

RESEARCH FINGERPRINT

IDENTIFIER

LJRMB-229498

PEER REVIEW

Double Blind

SIMILARITY CHECK

Perplexity AI and iThenticate

ACCESS

Open Access

LANGUAGE

English

PRINT ISSN

2633-2299

ONLINE ISSN

2633-2302

EDITION

ABBREVIATION

LJRMB-A

VOLUME

26

ISSUE

3

YEAR

2026

KEY DATES

RECEIVED

2026-07-28

ACCEPTED

2026-08-06

ONLINE PUBLISHED

2026-08-10

PUBLISHED

2026-08-14

CATALOGING

CROSSMARK DOI

10.34257/ARTICLE229498UK

Article Record

On the Concept of Documedial Cooperativism

CORRESPONDENCE → +



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ABSTRACT

The contemporary data economy is characterized by unprecedented opportunities for value creation alongside significant inequalities in the distribution of that value. Existing data governance frameworks, largely founded on the understanding of data as information and centred on privacy protection, have proven inadequate in addressing power asymmetries between data subjects, data holders, and data users. Although data cooperatives emerged as a promising institutional mechanism to democratize data governance and empower vulnerable stakeholders, they continue to face substantial legal, technological, and economic challenges. Their sector-specific orientation and limited conceptualization of data as a common informational resource constrain their scalability, interoperability, and capacity to realize the broader socio-economic potential of data. This study argues that these limitations...

Full abstract continues on the metadata continuation sheet.

Index Terms: Data cooperatives • documedial cooperativism • social ontology • documentality • data governance • data as social object • value redistribution • interoperability

FUNDING

This study was carried out within the project “WEBFARE” (Nr. FISA2022-00908), funded by the...

CONFLICTS

The authors declare no conflict of interest.

AI USAGE

No generative AI was used for analysis or results.

HOW TO CITE

Ferraris et al. (2026). On the Concept of Documedial Cooperativism. London Journal of Research in Management and Business, 26(3), 1-15. DOI: 10.34257/ARTICLE229498UK

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ONLINE

AUTHOR CONTACT QR LEDGER



FULL FUNDING STATEMENT

This study was carried out within the project “WEBFARE” (Nr. FISA2022-00908), funded by the Ministero dell’Università e della Ricerca – with the FISA 2022 (D.D. n. 1405 DEL 13/9/2022 FONDO ITALIANO PER LE SCIENZE APPLICATE (FISA)) program. This manuscript reflects only the authors’ views and opinions, and the Ministry cannot be considered responsible for them.

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The contemporary data economy is characterized by unprecedented opportunities for value creation alongside significant inequalities in the distribution of that value. Existing data governance frameworks, largely founded on the understanding of data as information and centred on privacy protection, have proven inadequate in addressing power asymmetries between data subjects, data holders, and data users. Although data cooperatives emerged as a promising institutional mechanism to democratize data governance and empower vulnerable stakeholders, they continue to face substantial legal, technological, and economic challenges. Their sector-specific orientation and limited conceptualization of data as a common informational resource constrain their scalability, interoperability, and capacity to realize the broader socio-economic potential of data. This study argues that these limitations stem from a deeper ontological issue: the prevailing understanding of data itself. By drawing on the theory of documentality, it proposes a reconceptualization of data as a social object or documедial resource whose value is jointly constituted through the interactions of multiple stakeholders. Such an understanding provides a stronger normative and theoretical foundation for cooperative governance. Documедial cooperativism recognizes both the informative and performative dimensions of data and consequently places social sustainability, fair value redistribution, and inclusive participation at the centre of data governance. By establishing a common conceptual framework across sectors and jurisdictions, documедial cooperativism offers greater potential for interoperability, scalability, and equitable economic participation. It reconciles the economic and social value of data, legitimizes broader collaborative uses of datasets, and provides a basis for fair remuneration of all contributors. Ultimately, the documедial approach represents a significant advancement in cooperative data governance, offering a more just, sustainable, and socially responsive framework for governing data in the digital age.

RESEARCH ARTICLE

On the Concept of Documedial Cooperativism

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Keywords: Data cooperatives, documedial cooperativism, social ontology, documentality, data governance, data as social object, value redistribution, interoperability

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1 Introduction

Data in digital economy is something that optimize systems, creates value and increase productivity, increase the value of existing assets etc... (Sadowski, 2019). The capacity of data to generate value make it a capital asset or a resource. The value of data increases when the it is re-used in several other contexts. Therefore, it becomes more valuable in collaborative digital environments (Viljoen, 2021). However, the collaboration cannot be realized effectively if certain problems persisting in the current the data exchange landscape is resolved.

One of the problems in the field of data exchange consists in the relation between three actors: data subjects, data holders, and data users. Data subject is the individual or entity whose data is exchanged. Data holder is the entity which provides the hardware and software infrastructure where the data of the data subject is stored. Data user is the entity who make use of the data of data of any data subject for the

former's interest. Data exchange is important for the stakeholders due to its value.

The roles of the actors could be interchanged depending on the context. Data user and data holder could be the same entity as in the case when Google makes use of its customer data for developing a new product for their company. Meanwhile, Google become a data user, if it tends to use the data held by some other web service provider to develop the same product, in which case, the web service provider is the data holder. However, Google can be a data subject if the data under question is concern the activities done by Google. In complex digital ecosystems (e.g., federated cloud networks or IoT platforms), entities often operate as data holders and data users simultaneously. Good data exchange practice consists in recognising the role of each stakeholder in the context of socially sustainable use of data. It should side with the interest of the most vulnerable stakeholder without compromising the entrepreneurship.

There is the asymmetry of power and information between these players (Pentland et al. 2019). Big tech companies and other similar corporations may manage to secure their own desired way of data exchange by dint of their resource capabilities. Individual persons and

¹This study was carried out within the project "WEBFARE" (Nr. FISA2022-00908), funded by the Ministero dell'Università e della Ricerca - with the FISA 2022 (D.D. n. 1405 DEL 13/9/2022 FONDO ITALIANO PER LE SCIENZE APPLICATE (FISA)) program. This manuscript reflects only the authors' views and opinions, and the Ministry cannot be considered responsible for them.

other small enterprises, on the other hand, often become subject to the problems related to the power and information asymmetry in the field of data exchange. The abuse of the gatekeeper status by big tech companies by stifling competition in the market is a paradigm for this. The National Competition Authorities around the world has addressed these tendencies of big tech companies that infringes the well being of individual persons and SMEs (Eben & Zhu, 2023). They may remain within the boundaries of current data governance mechanism but make use of the loopholes.

Big tech companies tend to transcend the legal barriers by actively spending on lobbying. The revenues earned by them by capitalizing on the data of various data subjects are being used to reduce the probable benefits for the same data subjects (UNCTAD, 2021). The lobbying would reduce the importance of regulation like the General Data Protection Regulation (GDPR), Digital Markets Act (DMA), Digital Governance Act (DGA) and other similar regulation.

The current legal and economic landscape of data exchange based on the understanding of data as prevalently informational does not protect the vulnerable data subjects. Apart from the case of big tech companies causing damages to SMEs, it prevents the use of datasets for pursuing initiatives of public interest. The stringent rules with prevents the exchange of datasets held by public institutions and the private enterprises (Calzati & van Loenen, 2025). If the damage caused in the first case is the result of an active attack on the SMEs and start ups, the second damage, is the result of not using the potentials of data well enough.

Consequently, the individual person suffers these damages notwithstanding the fact that she has contributed to the growth of data driven initiatives. The life of individual person who would be a member of the SME group, public interest initiative beneficiary or of some other social group is not better off using the newly discovered goods and services. He may be nominally better off from the situation when these technologies did not exist but not really better off given the levels of power imbalance and inequalities.

1.1 Data Cooperatives

Data cooperatives emerged as a solution for the current problems pertaining to the data exchange systems. The idea of cooperative societies is not a new idea considering its inception in the year 1844 by the Rochdale Pioneers in Lancashire, England. The year mark a formal starting of cooperatives, although the idea of cooperating is as old as human history. The perennial presence of cooperative society extends digital sector as evident from the number of cooperative societies enlisted in the European Cooperative Society (SCE). Historically, cooperative movements gained momentum in the context of the injustices happening in the capital management (Sandoval, 2015). Similarly, the mismanagement of data – the newly emerged capital – has led to the emergence of data cooperatives. However, the ontological difference between other capitals and data requires a different approach of cooperativism. Data is a non-rivalrous asset while it could be made excludable. Cooperativism in the field of data exchange needs to capture this aspect in order to address the current drawbacks of data exchange practices.

The success of legacy or traditional cooperatives can be inspiration for extending them to the digital sector as well. Traditional cooperatives have managed to play the role of ‘people centered wealth generators’ in the past decades (Kuznetzova et al. 2025). The sector holds a share of 10 per cent of the world’s employed population and contribute 15 per cent to the world economy by means of more than three million organisations (Kuznetzova et al. 2025). Although coops manage to deliver social value, improve social capital, and community well being, there are drawbacks of coops that prevent them from becoming a major

business model. Scholars have noted that coops are inefficient in several grounds; slower in decision making process and risk averse (Kalmi, 2007). The drawback of coops weakened the practice of cooperativism in the economy and gave way to the spirit of competitiveness who’s kin to capitalistic movements. On the other side, there are the current business systems and philosophy of business model that underestimate the value of the coops results negative outcomes in the society.

Data cooperatives emerged following the fashion of traditional cooperatives. They contain both the good aspects and the drawbacks of legacy coops. Data cooperatives are a subgroup of the wider group of data intermediaries. Data intermediaries refer to any legal entity that play the role of a ‘middleman’ between the exchange of data between data actors. Each kind of data intermediary is different based on the rules, regulations, modus operandi, and norms according to which they exist and operate (Michelli, 2024). In this regard, data cooperatives resemble more of a cooperative working mechanism. They employ IT architectures to realise the already existing cooperative governance techniques in the field of data cooperativism as well (Pentland, 2019). Several data coops follow the norms suggested by International Cooperative Alliance (ICA) in order to streamline their cooperative governance techniques (Fink, 2024).

Data is the new resource which is been governed by data cooperatives. Although it is identified as the new oil, there are significant differences between these two resources (Stach, 2023). The heterogenous nature of data depending on the contexts in which they are found, demand a dynamic governance mechanism. Data coops emerged as such a dynamic governance mechanism that can encompass the heterogeneity present in data as resource. The successful cases of data coops proves that cooperativism is feasible in the field of data governance. For instance, one of the most delicate kind of data – health data – have been successfully exchanged through a data cooperative with agreement with various data actors of the sector through the coop MIDDATA (Hafen et al. 2019).

Data cooperatives render the data exchange more sustainable when giving equal importance in protecting the interests of all stakeholders. Data cooperatives can play the role of consent managers based on the new digital technologies and empower individual data subjects by providing them with more autonomy (Girish and Avery, 2022). The lack of technology infrastructure and the expert knowledge create lock in effects for the data subjects that culminate as a power imbalance. These problems are overcome by a large extend by data cooperative. The organisational structure of a data cooperative follows the suite of classic cooperative in which a decentralised way of ownership promotes equitable and just use of resources (Sholz, 2016).

1.2 Current Problems with Data Coops

Notwithstanding several advantages of data coops, the EU coops lack an environment that foster their effective functioning. There are legal, technical, and economic constraints regardless of the mission of coops to engage in collaboration with both private and public entities (Bietti et al. 2021).

The current legal landscape is not very friendly with the functioning of the data coops. The difference in various legal systems results in the lack of a common operational legal framework. Although there are general legal frameworks like the GDPR, DGA, AI Act etc... that decide data governance, the heterogeneity in the subset of sectorial and regional legislations make data exchange difficult. Legislations like the DGA intend to promote data exchange within the EU, but their bureaucratic nature makes data exchange via data intermediaries ‘economically non-viable’ (Carovano & Finck, 2023). The neo liberal assumption of data governance prevailing in EU restrains collective or

collaborative use of data (Bietti et al. 2021). It is concerned more with protecting privacy of people than making use of data for the welfare of the society.

Carovano, G., Finck, M. (2023). Regulating data intermediaries: The impact of the Data Governance Act on the EU39's data economy. *Computer Law and Security Review*, 50, Article 105830. <https://doi.org/10.1016/j.clsr.2023.105830>

The difficulty to choose an appropriate technology is another challenge for data coop. Technology is an essential part of the operational framework of data coops. They need to serve the purposes of data storage, processing, digital security, interoperability, and scalability (Mendonca, 2025). The motivation to realise these purposes are varied across various data intermediaries to other data driven businesses. Therefore, a clear-cut motivation is necessary while choosing the sort of technology for any particular data coop. If the choice of technology is not based on such a clear-cut motivation, but on short term pragmatic grounds, the data coop may face challenges in the long run. The technology used in data coop should be capable of realising the seven principles of cooperatives along with an eighth pillar of cyber-security (Cheney et al., 2023).

The current system of data coops is yet to develop a sustainable economic source for their functioning. The cost of running a data coop comes from membership fees, members joining a related cooperative, start-up funds, by selling data to queries etc... There should be better incentive mechanisms to create larger datasets for data coops, so that they can make viable financial model by generating value using them. Big tech manages to make financial models that support their activities even when they offer services for free by dint of the capital investment they receive. They attract capital investment because they promise higher returns to the investors. Data cooperatives often struggle to find sustainable financial streams to carry on with its mission (Petreski et al. 2025). Therefore, there should be better incentives for the people to join data coops to share their data. The economic value produced by a data coop need not limit the revenue generated by the cooperative itself, but also to the value produced by other data driven enterprises facilitated by the data coop (Mehta et al. 2022).

The challenges faced by data coops render them incapable of realising their potential benefits discussed in the prior section. They render data cooperatives as less efficient instrument to realise data governance and better method for data valorisation.

2 Documediality and Documentality

Documedi cooperativism is inspired by the business models of current data cooperatives, and the opportunity of documedi interpretation of data for reducing the drawbacks of the former. The merit of documedi cooperativism stems from the social ontology underpinning it (Ferraris, 2012). It interprets data as social object while traditional data cooperatives limit the understanding of data as information. Although data contains information about the data subject it represents, the value of data is co-created by data subject, data holder, and data user. Not only data cooperatives but also the current legal framework tends to identify data as information, and later, use data in various contexts accordingly.

The fundamental drawback that prevents the efficient functioning of data cooperatives is their understanding of data. The understanding of data is based on philosophy of information. There have been several attempts to interpret the non-technical aspect of digital data. The non technical aspect of data is evident from the ten V's of data: 1) velocity 2) volume 3) value 4) variety 5) veracity 6) variability 7) validity 8) vulnerability 9) volatility and 10) visualisation (Karu, 2023). They emphasise the value of data from the point of view of social value than that of information and communication technology. Similarly, Mitchell

et al. observes that the value of data is not only dependent on volume, but also on the content and context (Mitchell et. al 2021). Similarly, there are plenty of other instances which showcases the social value of data (Zygmuntowski, 2023).

Several Scholars have made attempts to interpret this social dynamic of data in the past decades. They have managed to provide the description of the social impact of big data. They describe the effects of data driven initiatives on the social fabric and the role of data in it. Concepts like data epistemology (Kitchin, 2014); critical data studies (boyd & Crawford, 2012); datafication and platform society (van Dijck, 2024); algorithmic governmentality (Rouvroy & Stiegler, 2016) surveillance capitalism (Zuboff, 2019) are attempts in this regard. They explain the advantages and disadvantage of data driven initiatives but does not explain the reason behind it. On a second level, the thinkers have taken a step further in trying to explain the reason behind the force of data that permits the changes brought in by it (Floridi, 2011). Their approach is more focused on philosophy of information which fails to pin point the peculiar feature of big data. The two approaches towards data apparently capture the nature of the data. However, they remain in the context of philosophy of information and studies data through the optics of information sciences. Consequently, they do not go deep into understanding the ontology of data though successfully interpret data from the information point of view.

The partial understanding of data – based on its effects on society and the philosophy of information – offer partial solutions. The interpretation of data as 'commons' is a paradigm of such a partial understanding (Zygmuntowski, 2023). Interpretation of any dataset through the framework of data commons would allow the easy exchange of data between the members of a community. It promises the reduction of the 'over power' enjoyed by data holders and data users. Moreover, it provides a good reason for the exchange of data between various communities (scientific, artistic, bureaucratic etc...) However, they do not allow scalability due to the narrow definition of community, and fails to provide common grounds for collaboration for different kinds of stakeholders (Tarkowski et al. 2024). Evidently, the interpretation of data as common good does not resolve the problem concerning data cooperatives discussed in the prior section.

Documedi cooperativism is founded on the social ontology of documentality. Social ontology as a discipline investigates the nature of social reality. It seeks to understand where does the social reality exists and how do it exist. These questions are as old as human societies itself as it is evident from the thoughts of ancient Greeks to novel academic research topics (Pelletier & Rode, 2023).

The theory of documentality suggests that social reality exists by virtue of the documents underlying it. Social reality refers to the status of the natural reality constructed by human beings by means of producing different types of documents. For instance, a human person who is a natural object assumes the status of a social object, like a citizen by means of a document issued for him by a State. Similarly, individuals and institutions who are constituted of natural reality assumes the ontological status of social reality by virtue of the respective documents (Ferraris, 2012). A counterfactual interpretation would prove the case clearer. A natural object like a human person, a building or a group of trees cannot assume the status of a citizen, a parliament building, or a reserved forest area respectively, in the absence of the documents stipulating them so. Further, documents need not necessarily restricted to papers, but any material platform that bear the agreement between two or more human beings, directly or indirectly, would become a document.

The essential function of the document is to record the actions performed by human beings in a way that it could become reference

points in the future. The basic condition for a society is two or more people agreeing upon a particular way of interaction around their surroundings and between themselves. The theory of intentionality interprets this process as X (natural object) becomes Y (social object) in the context C (Searle, 1995). However, if the agreement arrived on the basis of collective intentionality are not documented elsewhere, there would be no point of reference in the case of disputes or the agreement simply be forgotten.

On the contrary, an agreement which is documented could be referred time and again, and could be subjected to modifications if necessary. Therefore, documents by virtue of their nature as bearers of recording of human agreements and actions, can explain the social dynamics of the society emerged out of it. The differences in the norms and practices found in societies across the world can be attributed to the differences the nature of documents underlying their existence. The fact that any natural object enters into the category of document by virtue of its capacity to bear recording of any action, allows the annotation of a sea of objects as documents. They could include even museum objects, animals in a zoo, or a landscape (Grenersen et al. 2016).

Documents play both informative and performative roles in the context of social ontology. The performative role consists in the force of the document to account for the existence of a social reality. For instance, the driving license is a document which perform the role of validating the existence of a person with the quality of a driver. A person could have the quality of a driver even without having a driving license if he knows to drive. However, he may not be able to perform the activity of a driver in a society without the document. On the other hand, informative role of the document refers to the secondary uses of the document than the fundamental one for which the document is created for. For instance, the driving license can serve as an identity document on certain occasion when the person's driving capabilities are not necessarily questioned.

Similarly, digital data carries the essential nature of documents – registration. Digital data are essentially the traces of user activity left on various digital platforms. The mosaic of data includes personal data like browsing history, social media activity, online shopping, health and fitness, construction and infrastructure, citizen science project, public datasets etc... (Tanwar et al. 2021; Buhler et al. 2023). Similarly, it has the informative and performative role found in documents. For instance, the digital receipt of an energy payment bill performs the duty of proving that the client has paid the bill, and at the same time, can inform a third-party energy provider about the energy consumption pattern of the particular client.

The performative and informative traits of digital data by dint of 'registration' give the documental the nature of data. The documental nature, in turn, explains the capacity of data driven initiatives to have far reaching consequences of society. Data driven initiatives have better outcomes compared to their counterparts which are non-data driven. Data would provide a clearer picture about the social reality in which any particular data driven initiative works.

The interpretation of data as documents explains the reason behind the value of data. The connection between the value of data produced by data subjects is significant enough to attribute labour value to the data subjects (Arrieta-Ibarra et al., 2018). It not only proves the value of data but also legitimise the need to equitably distribute the value of data in society. Apart from the labour value which could be interpreted in economic terms, there is the social value as well. The social value of data is directly corelated to the identity of data subjects as social entities who produce recording of their activities. The documental nature of digital data is the result of the activities performed by data subjects recorded on various online platform. Therefore, data, which is essentially existing on

digital medium can be considered as a documerial resource (Ferraris, 2022).

Consequently, a cooperative approach towards managing this newly found resource need to capture its essential qualities. The current legal, technical, and economic landscape of data of governance need not necessarily capture the essential nature of data. Moreover, data subjects are kept at bay by keeping them under the veil of privacy discourses. Data subjects are more concerned about protecting their privacy rather than playing an active role in shaping the nature of data driven initiatives. Protection of the privacy rights of data subjects paramount, at the same time, implementing equitable redistribution of value produced by data. However, current understanding of data creates data governance that fails to protects the privacy right of data subjects, and the at the same time impedes the use of data for socially relevant initiatives (Calzati & van Loenen, 2025).

3 Documerial Cooperativism

Documerial cooperativism underscores the social ontological value underpinning data. It stands for a data governance system that would respect the informative and performative aspects of documentality found in the data. Thereby, it seeks to ensure facilitating socially relevant projects without compromising the privacy rights of data subjects. Traditional data cooperatives lack this aspect, and consider data as yet another subject governed under cooperative principles. Meanwhile documerial cooperativism not only captures the spirit of the traditional cooperativism but also update it with the ontological nature of the new subject matter under governance.

The nature of data as a social object provides legitimacy to govern it in a way fruitful for the society at large. It is no more an option, but an imperative for the institutions to conceive ways by which data governance prioritises welfare of the society. The socio-economic value of data is jointly created by data subjects, data holders, and data users. The combined of efforts of these stakeholders brings forth the value of data as the capital of twenty first century. Therefore, it is necessary to conceive of ways to redistribute the value of documerial capital in society (Ferraris, 2024).

The identification of data as documerial capital would provide legitimacy to make use of data in a way fulfilling the mandate of International Cooperative Alliance (ICA) which encapsulated in its seven principles for cooperatives: (1) voluntary membership, (2) democratic member control, (3) economic participation of members, (4) autonomy and independence, (5) education, training and information, (6) cooperation among cooperatives, and (7) concern for community (Cheney et al., 2023). The common good approach stripes away the rights of stakeholders over data in a way that each stakeholder pay less attention to pro-actively implement the principles while ask a lot from the ecosystem. Meanwhile, documerial approach recognises the value of each stakeholder in the production of value and provide a legitimate claim over data, and therefore, disciplined management of data.

Table 1 identifies some of the differences between the documerial coops (Docu coop) and the data coops. In terms of the definition of data, documerial cooperative identifies data as social objects which plays a constitutive role of social reality. It recognizes the performative and informative aspects of data which is similar to that of documents which constitute a society. The definition identifies the value of data as something co-created by all the stakeholders in the society (data subject, data holder, data user), not as any particular one among them. Data cooperatives, on the other hand, consider data as information or common information good. They tend to ignore passage through which a piece of information assumes the socio-economic value by dint of the

interaction between the aforementioned stakeholders. Consequently, they fail to recognise the proportional contribution of each stakeholder in the value creation process and its just redistribution.

From the perspective of governance, the functioning of Docu Coop and its data governance principles conform to the ontological nature of data. If data is a social good, data governance should prioritise the interests of society at large. It does not mean to underestimate individual rights or enterprise interests, but the choice of parameters to evaluate a data driven initiative stemming from a Docu Coop prioritise principles of social sustainability. This prioritisation is optional to data coop while, it is legitimate and normative with Docu Coop. The legitimacy and normativity stems from the ontological nature of data as a social object. Consequently, the Docu Coop approach can include the most granular stakeholders from individuals, communities, SMEs and to tech giants in terms of governance on the ground that all of them are fundamentally constituents of the society. Meanwhile, data coops emphasis on the protection of individuals or the individual groups interest while undermining the interests of large groups. It tends to forsake the need to unlock the socio-economic of value of data for larger social benefit. They tend to replicate, or sometime enhance the already existing obstacles for data sharing and management.

In terms of education and awareness, Docu Coops prioritise informing and educating data stakeholders about the data. It does not restrict the understanding of data into any particular sector, but data as a social object. It would make the data subjects capable of making more informed judgement on choice of data driven initiatives for which their data can be used. Thereby, it overcomes the problems of traditional data cooperatives that limit itself to understanding of data in more narrowed and specific sectors. Data Coops interpretation of data as information make member more reluctant to share data, and less capable to think about just ways of retribution. The understanding of data based on philosophy of information may not provide broader awareness about the value of data for the data stakeholders.

In terms of scalability, data coops offer less chance for scalability since it lacks a common language between diverse sectors. Sector-specific data coops would successfully realise its business plan while it may struggle to scale up their activities by including other sectors. Docu Coop understanding of data as social good than common good, does not trap data in any particular community or sector but promote its scaling up. From the perspective of sectors, Docu Coop can encompass a greater number of sectors while it may not be possible with data coop. A common definition provides a common standard for data regardless of the sectors. A common standard is necessary to extract the maximum socio-economic value of data. The approach based on documental cooperativism would enhance the already existing cost savings and environmental benefits provided by data coops (Bühler et al, 2023). Meanwhile, common good understanding of data coop limits the common goals for deriving benefits from data to any particular sector or community.

The motivation to participate in a data cooperative for data stakeholders vary according to their understanding of the data. Since participatory decision making is fundamental to data coops, a common understanding data among all participants is necessary. A lack of common understanding results in slower member decision making since the expectation of participants would vary incredibly (Sacchetto & Semezin, 2015). The common understanding does not mean to undermine the diversity of data stakeholders but a criterion to arrive at consensus between a variety of people. The understanding of data as a social good can encompass all the diverse data stakeholders, meanwhile the common good understanding finds it difficult to find common things in stakeholders beyond their community.

The fundamental differences between data cooperatives and documental cooperatives can resolve the legal, technological, and economic troubles faced by data cooperatives to a great extent. A common understanding of data would help to curve out data management practices that can work within the diverse legal frameworks. It would be not easy to change the already established legal frameworks. However, data governance based on documental understanding of data can transcend the hurdles posed by heterogeneous legal frameworks while not transgressing the rule itself. A common understanding about subjects of business would increase the ease of doing business (Coche et al. 2023). Further, the documental value of data adjudicates between ownership claim over data between data subject, data user and data holder. Therefore, the Docu Coop approach provides an operational ease while conceiving a cooperative approach in cross sector and cross border management of data.

The choice of technology becomes easy with documental view of data. Technologies like DAOs, PIMS, blockchain, and features like erasure of data etc... become popular with the documental cooperatives which in turn would render the data management sector more sustainable and just. Interoperability between data existing in various data spaces is key to success for data driven initiatives (Soininen et al. 2026). Interoperability was the fundamental ambitions for EU DSSC for facilitating secure data transfer for data driven initiatives. A theoretical justification is necessary to choose the technologies, like data pipelines, to render data interoperable. The cooperative approach towards data would offer an initial step in the direction, but the Docu Coop approach elaborate further on the need and justification for interoperability. Consequently, Docu Coop provides better clarity for the choice of technology to promote collaborative efforts in the field of data management.

In the economic front, the documental interpretation of the data does not separate the economic and social value of data. The current understanding of the data, so as the legislations, seems to separate between the economic value and social value of data. Docu Coop is an adequate method to fulfil the Shapley's cooperative game theory (1951). It recognizes the value of each participant in the cooperative, and conceives a fair retribution. Data coops portray enterprises as somebody wants to extract out the economic value of data and the data subjects as vulnerable group whose social value has to be protected in terms of privacy. On the contrary, the documental view proposes that economic value and social value co-exist as the way enterprises and data subjects. As in the case of Shapley's cooperative game theory method, it evaluates the contribution of each stakeholder in creation of value for a unit of data and conceive a retribution accordingly. Undeniably, the diversity of stakeholders in the data exchange landscape poses considerable limitations to apply Shapley's value-based method for the redistribution of value. However, Docu Coop provides an advantage over data coops for implementing methods like Shapley's value since the former allows to precisely recognise the role of each stakeholder in value generation in data exchange. It becomes an imperative to carry out data driven initiatives through documental cooperatives. Consequently, it satisfies the need to sufficiently retribute the data subjects, and at the same time, ensure the economic value generation by data driven enterprises in the society.

Table 1. Comparison between Documедial Cooperatives (Docu Coop) and Data Cooperatives (Data Coop)

Aspects	Docu Coop	Data Coop
Definition	Data as social objects/social good; value co-created by stakeholders.	Data as information/common information good
Governance	Prioritises social sustainability and includes all stakeholders.	Focuses on individual/group interests; may hinder broader sharing
Education & Awareness	Broad understanding of data as social object.	Sector-specific and narrower understanding
Scalability	Common standards enable cross-sector scaling	Sector-specific, less scalable.
Basis of Participation	Requires common understanding for consensus.	Participation varies with differing interpretations of data.

4 Conclusion

The contemporary data economy is characterized by unprecedented opportunities for value creation alongside significant inequalities in the distribution of that value. Existing data governance frameworks, largely founded on the understanding of data as information and centred on privacy protection, have proven inadequate in addressing power asymmetries between data subjects, data holders, and data users. Although data cooperatives emerged as a promising institutional mechanism to democratize data governance and empower vulnerable stakeholders, they continue to face substantial legal, technological, and economic challenges. Their sector-specific orientation and limited conceptualization of data as a common informational resource constrain their scalability, interoperability, and capacity to realize the broader socio-economic potential of data.

This study argues that these limitations stem from a deeper ontological issue: the prevailing understanding of data itself. By drawing on the theory of documentality, it proposes a reconceptualization of data as a social object or documедial resource whose value is jointly constituted through the interactions of multiple stakeholders. Such an understanding provides a stronger normative and theoretical foundation for cooperative governance. Documедial cooperativism recognizes both the informative and performative dimensions of data and consequently places social sustainability, fair value redistribution, and inclusive participation at the centre of data governance.

By establishing a common conceptual framework across sectors and jurisdictions, documедial cooperativism offers greater potential for interoperability, scalability, and equitable economic participation. It reconciles the economic and social value of data, legitimizes broader collaborative uses of datasets, and provides a basis for fair remuneration of all contributors. Ultimately, the documедial approach represents a significant advancement in cooperative data governance, offering a more just, sustainable, and socially responsive framework for governing data in the digital age.

REFERENCES

- Arrieta-Ibarra, I., Goff, L., Jiménez-Hernández, D., Lanier, J., & Weyl, E. G. (2018). Should we treat data as labor? Moving beyond “free.” *AEA Papers and Proceedings*, 108, 38–42.
- Bietti, E., Etzeberria, A., Mannan, M., & Wong, J. (2021, December). *Data cooperatives in Europe: A legal and empirical investigation* [White paper]. Platform Cooperativism Consortium & Berkman Klein Center for Internet & Society at Harvard University.
- Boyd, D., & Crawford, K. (2012). Critical questions for big data. *Information, Communication & Society*, 15(5), 662–679. <https://doi.org/10.1080/1369118X.2012.678878>
- Bühler, M. M., Calzada, I., Cane, I., Jelinek, T., Kapoor, A., Mannan, M., Mehta, S., Micheli, M., Mookerje, V., Nübel, K., Pentland, A., Scholz, T., Siddarth, D., Tait, J., Vaitla, B., & Zhu, J. (2023a). Data cooperatives as catalysts for collaboration, data sharing, and the (trans)formation of the digital commons. *Preprints*. <https://doi.org/10.2139/ssrn.4413371>
- Bühler, M. M., Calzada, I., Cane, I., Jelinek, T., Kapoor, A., Mannan, M., Mehta, S., Micheli, M., Mookerje, V., Nübel, K., Pentland, A., Scholz, T., Siddarth, D., Tait, J., Vaitla, B., & Zhu, J. (2023b). Unlocking the power of digital commons: Data cooperatives as a pathway for data sovereign, innovative and equitable digital communities. *Digital*, 3(3), 146–171.
- Calzati, S., & van Loenen, B. (2025). Beyond federated data: A data commoning proposition for the EU’s citizen-centric digital strategy. *AI & Society*, 40, 945–957. <https://doi.org/10.1007/s00146-023-01743-9>
- Carovano, G., & Finck, M. (2023). Regulating data intermediaries: The impact of the Data Governance Act on the EU’s data economy. *Computer Law & Security Review*, 50, Article 105830. <https://doi.org/10.1016/j.clsr.2023.105830>
- Chandler, A. D. (1984). The emergence of managerial capitalism. *Business History Review*, 58(4), 473–503.
- Cheney, G., Noyes, M., Do, E., Vieta, M., Azkarraga, J., & Michel, C. (2023). *Cooperatives at work*. Emerald Publishing Limited. <https://doi.org/10.1108/9781838678258>
- Eben, M., & Zhu, Y. (2023, December 13). Big Tech and dominance: An overview of EU and national case law. *Concurrences: e-Competitions Antitrust Case Laws e-Bulletin*, Special Issue: Big Tech & Dominance, Article 115917. <https://www.concurrences.com/en/bulletin/special-issues/big-tech-dominance/big-tech-and-dominance-an-overview-of-eu-and-national-case-law>
- Ferraris, M. (2022). *Doc-humanity* (S. De Sanctis, Trans.). Mohr Siebeck.
- Ferraris, M. (2024). *Webfare: A manifesto for digital well-being*. Transcript Verlag.
- Ferraris, M. (2025). *Comunismo digitale: Una proposta politica*. Einaudi.
- Fink, A. (2024). Data cooperative. *Internet Policy Review*, 13(2). <https://doi.org/10.14763/2024.2.1752>
- Floridi, L. (2011). *The philosophy of information*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199232383.001.0001>
- Girish, S., & Avery, M. (2022). *Data cooperative: Enabling meaningful collective negotiation of data rights for communities*. <https://dx.doi.org/10.2139/ssrn.4414473>

- [17] Grenersen, G., Kermi, K., & Nilsen, S. (2016). Landscapes as documents: The relationship between traditional Sámi terminology and the concepts of document and documentation. *Journal of Documentation*, 72(6), 1181–1196.
- [18] Hafen, E. (2019). Personal data cooperatives: A new data governance framework for data donations and precision health. In J. Krutzinna & L. Floridi (Eds.), *The ethics of medical data donation* (Philosophical Studies Series, Vol. 137). Springer. https://doi.org/10.1007/978-3-030-04363-6_9
- [19] Kalmi, P. (2007). The disappearance of cooperatives from economics textbooks. *Cambridge Journal of Economics*, 31(4), 625–647.
- [20] Kitchin, R. (2014). Big data, new epistemologies and paradigm shifts. *Big Data & Society*, 1(1), 1–12. <https://doi.org/10.1177/2053951714528481>
- [21] Kuznetsova, O., Parker, M., & Kuznetsov, A. (2026). Cooperatives and business schools: Why the disconnect? *Management Learning*, 57(1). <https://doi.org/10.1177/13505076251320889>
- [22] Mendonça, F., Abdennadher, N., & Di Marzo, G. (2025, April 15). *Data cooperatives: Democratic models for ethical data stewardship*. arXiv. <https://arxiv.org/abs/2504.10058>
- [23] Mehta, S., Dawande, M., & Mu, L. (2022, February 1). The key to designing sustainable data cooperatives. *World Economic Forum*. <https://www.weforum.org/stories/all/the-key-to-designing-sustainable-data-cooperatives/>
- [24] Micheli, M., Farrell, E., Carballa-Smichowski, B., Posada-Sánchez, M., Signorelli, S., & Vespe, M. (2023). *Mapping the landscape of data intermediaries: Emerging models for more inclusive data governance*. Publications Office of the European Union. <https://doi.org/10.2760/261724>
- [25] Mitchell, J., Ker, D., & Leshner, M. (2021). Measuring the economic value of data. *OECD Going Digital Toolkit Notes*, 20. OECD Publishing. <https://doi.org/10.1787/f46b3691-en>
- [26] Pentland, A., Hardjono, T., Penn, J., & Colclough, C. (2019, January). *Data cooperatives: Digital empowerment of citizens and workers*. <https://ide.mit.edu/sites/default/files/publications/Data-Cooperatives-final.pdf>
- [27] Petreski, D., Marjanovic, O., & Cheong, M. (2025). What makes and breaks data cooperatives? A multi-case study of barriers and enablers. In *PACIS 2025 Proceedings* (pp. 1–17, Article 1640). AIS Electronic Library (AISeL). https://aisel.aisnet.org/pacis2025/dig_plat/di/6
- [28] Pelletier, J., & Rode, C. (Eds.). (2023). *The reality of the social world: Medieval, early modern, and contemporary perspectives on social ontology*. Springer.
- [29] Ratner, C. (2015). Neoliberal co-optation of leading co-op organizations, and a socialist counter-politics of cooperation. *Monthly Review*, 66(9). <https://monthlyreview.org/2015/02/01>
- [30] Rouvroy, A., & Stiegler, B. (2016). The digital regime of truth: From the algorithmic governmentality to a new rule of law (A. Nony & B. Dillet, Trans.). *La Deleuziana*, (3), 6–29. https://ladeleuziana.org/wp-content/uploads/2016/11/Rouvroy-Stiegler_eng.pdf
- [31] Sacchetto, D., & Semenzin, M. (2015). Workers' cooperatives in Italy. In *Social economy in China and the world* (pp. 135–155). Routledge.
- [32] Sadowski, J. (2019). When data is capital: Datafication, accumulation, and extraction. *Big Data & Society*, 6(1). <https://doi.org/10.1177/2053951718820549>
- [33] Sandoval, M. (2020). Entrepreneurial activism? Platform cooperativism between subversion and co-optation. *Critical Sociology*, 46(6), 801–817.
- [34] Scholz, T. (2016). *Platform cooperativism: Challenging the corporate sharing economy*. Rosa Luxemburg Stiftung.
- [35] Searle, J. R. (1995). *The construction of social reality*. Free Press.
- [36] Shapley, L. S. (1951). *Notes on the N-person game—II: The value of an N-person game*. RAND Corporation.
- [37] Soininen, J.-P., Fernández Sánchez, C., Modafferi, S., Campbell, S., Tomas, N., Salant, E., Manara, C., Kalaoja, J., & Datta, S. K. (2026). Interoperability architecture for data spaces. *Data in Brief*, 66, Article 112678. <https://doi.org/10.1016/j.dib.2026.112678>
- [38] Stach, C. (2023). Data is the new oil—Sort of: A view on why this comparison is misleading and its implications for modern data administration. *Future Internet*, 15(2), 71. <https://doi.org/10.3390/fi15020071>
- [39] Tanwar, A. S., Evangelatos, N., Venne, J., Ogilvie, L. A., Satyamoorthy, K., & Brand, A. (2021). Global open health data cooperatives cloud in an era of COVID-19 and planetary health. *OMICS: A Journal of Integrative Biology*, 25(3), 169–175. <https://doi.org/10.1089/omi.2020.0134>
- [40] Tarkowski, A., & Warso, Z. (2023, January). *AI commons: Filling the governance vacuum related to the use of information commons for AI training*. Open Future. <https://openfuture.eu/wp-content/uploads/2023/01/ai-commons-report.pdf>
- [41] United Nations Conference on Trade and Development. (2021). *Digital economy report 2021: Cross-border data flows and development: For whom the data flows*. United Nations. https://unctad.org/system/files/official-document/der2021_en.pdf
- [42] van Dijck, J. (2024). Governing platforms and societies. *Platforms & Society*, 1. <https://doi.org/10.1177/29768624241255922>
- [43] Viljoen, S. (2021). A relational theory of data governance. *Yale Law Journal*, 131, 573–654.
- [44] Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. Profile Books.
- [45] Zygmuntowski, J. O. (2023). Data governance in a trilemma: A qualitative analysis of rights, values, and goals in building data commons. *DISO*, 2, Article 30. <https://doi.org/10.1007/s44206-023-00058-y>