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Data Cooperatives – Collective Action as an Opportunity for the European Data Economy and a European Data Private Law

Die Europäische Kommission hat sich selbst zum Ziel gesetzt, ein Datenprivatrecht zu schaffen. Abgesehen von mehr Regulierung werden aber auch langsam Rufe nach neuen Data Governance Modellen laut, um unter anderem Marktungleichgewichten entgegenzuwirken. Als taugliches Modell werden Datengenossenschaften gehandelt. Das dahinterstehende Konzept und die Wirkungen des bestehenden und geplanten unionalen Datenrechts auf dessen Umsetzung sollen hier näher beleuchtet werden.

The European Commission has set itself the goal of creating a data private law. However, apart from more regulation, there are also calls for new data governance models to counteract the various market inequalities. This article will take a closer look at the data cooperative as a suitable model and discuss it in the context of the current legal framework and legislative plans.

I. Introduction

New data governance models are urgently needed to solve the numerous challenges posed by the data economy. Due to the relevance to the single market, the European legislator has intervened. The Data Governance Act specifically addresses data cooperatives. So far, these have received comparatively little to no attention in the German discourse. However, especially the agricultural sector, which can look back on a long tradition of cooperatives, is a pioneer in the implementation of data cooperatives. In practice, however, data cooperatives have hardly played a role so far. Nevertheless, we see their potential to address the many challenges of the data economy. We will outline this potential in the context of an abstract presentation of the concept of the data cooperative (II.). Next, building on the work of *Bietti et al.*¹ we would like to show the relationship to current laws (GDPR, Data Governance Act²) and legislative proposals (Data Act³) of the European Union for the regulation of the data economy. In doing so, we focus on the question to what extent the implementation of the concept is eased or hindered by these efforts (III.). We conclude with an outlook on what data cooperatives can contribute to a future data private law (IV.).

II. The concept of data cooperatives

The following presentation is based on preliminary work carried out as part of the ForTech Advanced Series program for young researchers.⁴ We describe data cooperatives as an instrument to

1. establish or strengthen the effective influence of a group (of data producers) on the resource data⁵ vis-à-vis third parties (relative “data sovereignty”⁶ or “data authority”) (see II.2.)

while at the same time

2. subjecting the resource to common rules of use, so that the most efficient, equitable and sustainable utilization of the resource is achievable in view of a collective objective (see II.3.).

Together with *Jost*, we assume that the cooperative union is particularly promising for data producers.⁷ By this we refer to actors who have a direct causal influence on the generation of data, e.g. the individuals or companies that use third-party IoT systems. They all have in common that despite their involvement they currently do not have any effective control over the resource.⁸ This affects their market position due to increasingly data-driven processes. Therefore, they have an interest in establishing relative data sovereignty. The multi-relational character of data, especially in the context of personal data, also speaks in favor of data producers as members of cooperatives (see II.3.a)).

1. Cooperative idea

A (data) cooperative is an independent economic actor that acts as an auxiliary market to the members’ individual businesses (data producers).⁹ The central principles empha-

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1 *Bietti et al.*, Data Cooperatives in Europe: A Legal and Empirical Investigation, p. 11, https://cyber.harvard.edu/sites/default/files/2022-02/Data_Cooperatives_Europe-group2.pdf.

2 Regulation (EU) 2022/868 of the European Parliament and of the Council of 30 May 2022 on European data governance and amending Regulation (EU) 2018/1724 (Data Governance Act, DGA).

3 Proposal for a Regulation of the European Parliament and of the Council on harmonized rules on fair access to and use of data (Data Act, DA-D).

4 See *Knapp et al.*, Konzeptstudie Datengenossenschaft, <https://www.forschungsstelle-datenrecht.de>.

5 Increasingly, data is no longer perceived as a “thing” but rather as a “flow”. There are several good reasons for this: (i) the interests of a large number of stakeholders are affected, (ii) non-rivalry in use, (iii) data as a product of “datafied” (social) interaction. See for example, *Madison*, TechReg 2020, 29, 30; *Fisher/Strein*, Columbia Journal of Transnational Law 2022, 829, 837 et seq.; similar considerations can already be found in the census judgment, BVerfG, Urt. v. 15.12.1983 – 1 BvR 209/83, BVerfGE 65, 1, 44 (“Information, even insofar as it is personal, constitutes a reflection of social reality that cannot be attributed exclusively to the person concerned alone”).

6 *Martini et al.*, MMR-Beilage 06/2021, 3, 16 et seq. However, we would like the term to be understood more broadly as an effective possibility of influence of whatever kind and not to be reduced to a factual moment.

7 *Bietti et al.*, Data Cooperatives in Europe: A Legal and Empirical Investigation, https://cyber.harvard.edu/sites/default/files/2022-02/Data_Cooperatives_Europe-group2.pdf, p. 3.

8 In the IoT context, it is mostly the machine manufacturers who have control over the data, see DA-D Recital 5; see also *Kerber*, Governance of IoT Data: Why the EU Data Act will not fulfill its objectives, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4080436, p. 3 et seq.

9 *Ohm*, ZfG 1952, p. 273, 277 et seq.; cf. Guidance Notes to the Cooperative Principles, <https://www.ica.coop/sites/default/files/2021-11/ICA%20Guidance%20Notes%20EN.pdf>; In this sense also *Hall et al.*, Exploring legal mechanisms for data stewardship, <https://www.adalovelaceinstitute.org/report/legal-mechanisms-data-stewardship/>, p. 52. Differently the research group “Datengenossenschaft”, but probably only because it is a research project limited to Germany, in the context of which pilot projects also take place.

sized in connection with data cooperatives include democratic control by the members (principle no. 2) and the contribution of an equally distributed amount by the members, which is used to achieve the objectives (not merely to make a profit), and their proportional participation in the rewards (principle no. 3). In general, there is electoral equality, i.e. “One man, one vote”.¹⁰

2. Establishment of relative “data sovereignty” of data producers (external relationship)

A small majority of authors see data cooperatives as a means of creating a collective authority over data¹¹ respectively over the underlying technical infrastructure for the collection and subsequent use of data.¹² Others, however, focus on the creation and allocation of individual property-like positions, especially in the context of personal data.¹³ In both cases, the goal is to establish an effective instrument to exert influence. The data cooperative can establish this in various ways. One could be the bundled and coordinated enforcement of existing legal positions.¹⁴ However, it might also be of a more factual nature. The members could set up their own technical infrastructure in which data is controlled and external parties are referred to methods of federated learning.¹⁵ Building on this, the data cooperative could deploy analytical tools in order to generate an information advantage, e.g. with regard to its own requirements and consumption.¹⁶ It should be noted that the last aspect concerns not so much the creation of relative data sovereignty, but rather its leverage in other product or service markets. In both cases (legal or de facto control), it is a matter of “pooling” for the common benefit of either the resource itself or the legal positions in it.¹⁷

A cooperative can furthermore strengthen the bargaining power of a large number of market participants by uniting them. This is precisely why cooperatives have always been observed in particular where the counterparties have significant market power.¹⁸ The increased negotiating power could be used, for example, to achieve common processing conditions.¹⁹ The cooperative union could also solve a problem identified by *Duch-Brown et al.* in connection with the establishment of Personal Information Management Systems (PIMS).²⁰ Their use is unattractive to data users because of rising transaction costs. Powerful data users could “force” data subjects to forgo the intermediation of PIMS. The data cooperative enables coordinated collective action and “rebalances” asymmetries.

The creation of relative data sovereignty is additionally facilitated by the economies of scale and scope associated with the use of data in the context of cooperatives (see also II.6.).²¹

Nonetheless, it is true that the extent of relative data sovereignty crucially depends on a high number of members; after all, this is the only way to realize the economies of scale. However, the costs of joint decision-making and internal control (so-called hierarchy costs) also increase. In this context, the heterogeneity of the membership base in terms of its objectives, other interests and economic strength is an important cost factor.²²

3. Democratic rules for data use (internal relationship)

Having previously focused primarily on the function of the data cooperative in external relations, we would now like to devote more attention to the function it can have in internal relations between members.

- 10 However, only to the extent that (disadvantageous) factual possibilities of influence arise. Then, finally, a conflict would arise with, among other things, principle no. 4 “autonomy and independence”.
- 11 Cf *Hall et al.*, Exploring legal mechanisms for data stewardship, <https://www.adalovelaceinstitute.org/report/legal-mechanisms-data-stewardship/>, p. 48 et seq.
- 12 See *Fisher/Strein*, *Columbia Journal of Transnational Law* 2022, 829, 945 et seq. In this context, the authors emphasize the importance of this distinction with regard to the problem of data inequality; in particular, it is crucial who can decide what or, more precisely, which (social) interactions are “datafied”. After all, data are generally not naturally available resources for which decisions merely have to be made about distribution, cf. p. 837 et seq. The poly.coop SCE, for example, is firmly committed to bringing the technical infrastructure under control; cf. its white paper “In Pod we trust: towards a transparent data economy”. https://polypoly.coop/en/polypoly_tech_Whitepaper_polyPod_2021_EN.pdf.
- 13 So especially *Jost*, *Data-Cooperatives*, https://ceps.unibas.ch/fileadmin/user_upload/ceps/3_Studium/Dokumente/2019_FS_Kolloquium_Felix_Jost_Data_Cooperatives_final.pdf, p. 3; but arguably also *Loi/Dehaye/Hafen*, *Critical Review of International Social and Political Philosophy* 2022, 1, 8.
- 14 Many data subject rights of the GDPR serve to strengthen the control of individuals over their data. However, the potential of many data subject rights can only be fully exploited through their bundled and coordinated exercise, cf. on the right to information under Art. 15 GDPR *Mahieu et al.*, *Internet Policy Review* 2018, <https://policyreview.info/pdf/policyreview-2018-3-927.pdf>, p. 15 et seq.
- 15 This would be particularly in line with the approach of *Fisher/Strein*, *Columbia Journal of Transnational Law* 2022, 829, 945 et seq.
- 16 So e.g. *Hardjono/Pentland*, *Data Cooperatives: Towards a Foundation for Decentralized Personal Data Management*, <https://arxiv.org/pdf/1905.08819.pdf>, p. 2 et seq.
- 17 There is much talk of data pools, see for example *Hall et al.*, Exploring legal mechanisms for data stewardship, <https://www.adalovelaceinstitute.org/report/legal-mechanisms-data-stewardship/>, p. 49.
- 18 Cf *Hansmann*, *The Ownership of Enterprise*, 1996, p. 24 et seq.; *Ohm*, *ZfG* 1952, 273, 277 et seq.
- 19 *Delacroix/Lawrence*, *International Data Privacy Law* 2019, 236, 243 assume that it may be appropriate for data fiduciaries from a cost perspective to focus primarily on negotiating general processing conditions rather than operating their own secure processing environment and other infrastructure; *Bietti et al.*, *Data Cooperatives in Europe: A Legal and Empirical Investigation*, https://cyber.harvard.edu/sites/default/files/2022-02/Data_Cooperatives_Europe-group2.pdf, also see this as a focus, cf. p. 3: “rebalancing [...] asymmetric relationship”; identical approaches can also be found in the DGA (see III. 2.).
- 20 Cf for the following, The economics of ownership, access and trade in digital data, *Digital Economy Working Paper 2017-01*, JRC Technical Reports, <https://ec.europa.eu/jrc/sites/default/files/jrc104756.pdf>, p. 35.
- 21 On economies of scale related to the use of data, see *Falck/Koenen*, Rohstoff “Daten”: Volkswirtschaftlicher Nutzen von Datenbereitstellung – eine Bestandsaufnahme, https://www.ifo.de/DocDL/ifo_Forschungsberichte_113_RohstoffDaten.pdf, p. 4; *Atik/Martens*, *Journal of Intellectual Property, Information Technology and E-Commerce Law* 2021, 370, fn. 23, 37; *Martens et al.*, *Business-to-Business data sharing: An economic and legal analysis*, *Digital Economy Working Paper 2020-05*, JRC Technical Reports, <https://ec.europa.eu/jrc/sites/default/files/jrc121336.pdf>, p. 13, on compound effects, see p. 12 et seq., 32. For the example of the data fiduciary (especially on the affected party side), already *Specht-Riemenschneider et al.*, *MMR Beilage* 6/2021, 25, 28.
- 22 *Hansmann*, *The Ownership of Enterprise*, 1996, p. 39 et seq., for a fundamental discussion. The use of new technologies could reduce costs in the future, see *Guidance Notes to the Co-operative Principles*, <https://www.ica.coop/sites/default/files/2021-11/ICA%20Guidance%20Notes%20EN.pdf>, p. 17, 25 et seq.; cf. also the fundamental work of *Coase*, *Economica* 1937, 386.

a) Taking into account horizontal relations

Big Data applications increasingly make it possible to draw conclusions about various people from the data disclosed by a single person and, on this basis, to create comprehensive personality profiles. This is also referred to as similarity-based and adversarial inference.²³ Ultimately, these are negative external effects of data disclosure. In many situations, it can therefore be described with *Fairfield/Engel* as “public bad” because it negatively affects the overall level of data protection in society.²⁴ Conversely, data protection is a “public good”.

However, there are also positive external effects associated with underutilization, which equally result in a loss of welfare. The reason for this in each case is the lack of complete internalization of such cost-generating or benefit-generating data uses.

Despite this outstanding importance of horizontal “data relationships” caused by the multi-relational character of data for the data economy, they play a subordinate role in the context of existing and discussed data governance models.²⁵ Meanwhile, the focus is on the vertical relationship between the data subject and the processor. Democratic data governance models, such as the data cooperative, represent an alternative.²⁶ The additional moment of cooperation between the members (also towards other data intermediaries) can be used to disclose and minimize damages of the use of multi-relational data, but equally to counteract underuse.²⁷ Joining together in a group to exploit collective action mechanisms is also well justifiable from game²⁸ and behavioral science.²⁹ The members of the cooperative would become part of a repeated “game”. A communicative framework would be created, whereby reciprocity mechanisms could be activated or utilized by making decisions visible to each other. In this way, behavioral expectations can be stabilized and dilemmas would ultimately be resolved. This also applies beyond the use of multi-relational data and shows that the data cooperative can create trust and cooperation between members.

b) Ostrom’s principles

However, we must assume that the association of members within a data cooperative will only be stable and long-lasting if the resource can be used efficiently, fairly and sustainably. The cooperative organization does not in itself provide any guarantee of this. Rather, it is only the (legal) “shell” that shields the association from the outside world, but provides only marginal organizational requirements on the inside, such as a democratic organization.

For this reason, we would like to propose a recourse to Ostrom’s design principles for dealing with “common-pool resource systems”. By adhering to these principles, a group of actors beyond the state and the market³⁰ regularly succeeds in using a shared³¹ and jointly managed resource in a sustainable manner that fosters the welfare of the entire group.³² However, these principles were developed on the basis of numerous empirical observations in the management of so-called allmende or common goods (fishing grounds, forests, etc.).³³ Data, on the other hand, tend to be located between club and public goods on the continuum of goods classification.³⁴ Nevertheless, together

with a handful of authors, we assume that the design principles also claim validity in this environment.³⁵ In the following, we would like to briefly introduce the design principles and, incidentally, refer to the more detailed discussion, especially in the context of the use of data, by *Ruhaak et al.*³⁶:

- i. Clearly defined boundaries for the use of the common resource: there needs to be a clear overarching purpose and clear shared values for how the resource should be used.
- ii. Appropriate rules for the use of the resource: Based on the purpose and the values, internal rules are necessary, which are adjusted to the circumstances of the group as well as the environment and thus enable an internalization of the own contribution to the management of the common resource.

²³ *Hacker*, Datenprivatrecht, 2020, p. 64 et seq.

²⁴ *Fairfield/Engel*, Duke Law Journal 2015, 385, 423 et seq.; for a game-theoretic derivation, see *Hermstrüwer*, Journal of Intellectual Property, Information Technology and E-Commerce Law 2017, 9, 12 et seq.; for sharing personal data in the platform economy, *Acemoglu et al.*, Too much Data – Prices and Inefficiencies in Data Markets, NBER Working Paper 26296, https://www.nber.org/system/files/working_papers/w26296/w26296.pdf.

²⁵ *Viljoen*, Yale Law Journal 2021, 573, 613 et seq.

²⁶ *Viljoen*, Yale Law Journal 2021, 573, 638 et seq., which does not refer to the data cooperative, but at least also to actors organized under private law, cf. p. 647 et seq.

²⁷ *Viljoen*, Yale Law Journal 2021, 573, 641 et seq., 644 et seq.; on the potential of data trusts in this context, see *Houser/Bagby*, The Data Trust Solution to Data Sharing Problems, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4050593, p. 14–20, 25.

²⁸ *Hermstrüwer*, Journal of Intellectual Property, Information Technology and E-Commerce Law 2017, 9, 12 et seq., 13 et seq.

²⁹ *Fairfield/Engel*, Duke Law Journal 2015, 385, 433 et seq.

³⁰ Thus, the original thesis for dealing with the “tragedy of the commons,” put forward by microbiologist *Hardin*, Science 1968, 1243.

³¹ I.e. there are no individual exclusive rights to (components of) the resource.

³² See *Ostrom*, Governing the Commons – The Evolution of Institutions for Collective Action, 1990.

³³ Ostrom used an analytical framework developed specifically for this purpose, the so-called Institutional Analysis and Development framework, or IAD for short. It was further developed by Ostrom and others with a view to the special features of information and data, cf. *Ostrom/Hess*, in: Hess/Ostrom (eds.), Understanding Knowledge as a Commons, 2007, p. 41 et seq. Picked up again and expanded into the so-called Knowledge Commons Research Framework by *Frischmann et al.* (eds.), Governing Knowledge Commons, 2014; cf. also the authors’ website on the project: <https://knowledge-commons.net/research-framework/>. Other authors later included informational self-determination (privacy) needs in the analysis, see *Sanfilippo et al.*, Journal of Information Policy 2018, 116.

³⁴ On the classification of information goods as a whole, see *Goldhammer*, in: Hofmann (ed.), Wissen und Eigentum: Geschichte, Recht und Ökonomie stoffloser Güter, 2006, p. 81.

³⁵ For an empirical analysis see *Fisher/Fortmann*, Information & Management 2010, 237; likewise for the applicability and with the addition of a questionnaire for existing data commons models *Ruhaak et al.*, A practical Framework for Applying Ostrom’s Principles to Data Commons Governance, <https://foundation.mozilla.org/de/blog/a-practical-framework-for-applying-ostroms-principles-to-data-commons-governance/>; an orientation to the design principles was also called for in the context of data stewards, see *Houser/Bagby*, The Data Trust Solution to Data Sharing Problems, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4050593, p. 50; critically *Madison*, TechReg 2020, 29, 35; However, the author points out the usefulness of Ostrom’s approach. There are first undertakings to transfer this approach, see Fn. 33.

³⁶ *Ruhaak et al.*, A practical Framework for Applying Ostrom’s Principles to Data Commons Governance, <https://foundation.mozilla.org/de/blog/a-practical-framework-for-applying-ostroms-principles-to-data-commons-governance/>.

- iii. Involvement of members and other stakeholders in the rulemaking process.³⁷
- iv. Necessity of a functioning monitoring system involving as many members and other stakeholders as possible.
- v. Appropriate sanctions for rule violations.
- vi. Easy internal conflict resolution.
- vii. Leeway for self-regulation.
- viii. Integration into a larger network within an emerging data economy.

4. Preliminary result

We have shown that the cooperative union of data producers enables self-empowerment over the resource data. This resource can be meaningfully managed by the data producers on their own if Ostrom's design principles are followed.³⁸ A data cooperative understood and implemented in this way is thus in line with *Delacroix/Lawrence's* call for bottom-up data governance models.³⁹

5. Delimitation to data trusts

Data trusts are independent actors who are bound to the interests of the trustor (fiduciary duty)⁴⁰ and to whom control over the trust property, i.e. the resource, has been delegated.⁴¹ They can be very similar to a data cooperative in design.⁴² This is especially true if elements of stakeholder participation are realized through something like committees.⁴³ Conversely, there is a special fiduciary relationship between a cooperative and its members, at least according to German cooperative law.⁴⁴

The key difference between the two models is the way in which their interests are interlinked. Whereas the data trust protects the interests of third parties, the cooperative serves the common pursuit of the interests of its members.⁴⁵ The (data) trust thus becomes a means of delegating responsibility.⁴⁶ It is likely to be particularly suitable in cases where there is insufficient incentive for potential group members to become actively involved in decision-making processes and other areas of activity. This is always the case when a group with clearly identifiable interests cannot be identified, i.e. when project goals are primarily in the interests of society as a whole. Examples of this are public welfare or fundamental research.⁴⁷ This assessment is also in line with Ostrom's first design principle.

6. Case study: agricultural data cooperative

The agricultural sector in the EU is characterized by a large number of small companies.⁴⁸ The other side of the market is highly concentrated.⁴⁹ Supply-side market participants face an oligopsony structure in a multi-level market.⁵⁰ While some competitors and in particular the powerful demand-side players are able to diversify and are thus protected against crop fluctuations and similar uncertainties, the small companies in particular would have to rely on digital, data-driven decision-making tools to counter the uncertain production conditions. At the same time, on one hand, small businesses find themselves unable to build a profitable data infrastructure with a sufficient database due to high fixed costs. On the other hand, integrated,

alternative offers from manufacturers of agricultural IoT machines harbor the risk of dependencies.⁵¹

In contrast, cooperatively organized, jointly used data pools represent a genuine alternative. They enable simplified and closer cooperation to create competitive countervailing power to the demand side. They succeed in increasing efficiency by aggregating and sharing production data on the basis of the non-rivalry of data.⁵² Economies of scale can also be realized particularly well in relation to digital investments, as there are hardly any variable costs.⁵³ In the USA the Grower Information Services Cooperative⁵⁴ has implemented a successful low-threshold service in cooperative form that uses these economic mechanisms.

III. Effect of data regulation on the different levels of the concept

Data law is the product of the interplay of a multitude of union and national legislation and many more are announced for the near future.⁵⁵ We will focus on the GDPR, the DGA and the proposed DA. According to the Commission's

- 37 This would also create an alternative to the statutory co-determination rights in the digital space proposed by *Wielsch*, in: Hofmann/Raue/Zech (Eds.), *Eigentum in der digitalen Gesellschaft*, 2022, p. 19 et seq.
- 38 On the compatibility of cooperative principles and Ostrom's design principles, see *Guttman*, *Annals of Public and Cooperative Economics* 2021, 33, especially p. 43 et seq., who considers novel "alliances" to be promising.
- 39 So as well *Micheli et al.*, *Big Data & Society* 2020, 1, 8; on the authors' call, see *Delacroix/Lawrence*, *International Data Privacy Law* 2019, 236, even though the authors have data fiduciaries in mind, they acknowledge the similarity to cooperatives, see p. 242.
- 40 This would be the data producer for comparison purposes in our case.
- 41 Cf. *Specht-Riemenschneider et al.*, *MMR Beilage* 6/2021, 25.
- 42 In this sense also *Delacroix/Lawrence*, *International Data Privacy Law* 2019, 236, 242 et seq.
- 43 *Schneider*, *Regulierungsansätze in der Datenökonomie*, <https://www.bpb.de/shop/zeitschriften/apuz/292347/regulierungsansaeetze-in-der-datenoeconomie/>.
- 44 See *Fandrich*, in: *Pöhlmann/Fandrich/Blochs* (Eds.), *GenG*, 4. Aufl. 2012, § 1 Rn. 30.
- 45 *Specht-Riemenschneider et al.*, *MMR Beilage* 6/2021, 25, 34. On the distinction between the basic forms of interest linkage in German civil law (exchange of services, trust and cooperation business), see *Löhnig*, *Treuhand: Interessenwahrnehmung und Interessenkonflikte*, 2006, p. 115 et seq.; *Beyerle*, *Die Treuhand im Grundriss des deutschen Privatrechts*, 1933, p. 19.
- 46 This is not to say that (data) cooperatives do not need to resort to representation mechanisms to compensate for insufficient incentives.
- 47 For example, in cases of genome databases, cf. *Winickoff/Winickoff*, *The New England Journal of Medicine* 2003, 1180; by contrast, the use of data cooperatives in the "smart city" is likely to be different, even if the public good is in the foreground. There, interests can be delimited due to local ties, cf. for example *Petras*, *MMR* 2021, 862.
- 48 Republik Österreich, *Grüner Bericht* 2010, <https://gruenerbericht.at/cm4/jdownload/send/2-gr-bericht-terreich/418-gruener-bericht-2010>, Chapter 3.2.
- 49 EDEKA, REWE, Aldi and the Schwarz Group have a combined market share of about 70 % in Germany, Statista, *Market Shares of the Leading Companies in Food Retailing*, <https://de.statista.com/statistik/daten/studie/4916/umfrage/marktanteile-der-5-groessten-lebensmittel-einzelhaendler/>.
- 50 For an explanation of different market structures, see *Kolmar/Hoffmann*, *Arbeitsbuch zu Grundlagen der Mikroökonomik*, 2018, p. 37 et seq.
- 51 On such dependency-generating business models, see *Atik/Martens*, *Journal of Intellectual Property, Information Technology and E-Commerce Law* 2021, 370 with further evidence.
- 52 *Jones/Tonetti*, *The American Economic Review* 2020, 2819.
- 53 *Büchi et al.*, *Emerging Issues in Management* 2018(2), 66, 71.
- 54 <https://www.gisc.coop>.
- 55 See e.g. *Schmitz*, *ZD* 2022, 189.

plan, each of these will have an overwhelmingly important position within data (commercial) law.⁵⁶

1. GDPR

In order to implement the idea outlined above of collectivizing either the data itself and/or the associated legal positions (“pooling”), it is necessary that the use of data and the exercise of legal positions can be decided by majority vote. Furthermore, it would be favorable if the rights to data could be exercised by the data cooperative. However, if the data is related to individuals, the GDPR imposes substantial limits.⁵⁷ The extent to which data subject rights under the GDPR can be exercised by third parties is the subject of current discussions (see III. 2). The “individualistic data control paradigm”⁵⁸ is apparent in various parts of the GDPR and manifests itself in particular in the requirement of consent. Yet, it makes collective processing decisions and thus the creation of relative data sovereignty and the consideration of horizontal data relationships between the data subjects more difficult.⁵⁹ Even though it still might be arguable that horizontal relationships, in a case where data subjects are themselves members of the cooperative, could be reflected at least in Art. 6 Para 1 lit. f) GDPR⁶⁰ via the legitimate interest of third parties (other members) and possibly also via lit. b)⁶¹ up to the necessity limit.

Other data protection requirements of the GDPR and sector-specific data protection laws further restrict the scope for internal self-regulation and thus the realization of Ostrom’s seventh design principle.⁶² Insofar, the internal relationship of the data cooperative is (negatively) affected.

Conversely, the rights of data subjects under Articles 15 and 20 of the GDPR are beneficial to the realization of data cooperatives. They provide an instrument for transferring data to one’s own infrastructure and thus bringing it under one’s own de facto control. An attempt to use this instrument is currently being made, for example, by Salus Coop SSCI.^{63, 64}

2. DGA

The DGA is intended to promote the availability of data from both the private and public sectors, in particular through voluntary data exchange. To this end, among other things, trust in so-called providers of data intermediation services (Art. 2 No. 11 DGA) is to be strengthened through registration and subsequent supervision.⁶⁵ The (increased) trust thus created in entities that have as little interest as possible in the content or use of the individual data (also referred to as “data neutrality”)⁶⁶ is intended to comprehensively reduce the transaction costs of data exchange. According to Art. 10 lit. c) DGA, data cooperatives also belong to these data intermediation services. According to Art. 2 No. 15 DGA, data cooperatives are defined as “data intermediation services offered by an organisational structure constituted by data subjects, one-person undertakings or SMEs who are members of that structure, having as its main objectives to support its members in the exercise of their rights with respect to certain data [...]”. In this context, Recital 31 Sent 2 DGA clarifies that data subject rights of the GDPR are not waivable. In a departure

from the Commission’s draft, however, it is no longer explicitly ruled out that data subject rights can at least be exercised by the data cooperative on a representative basis.⁶⁷ Such a possibility would facilitate coordinated control of the resource and thus favor the establishment of relative data authority in the external relationship. Overall, the European legislator sees the data cooperative as a means of balancing the power asymmetries of actors who tend to be weak in the market (data subjects, SMEs, etc.) in a variety of ways. The European legislator also has the internal function of the data cooperative in mind. Recital 31 Sent 1 DGA states that the data cooperative may provide resolutions to conflicting interests of its members with regard to data use. Thus, the European legislator adopts a similar view of the data cooperative. The approach we have chosen is nevertheless broader,⁶⁸ for the simple reason that the DGA regulates data cooperatives only as data intermediation services.⁶⁹

As a consequence, the DGA stipulates a notification requirement (cf. Art. 11 Para 1) and activity-related obligations (cf. Art. 12). The additional compliance costs associated with these obligations could stand in the way of a rapid

56 Cf. in total COM(2020) 66 final, A European Data Strategy of 19.2. 2020.

57 For other legal challenges to data pooling, see Gleiss Lutz, Datenpooling zwischen Unternehmen, 2.2.2022, https://www.gleisslutz.com/de/aktuelles/know-how/Datenpooling_zwischen_Unternehmen.html.

58 On the term, see Pohle, Datenschutz: Rechtsstaatsmodell oder neo-liberale Responsibilisierung?, https://www.verbraucherforschung.nrw/sites/default/files/2022-02/zth-05-pohle-datenschutz-rechtsstaatsmodell-oder-neoliberale-responsibilisierung_0.pdf, p. 8 et seq., even if the author sees the roots of the GDPR rather in the “rule of law model” of data protection, cf. p. 10 et seq.

59 See also Bietti et al., Data Cooperatives in Europe: A Legal and Empirical Investigation, https://cyber.harvard.edu/sites/default/files/2022-02/Data_Cooperatives_Europe-group2.pdf, p. 21; see also Viljoen, Yale Law Journal 2021, 573 for a detailed critique.

60 Within the balancing exercise, it would have to be taken into account in this respect that the processing should be reasonably expected in many cases upon joining the data cooperative, cf. recital 47.

61 In this respect, memberships can be subsumed under the concept of contract as a relationship of trust similar to a contract, see Buchner/Petri in: Kühling/Buchner (Eds.), DS-GVO/BDSG, 3. Ed. 2020, Art. 6 para. 29. If, as in the case of the Data Commons Cooperative (legal form unknown) [available at: <https://datacommons.coop/>], trade unions or other purposes of particular significance for a democratic society are pursued without the intention of making a profit, this could also be positively taken into account in line with Art. 9 Para 2 lit. d) GDPR.

62 Bietti et al., Data Cooperatives in Europe: A Legal and Empirical Investigation, https://cyber.harvard.edu/sites/default/files/2022-02/Data_Cooperatives_Europe-group2.pdf, p. 21; critical also Viljoen, Yale Law Journal 2021, 573, 650 et seq.

63 <https://www.saluscoop.org/acerca>.

64 Vgl. Bietti et al., Data Cooperatives in Europe: A Legal and Empirical Investigation, https://cyber.harvard.edu/sites/default/files/2022-02/Data_Cooperatives_Europe-group2.pdf, p. 21.

65 Data cooperatives in the area of data altruism as defined in Chapter IV DGA are also conceivable. In such cases, however, we believe that data trustees are more realistic (see II. 5. above).

66 Richter, ZEuP 2021, 634, 654 et seq.

67 Cf. Recital 24 Sent 2 DGA; cf. for discussion also Specht-Riemenschneider et al., MMR-Beilage 6/2021, 25, 41 et seq.

68 For example, the establishment of a direct business relationship between the data owner or data subject and the data user is not required. We also understand that a data cooperative can be a closed club and does not have to be open to an indefinite number of data owners or data subjects.

69 This excludes, for example, the fact that data cooperatives can play a decisive role in the initial collection of data and not only in its exchange.

implementation of data cooperatives as data intermediation services.⁷⁰

In summary, it is doubtful that the DGA will contribute to enabling data cooperative models. It establishes obligations that supplement those of the GDPR. The “individualistic data control paradigm” of the GDPR will thus be maintained (cf. especially Art. 1 Para 3 DGA).

3. Proposed DA

Chapter II of the DA assigns various data access rights to the users (Art. 2 No. 5 DA) of IoT devices with regard to such (raw) data generated during the use of IoT devices. The Commission’s intention is to increase value creation. The idea is that users will contribute to better availability of data by means of these newly acquired access rights by “breaking up” data silos, especially those of device manufacturers, in a decentralized manner. As a result, the innovation potential of such data can be used, for example, in subsequent markets. In addition, the fair allocation of the profits derived from the creation of value with data should also be achieved.⁷¹ If intelligently linked to the idea of a data cooperative, we see great potential in the regulations of the DA:⁷²

i. Mandatory contractual basis of use for non-personal data: In the future, pursuant to Art. 4 Para 6 DA, the data controller must enter into a contract with the device user concerning the use of the non-personal data generated during the use of the IoT device. At first glance, this strengthens the position of the device user. Now there is criticism that, especially in the B2C relationship (device user is then consumer), unequal power prevails (information asymmetries, behavioral distortions, etc.), which is why a contract requirement could degenerate into a mere formality.⁷³ Data cooperatives can reduce existing asymmetries in these cases.

ii. Data transfer between data owner and device user: According to Art. 3 Para 1 DA-D, data should be accessible to the user “by design” in the future. Where this is not possible, Article 4 Para 1 DA-D stipulates that, subject to conflicting rights (of third parties), the user has a (real-time) access claim against the data owner.⁷⁴

Similar to Article 20 of the GDPR, which is also applicable⁷⁵, these provisions allow the members of a data cooperative to take control of the resource. However, they overcome some design flaws of Art. 20 GDPR (lack of real-time access, exclusion of “observed” data, etc.). Criticism concerns, among other things, the possibility of the data owner to refer device users to an “in-situ” data access.⁷⁶ In this respect, however, the data cooperative, acting on behalf of its members, could work towards a clause excluding mere “in-situ” access within the framework of the prior contractual agreement pursuant to Art. 4 Para 6 DA.

IV. Data cooperatives and data private law

The European Commission has committed itself to the creation of (an enabling) data private law, as often called for.⁷⁷ In its European Data Strategy⁷⁸, it generally relies on vo-

luntary data sharing between companies through contracts.⁷⁹ However, especially in the context of personal data as a tradable commodity, there are numerous factors (market power, information asymmetries, externalities, etc.) that favor market failure and that cannot be compensated simply by providing dispositive contract law.⁸⁰

As described, data cooperatives can make a decisive contribution to reducing power and information asymmetries. On the inside, they facilitate the internalization of external effects for the benefit of their members by being designed as data commons. The cooperative structure acts as a “shell” to make the data commons compatible with the system, i. e. marketable.⁸¹ Finally, data commons are considered as an independent organizational form for resource allocation alongside the state and the market. The implementation of data cooperatives could be promoted through legal privileges and government start-up funding. Overall, this would be a more gentle intervention into the market than the proposed prohibition of clauses and other mandatory regulations.

70 Similar *Bietti et al.*, Data Cooperatives in Europe: A Legal and Empirical Investigation, https://cyber.harvard.edu/sites/default/files/2022-02/Data_Cooperatives_Europe-group2.pdf, p. 18 et seq.

71 COM(2022) 68 final, p. 3.

72 Critical because of legitimacy and preservation of factual positions on data *Kerber*, Governance of IoT Data: Why the EU Data Act will not fulfill its objectives, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4080436.

73 *Kerber*, Governance of IoT Data: Why the EU Data Act will not fulfill its objectives, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4080436, p. 20 et seq.

74 In addition, according to Art. 5 para. 1 DA-E, the user has the right to request the transfer of data directly to a third party recipient, in our case the data cooperative.

75 Cf. recital 31 DA-D.

76 About the concept *Van Alstyme, et al.*, Communications of the ACM 2021, 34; cf. recital 21 DA-D.

77 *Hacker*, Datenprivatrecht, 2020, p. 5, 14 f.; *Hacker*, ZfPW 2019, 148, 195; *Staudenmayer*, IWRZ 2020, 147, 147 et seq.; *Steinrötter*, RD 2021, 480, 484 et seq.; in this context, *Korch* states “hardly any room for development” for dispositive contract law alongside the regulatory regime of the GDPR, ZEuP 2021, 792, 796–803; on private law as infrastructure in the public interest, *Schweitzer*, AcP 2020, 544, 570 et seq.

78 COM(2020) 66 final of 19.2.2020.

79 Explicitly with regard to the Data Act, cf. COM(2020) 66 final of 19.2.2020, p. 16; also *Staudenmayer*, IWRZ 2020, 147, 164.

80 *Schweitzer*, AcP 2020, 544, 570 et seq.; *Specht-Riemenschneider*, in: *Buchner/Petri* (Eds.), Festschrift Tinnefeld, forthcoming.

81 A similar idea can be found in *Baars et al.*, BI-Spektrum 2/2021, 31, 32 (“...a cooperative provides a framework for holding common resources.” – Emphasis by the authors).