The data cooperative: A future model for dealing with data as a resource

Big data as the raw material of the future. But who's in charge? The Posmo cooperative is building a democratic, collaborative and fair model for the data economy.

October 29, 2022 | Lea Strohm

Data are values obtained through observations and measurements. Only when data are evaluated do they provide us with information. Data has been collected and evaluated for thousands of years. Data on the position of the sun, data on the population of countries. However, since the invention of the computer and even more so since the invention of the Internet, the collection and analysis of data has taken on new dimensions. For most digital applications, it is not individual data points that are of interest, but rather large data sets. The digital age makes it possible to collect, combine, evaluate and market huge amounts of data. Insights are gained from the data and predictions are made: about the future buying behavior of users, about the voting behavior of voters or about the traffic volume in the evening.

But while personal data is collected, analyzed and resold on a large scale, users have to accept a loss of control over their personal data. Neither do they properly understand what their data is being used for, nor do they give their consent to its use. Not even the significant changes in data protection laws can change that. In addition to the loss of control of the individual, the current situation means that the data-based information gain is mainly concentrated in private companies. This is because the data is generally not accessible to other actors who would like to use it in the interests of society. A few private companies thus accumulate extreme economic and political power.

In order to master the challenges of our time and regain control of our data, alternative business models and organizational structures are required. These must make it possible to combine the individual data of many people in such a way that they become interesting for the analysis of larger social issues and promote innovations for the benefit of society as a whole. In addition, these organizational structures should give users the power to make decisions about the use of their personal data and allow them to participate in the economic value creation from their data.

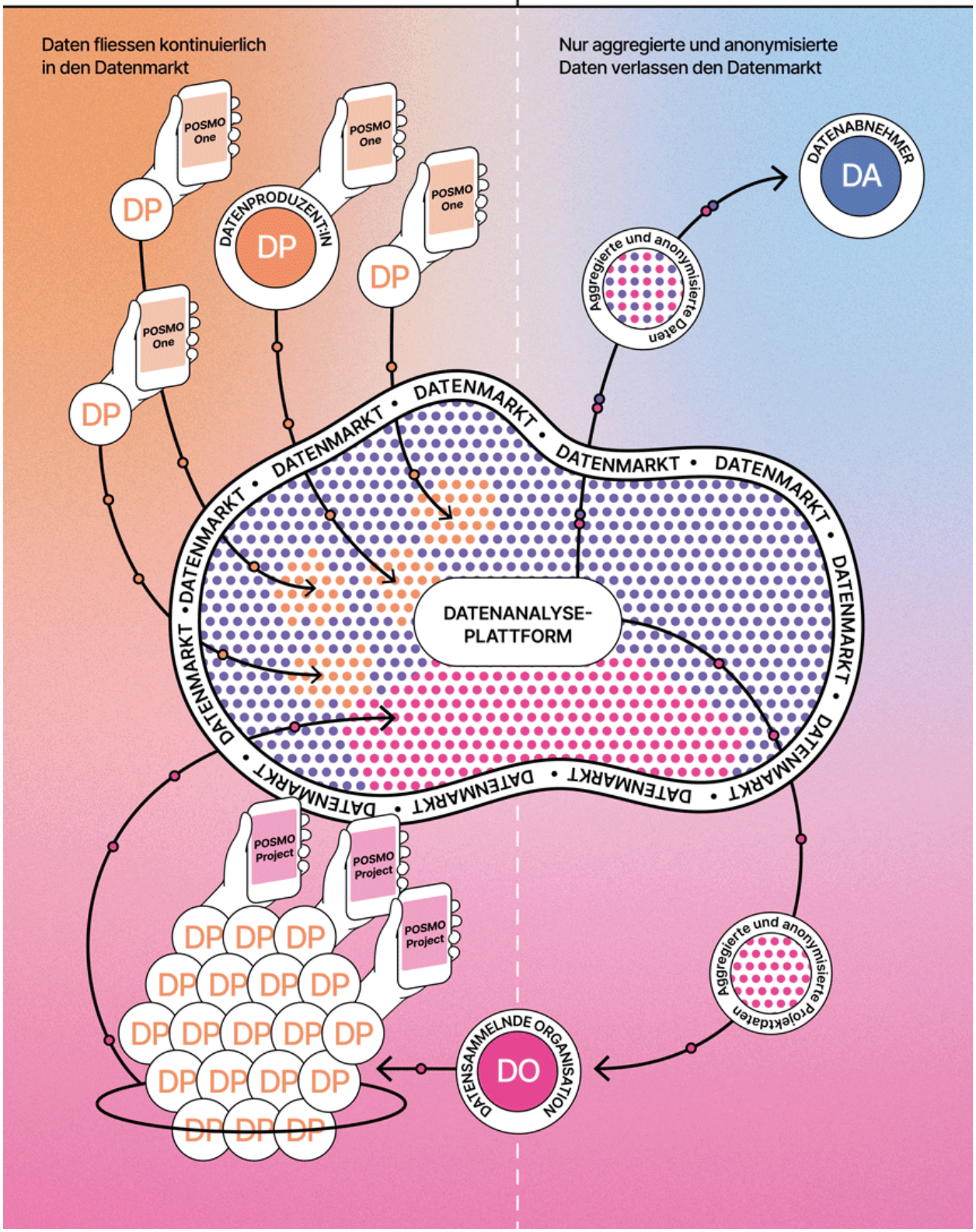
A cooperative for data

With this motivation, we founded the data cooperative Posmo. Posmo is developing a new business and organizational model for collecting, managing and using mobility data. The focus is on the ethical handling of sensitive personal data and the conviction that a good data basis is a central resource for the expansion of sustainable mobility.

POSMO

Datengenossenschaft
für Mobilität

Visualisierung des Ökosystems



Founded in May 2020, Posmo (by POSitive MObility) is the first cooperative for all mobility data. Posmo pursues two central goals: First, we want to develop, test and implement the technical infrastructure, the organizational structures and the control mechanisms of a data cooperative. The focus is on protecting those we refer to as data producers. Second, we want to build the best data set on individual mobility in Switzerland to make it available to public administrations, researchers, policy makers and possibly other interested partners for a fee.

The cooperative presents itself as a promising form of organization for various reasons. As defined by the International Cooperative Alliance, "Cooperatives are people-oriented enterprises owned and controlled by their members to meet their common economic, social and cultural aspirations and needs". The cooperative thus represents a business model in which capital and resources are not owned by a few companies, but are generated and used jointly by many people. It is based on an organizational form that allows everyone to become co-owners, exercise democratic control over the use of capital and receive their own share of the value creation.

Pilot project with the city of Zurich

Since August 2022, a pilot project on the subject of data donation has been running in cooperation with the city of Zurich and other partner organizations. City dwellers are invited to record their personal mobility profile via a mobile app and make it available to the city anonymously and aggregated via Posmo. The Urban Development Department of the City of Zurich would like to test to what extent this type of mobility data can be used within the administration to improve planning of the bicycle infrastructure or to propose measures to adapt to climate change.

There are two major challenges in this project: How can we motivate people in Zurich to make their mobility data available? And how can we minimize the ethical risks associated with collecting highly sensitive personal information?

The issue of motivation and incentives for donating personal data is central. We offer participants a downloadable mobile app that provides them with detailed information about their mobility behavior, including their movements and their carbon footprint. The app creates mobility profiles by using artificial intelligence to determine the mode of transport (e.g. on foot, bike, car, train) from the GPS and sensor data of movements through the city. Limited-time promotions with prizes or financial incentives will also be considered. An important motivation, repeatedly mentioned by participants, is to learn about the impact of their donated data: how the data is used and what decisions can be made thanks to this data.

Another challenge relates to the ethical handling of the donated data. The city administration takes the position that the collection and especially the storage of detailed location data by state institutions entails risks. Nevertheless, this data is of great interest to the authorities and enables them to make well-founded, data-based decisions. Therefore, the collection and management of the donated data is carried out exclusively by Posmo, which makes it available

to the city in an anonymous and aggregated form.

Control Mechanisms and Governance
But how does Posmo guarantee that the data entrusted to it is protected and used responsibly? The governance of the cooperative is crucial. A central body for this is the independent Ethics Council. He is tasked with ensuring the ethical handling of all data managed by Posmo. The administration, responsible for the operational and strategic activities, serves as a link to the data producers, technology providers, customers and the members of the cooperative. The Ethics Board must approve any external project accessing the cooperative's data. In addition, the Ethics Board oversees and controls the administration and the technology provider, especially with regard to technical issues related to the use of machine learning or artificial intelligence. Both the Ethics Council and the administration are elected by the members of the cooperative. Membership is open to anyone who shares Posmo's values and vision and requires the purchase of shares and the collection of personal data. The members form the Posmo community and contribute to various working groups on topics that interest them.

Market Potential and Prospects
At its core, Posmo's business model is to collect data and make the aggregated data available to others for a fee.

In order to collect as much data as possible, we follow two specific strategies. On the one hand, we offer organizations that are interested in the mobility behavior of specific target groups to collect data via so-called "Posmo Projects". These *data-collecting organizations* (DO) include universities that research mobility, or other public institutions that are interested in the mobility behavior of residents, or companies that want to promote more sustainable commuting behavior among their employees as part of their mobility strategy. These projects collect data using technology provided by Posmo and its technology partner, which flows into the collaborative data pool. The incentive for an organization to participate in this model is threefold: First, not only do they gain access to the data collected by their project, but they can also access other data available in the pool. Second, they get credit if the data they provide in the pool is sold to third parties.

Our second strategy is to get people interested in mobility and sustainable business models to collect data and join the cooperative. Membership incentives include access to the growing Posmo community, the opportunity to help make this revolutionary paradigm shift a reality, and a share of the revenue Posmo generates from selling insights based on its data.

But who cares about this kind of data? It may come as a surprise to many who are unfamiliar with mobility that there is little and poor quality data currently available on the market. On the other hand, there are many interested parties: researchers who study mobility behavior, urban and mobility planners who work on transport infrastructure projects, for example, advertisers who are looking for better information about what kind of people pass in front of their billboards, or even health authorities who are interested in the Decide on pandemic measures based on mobility data. For these so-called *data consumers*(DA) Posmo acts as an ethical data broker

providing mobility data in aggregated and anonymised form and monitored by the Ethics Board for a fee. An instrument should also be created for the members of the cooperative that allows maximum transparency about the use of the data.

The way to the future

The data cooperative as an innovative and new model for the digital economy is attracting great interest from various sides. Although issues such as data protection and the frightening power of tech companies concern and worry more and more people and organizations, alternative models that exist more than on paper are still rare. The data cooperative enables individuals to create economic and societal value with their data. It shows new ways of collaboration for various actors such as research, public administration and private companies - and at the same time ensures that data producers have control over their personal data.