology to power data marketplaces, like Harbr or the Ocean Protocol, and some providers do both, including Dawex, IOTA and Streamr. We also see further differentiation and specializations unfolding.

### Third-party data marketplaces

Third-party data marketplaces essentially aggregate external data from different sources and providers, and seek to abstract away mechanical and onerous aspects of discovering and contracting data, in addition to offering further services to enable businesses to access data quickly and easily, and use it in a meaningful way. By leveraging 3P data marketplaces for decision-making, data consumers can also take advantage of opportunities that they might miss by only looking at internal (aka 1P data) or 2P data, which is someone else's 1P data acquired directly from the source. Data providers can use these marketplaces as an extension of their sales forces and target the long tail of customers. For those that don't have the resources or skills, these platforms remove the need to build and maintain an infrastructure, and support monetization goals.

Examples of 3P data marketplaces include the AWS Data Exchange (ADX), Dawex, DemystData, Openprise and the Snowflake Data Marketplace. Some of these offerings may further specialize in vertical markets or types of data. ADX, in particular, is a cloud-native data marketplace that data subscribers can use in conjunction with a range of AWS analytics services. DemystData primarily focuses on serving the financial and insurance markets, and Openprise supports companies' marketing and sales teams. Dawex not only operates a marketplace, but also sells the underpinning technology to those that want to set up and run their own data ecosystems. Snowflake has a 'data exchange' feature that allows users to collaborate within their ecosystems. Dawex's and Snowflake's efforts somewhat expand into the next category.

### Collaborative data marketplaces

Collaborative or federated marketplaces would typically be distributed, middlemen-less and designed to remove organizational boundaries, with ease of use and built-in trust being critical requirements for the platforms that power them. These marketplaces foster a business model where success is as much about enabling your partners and customers to gain more value and innovate as it is about gaining value and being innovative yourself.

London-based startup Harbr has developed a cloud-native, white-label offering that its customers can leverage to create and operate their own data ecosystems – both within and beyond organizational boundaries – where participants can exchange, monetize, and collaborate on data and models. The company uses an architectural approach that treats data as a product that is managed across distributed resources. Harbr takes collaboration to another level by allowing ecosystem participants to create, share and sell new data products as a result of the teamwork happening on the platform.

At the intersection of artificial intelligence and distributed ledger technology (DLT), we can find further early initiatives aimed at converging marketplaces and collaborative or federated learning, so participants can collectively train AI models over disparate data sets. It's an incentive-based system, where DLT offers participants a level of trust and the rules of engagement. Microsoft, in particular, has developed a framework called Decentralized & Collaborative AI on Blockchain, which overlaps with DLT-based data marketplaces that are presented next.

### DLT-based data marketplaces

Data, as an asset, makes a good candidate for decentralization. DLT can provide the means to democratize access and build trust into every interaction and transaction in a data marketplace. Trust is critical and is about both the data (e.g., its provenance and integrity) and the rules of engagement (such as payments or permissions). Smart contracts provide the transaction logic and can ensure that the data or data product is traded securely and according to pre-established terms. Enabling open access to trusted data is a key promise of DLT-based data marketplaces.

Data marketplaces powered by DLT include Datapace, Datum, the IOTA Data Marketplace, SettleMint's DataBroker and Streamr's Data Marketplace. Datapace and the IOTA data marketplace focus specifically on IoT or sensor data. The IOTA data marketplace, in particular, was initially launched as a proof of concept and open innovation ecosystem. By setting up a cloud back-end infrastructure and deploying the IOTA marketplace software, organizations can create and run their own data marketplaces. Streamr launched its data marketplace as a minimum viable product on top of its peer-to-peer data transport protocol, the Streamr Network. Decentralized and tokenized protocols that power data marketplaces also include Enigma and the Ocean Protocol.

**Figure 2: The Data Marketplace Space**  
Source: 451 Research, LLC

