Socializing Data Value

How Can Data Governance Meet the Challenge?

Roundtable | May 11 & 12, 2021

Resource Pack

IT for Change

FRIEDRICH EBERT STIFTUNG

Table of Contents

Agenda: May 11, 2021

6.00 – 8.30 PM IST / 2.30 – 5.00 PM CET

Time	Session	Remarks
5.50-6.00 PM IST 2.20-2.30 PM CET	**Check-in**	Meeting room will open 10 minutes ahead of the scheduled start. Please login at least five minutes early, especially if you are unfamiliar with the BBB platform.
6.00-6.10 PM IST 2.30-2.40 PM CET	**Introductory Remarks**	Context setting and housekeeping info by IT for Change team
Session 1		
6.10-6.45 PM IST 2.40-3.15 PM CET	**Inputs from** **Bruno Carballa Smichowski** Researcher, Joint Research Centre of European Commission- Unit B6- Digital Economy **Anita Gurumurthy and Nandini Chami** Executive Director and Deputy Director, IT for Change	Input: 8 minutes each Open Discussion: 19 minutes
Session 2		
6.45-7.20 PM IST 3.15-3.50 PM CET	**Inputs from** **Kristina Irion** Associate Professor, Central European University; and Marie Curie Fellow at Institute of Information Law, University of Amsterdam	Input: 8 minutes each Open Discussion: 19 minutes

	Raymond Onuoha Research Fellow, Lagos Business School, Nigeria; and Doctoral Student, Nelson Mandela School of Governance, University of Cape town, South Africa	
Session 3		
7.20-7.55 PM IST 3.50-4.25 PM CET	**Inputs from** **Chee Yoke Ling** Executive Director, Third World Network **Barbara Prainsack** Professor, Department of Political Science, University of Vienna	Input: 8 minutes each Open Discussion: 19 minutes
Session 4		
7.55-8.30 PM IST 4.25-5.00 PM CET	**Inputs from** **Nadezhda Purtova** Associate Professor, Tilburg Law School, Tilburg University **Stacco Troncoso** P2P Commons Advocate and Organizer, Founder of DisCO and Gureillia Translation, Project Lead at Commons Transition	Input: 8 minutes each Open Discussion: 19 minutes
	Wrap Up	This will be a short 1 minute wrap-up.

Agenda: May 12, 2021

8.00 – 10.30 PM IST / 4.30 – 7.00 PM CET

Time	Session	Remarks
7.50-8.00 PM IST 4.20-4.30 PM CET	**Check-in**	Meeting room will open 10 minutes ahead of the scheduled start. Please login at least five minutes early, especially if you are unfamiliar with the BBB platform.
8.00-8.02 PM IST 4.30-4.32 PM CET	**Opening Remarks**	IT for Change team
	Session 5	
8.02-8.37 PM IST 4.32-5.07 PM CET	**Inputs from** **Ingrid Schneider** Professor, Department of Political Science, University of Hamburg **Salomé Viljoen** Affiliate, Berkman Klein Centre for Internet and Society, Harvard University	Input: 8 minutes each Open Discussion: 19 minutes
	Session 6	
8.37-9.12 PM IST 5.07-5.42 PM CET	**Inputs from** **Marina Micheli** Researcher, Project DigiTranScope, Centre for Advanced Studies of the Joint Research Centre (Ispra, Italy) **Paul-Olivier Dehaye** Founder, PersonalData.IO	Input: 8 minutes each Open Discussion: 19 minutes

Session 7		
9.12-9.47 PM IST 5.42-6.17 PM CET	**Inputs from** **Arindrajit Basu** Research Lead, Centre for Internet and Society, India **Aaron Martin and Siddharth de Souza** Postdoctoral Researchers, Tilburg Law School	Input: 8 minutes each Open Discussion: 19 minutes
Session 8		
9.47-10.22 PM IST 6.17-6.52 PM CET	**Inputs from** **Stefaan Verhulst** Co-Founder and Chief Research and Development Officer, The Governance Laboratory at New York University **Cecilia Rikap** Tenure researcher at CONICET, Argentina's National Research Council; Visiting professor of the IDHES, Université Paris Saclay	Input: 8 minutes each Open Discussion: 19 minutes
10.22-10.30 PM IST 6.52-7.00 PM CET	**Concluding Remarks**	Participants

Notes:

- The sessions do not have prefixed break times, however please feel free to step away for a few minutes to have a break at your convenience.
- As we are using a FOSS platform that everyone might not be familiar with, the meeting room will be open 2 hours in advance on each day for participants to come in, set themselves up and familiarise themselves with the interface of the video conferencing platform.

Concept Note

The past year has seen an increasing buzz around the need to address prevailing deficits in the governance of the digital economy. With data power becoming central to market power, reining in platforms' abuse of their dominant, often monopolistic, control over society's data has assumed urgency.

Current efforts at regulating digital power, like competition law reform, data protection laws and taxing digital services, may succeed in tempering digital power to some extent. However, they do not address the core problem of who exercises control over the immense socio-economic value of data.

70% of the new value created in the global economy over the next decade is likely to be generated from data capital-intensive platform businesses. Yet, the platform model as we know it has only spawned an exponential increase in inter-firm and capital-labour inequality. It is built on the grand premise that data is no one's property, a 'non-rivalrous' resource that is available to all. However, the truth is that if newcomer firms are unable to effectively compete with dominant platforms such as FAANG, it is because the latter's data ecosystems are enclosed. Rules about the governance of data ecosystems are therefore crucial to reappropriate the public and social value of data for all sectors of the economy. This is important not just for national digital development and economic security, but also for political sovereignty, and socio-cultural independence and diversity.

While ideas such as data cooperatives – also outlined in the EU's draft Data Governance Act (2020) – aim to remedy the status quo, they leave unanswered the prior question of the collective claims that data subjects and economic actors implicated in the dominant platform ecosystems have over the value of 'their' data, and the intelligence generated therein. The concept of 'data commons' has also been invoked to suggest alternative resource governance regimes for data. However, a commons framework – privileging collective over individualistic approaches to data governance – calls for deeper thinking around related issues of access/claims, excludability, boundary management, abuse by dominant players and more. Furthermore, such an approach is likely to need contextualisation across sectoral data ecosystems.

At IT for Change, we believe that urgent efforts are required to evolve a bold institutional design for the data economy. Recognising the systemic relationality, and hence, the systemic value, at the core of data's resource structure is a precursor to this – providing the basis for collective claims over data, and a just and equitable future.

With a view to exploring the elements of an institutional governance framework for data that can democratise value creation and distribution, we are hosting a dialogue with a small group of scholars, scholar-activists and practitioners over two virtual sessions of two-and-a-half hours each, on 11th and 12th May 2021. By building on participant reflections (shared as a one-pager/500-word inputs by 3rd May 2021), we hope the roundtable will contribute to cutting edge discussions in the domain.

About the Participants

Aaron Martin

Aaron Martin is a postdoctoral researcher on the Global Data Justice project at Tilburg Law School. His research interests include cyber policy, critical infrastructure protection, surveillance, biometrics, technology regulation, cybersecurity in the financial services sector, and data in development and humanitarian contexts. He is particularly interested in exploring these topics across the Global South.

Aditya Singh Chawla

Aditya Singh Chawla is a researcher and lawyer with an interest in data governance, decentralized architectures, and ethics. He is currently a PhD Researcher at the Centre for Technomoral Futures, University of Edinburgh. His research focuses on investigating models for collective and democratic data governance from a critical data studies lens. He also advises organizations on questions of data governance and ethical design. He holds an Advanced LL.M in Law and Digital Technologies from Leiden University, and a B.A. LL.B (Hons.) from the National Law School of India University, Bangalore.

Amay Korjan

Amay works on projects that aim to formulate progressive policy positions around various sectors within the digital economy. He has a background in philosophy and sociology, and is particularly interested in the political economy of data and digital technology. He received his undergraduate degree (Liberal Arts) from the University of Maastricht, the Netherlands; and his Master's degree (Philosophy) from the Manipal Centre for the Humanities. He has conducted/managed research projects for various institutions, and has spent some time teaching across both high-school and university levels.

Anita Gurumurthy

Anita Gurumurthy is a founding member and executive director of IT for Change, where she leads research collaborations and projects in relation to the network society, with a focus on governance, democracy and gender justice. Her work reflects a keen interest in southern frameworks and the political economy of Internet governance and data and surveillance. Anita engages actively with policy makers, practitioners, social movements activists and the academic community to expand and deepen conversations on the public policy imperatives of the intertwining of the digital in all spheres of life. She also directs and draws inspiration from the work of Prakriye, IT for Change's field centre, that works towards promoting women's and girls' leadership and digital capabilities.

Anurag Shanker

Anurag Shanker stands for social justice, democracy, and equality for himself and others. He likes to call himself a reformed Management Guy who saw the light before it was too late. After eight years in the software industry, he decided to do something a bit more inspiring.

Arindrajit Basu

Arindrajit Basu is Research Lead at the Centre for Internet & Society, India, where he focuses on the geopolitics and constitutionality of emerging technologies. He is a lawyer by training and holds a BA, LLB (Hons) degree from the National University of Juridical Sciences, Kolkata, and an LLM in public international law from the University of Cambridge, U.K.

Astha Kapoor

Astha Kapoor is co-founder of the Aapti Institute, a research firm examining the interface between tech and society. At Aapti, Astha is leading the Data Economy Lab. She works on data governance, basic income, digitisation of welfare, work, and social architectures of technology. She has experience in research (Future State, SEWA), consulting (MicroSave, Dalberg), advisory (APPI), and government (Planning Commission).

Barbara Prainsack

Barbara Prainsack is a professor and Head of Department at the Department of Political Science at the University Vienna, where she also directs the Centre for the Study of Contemporary Solidarity (CeSCoS), and the interdisciplinary Research Platform "Governance of Digital Practices". Her work explores the social, ethical, and regulatory dimensions of genetic and data-driven practices and technologies in biomedicine and forensics. Barbara is currently a member of the National Bioethics Commission in Austria, and a member of the European Group on Ethics of Science and New Technologies advising the European Commission. Her latest books are: Personalized Medicine: Empowered Patients in the 21st Century? (New York University Press, 2017), and Solidarity in Biomedicine and Beyond (with A. Buyx, Cambridge University Press, 2016). A new book will be published in August: The Pandemic Within: Policy Making for a Better World (with H. Wagenaar, Policy Press).

Bob Fay

Robert (Bob) Fay is the Managing Director of digital economy research and policy at CIGI. The research under his direction assesses and provides policy recommendations for the complex global governance issues arising from digital technologies. Prior to joining CIGI, Bob was an economist at the Bank of Canada where he held several senior roles, including serving as the Governor Mark Carney's chief of staff. Bob was also an economist at the Organisation for Economic Co-operation and Development and worked on a wide range of economic and labour market issues.

Bruno Carballa Smichowski

Bruno Carballa Smichowski is Researcher at the Joint Research Centre of the European Commission – Unit B6 – Digital Economy. His research interests span across data economics, digital economics, competition policy and the commons. He has a PhD in Economics from Université Paris 13, and he has previously worked with Chronos(Media Mundi) and the Digital Commons research group at the Open University of Catalonia.

Burcu Kilic

Burcu Kilic is a scholar, lawyer and digital rights advocate. Her work is divided between digital rights and access to medicines. She directs the Digital Rights Program and is also the research director for Public Citizen's Access to Medicines Program. Her unique expertise in intellectual property law and policy, information technology, innovation and trade policy secures her as a well-known and highly respected scholar and advocate in the field. She works with governments, international organizations and civil society groups around the world and promotes their participation in rule making.

Cecilia Rikap

Cecilia Rikap is tenure researcher at the CONICET, Argentina's national research council, and visiting professor of the IDHES, Université Paris Saclay and associate researcher of COSTECH, Université de Technologie de Compiègne and CEPED, IRD/Université de Paris. Her research is centered around the rising concentration of intangible assets, focusing on power relations and the distribution of data and innovation-related economic gains, resulting geopolitical tensions, and the effects on knowledge commons & development. She is the author of the book Capitalism, Power and Innovation: Intellectual Monopoly Capitalism Uncovered (Routledge, 2021).

Chee Yoke Ling

Chee Yoke Ling is the Director of the Third World Network (TWN). She is an international lawyer whose areas of expertise include the environmental, social and economic impacts of globalization, especially in countries of the South. Since 1993 she has worked closely with key negotiators from the global South, scientists and NGOs to campaign for bio safety and climate justice. Her current focus areas are: climate change, the interface between biodiversity/traditional knowledge and intellectual property rights, the relationship between multilateral environmental agreements and trade agreements, environmentally-sound technology transfer, and developments on these issues at the UN Framework Convention on Climate Change, Convention on Biological Diversity, World Trade Organisation, and the World Intellectual Property Organisation.

Freyja van den Boom

Freyja van den Boom is a legal scholar and Digital artist working on the intersection of digital innovation, autonomy and law taking a combined academic and artistic approach. Her current research focusses on data governance models and (global) personal data value chains, being affiliated with IT for Change and Sorbonne University; and as a PhD candidate on the issue of governing access to data from increasingly automated vehicles and telematics insurance with Bournemouth University. Previously she worked as a project researcher on European funded projects on Privacy and Data Protection, the PSI Directive, Open Access and Text and Data mining. Prior to that she worked as a Trademark and Design attorney and as a lecturer on Law and Ethics. She obtained her Bachelor and Master's degree in Law (LLM) from the University of Tilburg in the Netherlands and a Master's degree in Sociology of Law (MSc) from Lund University in Sweden. She is a founding member of the WWW.THECOPYRIOTS.COM art collective.

Ingrid Schneider

Ingrid Schneider is Professor of Political Science in the Center for Ethics in Information Technology in the Department of Informatics at the University of Hamburg, Germany. Her research fields are technology assessment, governance, law, economy, and ethics of information technologies on which she published numerous publications. From 1996, she has advised several European Parliaments and the European Commission, and is Board Member of various European Scientific Associations and Research Projects. Current research projects include PRODIGEES – Promoting Research on Digitalisation in Emerging Powers and Europe Towards Sustainable Development (https://blogs.die-gdi.de/longform/prodigees/). Her website: http://uhh.de/inf-schneider, Twitter: @SchneiderIngrid

Kristina Irion

Kristina Irion is Associate Professor at the Institute for Information Law (IViR) at the University of Amsterdam, and a non-resident Fellow of the Center for Media Data and Society (CMDS) at Central European University in Budapest. Her research deals with the interpretation and analysis of the transformational processes that reconfigure the legal properties of digital data in line with societal needs. She has commented on key developments in EU data protection law and its progressive constitutionalization and how European law interface with a global digital ecosystem.

Mandvi Kulshreshtha

Mandvi Kulshreshtha, is an urbanist and a feminist. She is currently working as Program Adviser in the Economy of Tomorrow project of Friedrich-Ebert-Stiftung (FES) India office. The project explores social justice and equality aspects of three mega-trends in India – namely - energy transition, urban transformation and digital automation. She has worked on gender, youth and climate change interface, and is interested in ecological and social aspects of development

Marina Micheli

Marina Micheli is a Scientific Project Officer at the European Commission's Joint Research Centre. Her current works explores the governance of data for the public interest, examining in particular the actors' perspectives and the emerging models. She is interested in the social value of data, digital inequalities and data power and her background is at the intersections of media studies and sociology. Prior to joining the Commission, she was a Senior Researcher and Teaching Associate at the University of Zurich (Switzerland) and a post-doctoral fellow at the Department of Sociology and Social Research at the University Milano-Bicocca (Italy).

Nadya Purtova

Dr Nadya Purtova (LLM'05 CEU, MSc'06 Leiden, PhD'11 *cum laude*, Tilburg) is Associate Professor at Tilburg Institute for Law, Technology, and Society, the Netherlands. She does research on data protection and informational privacy law, recently, in the context of health, regulation of health technologies, property rights in personal data, data commons, and economic analysis of data protection

law. Her dissertation on property in personal data is published by Kluwer Law International. At present she is a principal investigator in a five-year project funded by European Research Council (ERC) Starting Grant "Understanding information for legal protection of people against information-induced harms" (ERC-2016-StG-716971 INFO-LEG). The project aims to re-examine conceptual foundations of the data protection law and commenced in March 2017.

Nandini Chami

Nandini Chami is Deputy Director at IT for Change. Her work largely focuses on research and policy advocacy in the domains of digital rights and development, and the political economy of women's rights in the information society. She is part of the organisation's advocacy efforts around the 2030 development agenda on issues of 'data for development' and digital technologies and gender justice. She also provides strategic support to IT for Change's field centre, Prakriye. This includes training programmes for women's rights groups on adopting digital tools in their field practice, and critical 'education for empowerment' for rural adolescent girls. She has a Master's in Urban and Rural Community Development from the Tata Institute of Social Sciences, Mumbai.

Parminder Jeet Singh

Parminder is the executive director of IT for Change. His areas of work are ICTs for development, Internet governance, e-governance, and digital economy. He has been a special advisor to the UN's Internet Governance Forum (IGF) and UN Global Alliance for ICTD. He was a part of UN working groups on IGF improvements and on enhanced cooperation on International Internet policy issues. He was the first elected co-coordinator of the premier global Internet governance civil society group Internet Governance Caucus. He is a founding member of Just Net Coalition and Internet Rights and Principles Coalition. He was associated with the group that helped develop India's draft e-commerce policy.

Paul-Olivier Dehaye

Paul-Olivier Dehaye was a mathematics professor at the University of Zurich until 2016, before becoming a data protection advocate and social entrepreneur. He is the founder of several initiatives working around personal data. He is the director of PersonalData.IO, a nonprofit organization based in Geneva that focuses on data protection with the aim of empowering the civil society to actively respond to threats to our personal data. He is also the CEO of Hestia.AI, working on the HestiaLabs project building up data collectives. He is also a Board Member of MyData Global and the founder of MyData Geneva, two nonprofit organizations promoting the ethical use of personal data. He conducted research for several widely circulated newspaper articles, including with journalist Carole Cadwalladr in exposing the Facebook-Cambridge Analytica data scandal. This work also led him to appear in Netflix's documentary The Great Hack and to testify before the British and European Parliaments.

Raymond Onuoha

Raymond Onuoha is a Technology Policy Fellow at the Lagos Business School (LBS), where his research focuses on the institutional and policy challenges in the evolution of the digital economy and technology innovation in developing countries, with a focus on sub-Saharan Africa. Raymond is Doctoral Fellow of the IDRC Award (2018) which aims to build emerging leaders in communications policy in the Global South and is currently a doctoral candidate at the Nelson Mandela School of Public Governance (NMSPG), University of Cape Town (UCT), South Africa where his thesis interrogates competition policy in developing countries' telecommunications market.

Salomé Viljoen

Salomé Viljoen is a joint postdoctoral fellow at the NYU School of Law Information Law Institute and the Cornell Tech Digital Life Initiative. Salomé studies how information law structures inequality in the information economy and how alternative legal regimes may address that inequality. Salomé's current work focuses on the political economy of data. This work explores how the laws governing the data economy structure the incentives of data collection and the downstream uses of data-intensive technologies. In particular, she analyzes how such downstream effects may reproduce social oppression and amplify economic and relational inequality.

Sarah Ganter

Sarah Ganter works at Friedrich-Ebert-Foundation (FES) in Berlin. She has an academic background in Political Sciences, Philosophy and Computer Sciences. She coordinates the work on Global (Digital) Economy at FES' Department for Global and European Policy with a strong focus on digital justice, data governance and data infrastructure.

Shamel Azmeh

Shamel Azmeh is a lecturer in international development in the Global Development Institute at The University of Manchester. His research focuses on issues around international political economy, international trade policy, global value chains, digital trade, and labour, with a focus on the Middle East and North Africa region. He has advised a number of international organisations such as UNIDO, UNECA, the OECD, and contributed to policy debates at the WTO

Siddharth de Souza

Siddharth de Souza is a postdoctoral researcher at the Global Data Justice project at Tilburg Law School, and works on matters at the intersection of law, data and society. He is the Founder of Justice Adda, a law and design social venture which develops innovative legal content to make the law accessible, useful and usable in India. He is also Co-Founder of d-Van, a design thinking transformations lab based in India.

Stacco Troncoso

Stacco Troncoso teaches and writes on the Commons, P2P politics and economics, open culture, post-growth futures, Platform and Open Cooperativism, decentralised governance, blockchain and more. He is the co-founder of DisCO.coop, project lead for Commons Transition and co-founder of the P2P translation collective Guerrilla Translation. His work in communicating commons culture extends to public speaking and relationship-building with prefigurative communities, policymakers and potential commoners.

Stefaan Verhulst

Stefaan Verhulst is Co-Founder and Chief Research and Development Officer of the Governance Laboratory (The GovLab) at New York University (NYU) – an action research center focused on improving governance using advances in science and technology – including data and collective intelligence. His research and writing considers how advances in technology and science can be harnessed to create effective and collaborative forms of governance.

Trebor Scholz

Trebor Scholz is a scholar-activist and founding director of the Institute for the Cooperative Digital Economy and professor at The New School in New York City. He is also a fellow at the Berkman Center at Harvard University. His books include *Uber-Worked and Underpaid: How Workers Are Disrupting the Digital Economy*, *Digital Labor: The Internet as Playground and Factory*, and the co-edited *Ours to Hack and to Own: Platform Cooperativism: A New Vision for the Future of Work and a Fairer Internet*. He recently co-authored Data Cooperatives for Pandemic Times in Public Seminar.

Vinay Narayan

Vinay Narayan is Research Assistant at IT for Change. He is currently working on research projects that delve into health data infrastructures, data rights, surveillance, and artificial intelligence. He graduated from Gujarat National Law University in 2018 with a B.B.A.,LL.B. (Hons.) degree. He worked in corporate law at Khaitan & Co. before joining IT for Change to follow his interest in policy debates on the digital economy. He also nurtures a keen interest in aspects of public international law including space law.

Ideas/Provocations

Anita Gurumurthy and Nandini Chami

Governing the abstract object of data: A semi-commons approach

The entry of data into the circuit of capital sans an effective resource governance framework has produced a digital wild west, characterised by the twin ills of misrecognition (identity-based exclusion and harm) and maldistribution (unfair distribution of access and benefits). The hegemonic 'data must flow' illogic of global policy debates legitimises data enclosures and an unchecked planetary march of data extractivism. The dominant approach to data governance, pioneered by the European Union, is ineffective in addressing the roots of economic unfairness in the data economy. It provides individuals quasi-ownership rights in their personal data while simultaneously carving out a new class of data resources – 'non-personal data' – deemed to be the private property of data processors. The question of the economic claims of citizens and communities in the value generated from *their* data (personal data anonymised or machine-observed data) is completely sidestepped.

Competition law remedies do not go far in dismantling this individualist, neo-liberal market frame. A collectivist approach is the much-needed alternative, but existing attempts in this direction do not make the cut. Mainstream data stewardship models end up entrenching a pro-capitalist commons exacerbating the foundational problem of the unequal ownership of data as a means of production. Governance solutions that see data resources as akin to natural resources, arguing common property resource traditions may be a useful normative compass for the fair and equitable distribution of data value. Yet, these models cannot be replicated in data – an intangible resource that spawns multiple communities. This raises complex issues about the norms for exclusion-inclusion and representative decision-making that have been at the heart of the traditional regimes of community commons governance.

Against this backdrop, we propose a semi-commons approach to data governance attuned to the unique and specific resource governance dilemmas in data. The resource of data requires institutional checks and balances to prevent the possessor of its physical-syntactic layers (the network-data architecture) from claiming exclusive rights over its semantic layer.

The semi-commons approach manages the delicate balance between 'openness as non-exclusive accessibility' of data's syntactic content and 'openness as duty to nurture use' of data's semantic propositions through a differentiated, rights-based resource ownership regime. The 'right to seek data' is conceptualised as an entitlement granted through law. Two classes of economic entitlements are envisioned in this regime: (a) a data holders' right to non-exclusive access in the base layer of data that they have collected and (b) a corollary right to conditional access for different users through an entitlement of accessibility.

The semi-commons framework opens up the possibilities for distributive integrity in the data economy, also unlocking data's social and public value. Further exploration will, however, be needed to grapple conceptually and legally with the downstream value propositions in the data economy in the form of derived data and intelligence. This needs a whole-of-economy approach, including a multilateral framework for a global data constitutionalism that can roll back the tide of digital colonialism.

For more details, see:

Gurumurthy, A. and Chami, N. (forthcoming). Governing the Abstract Object of Data: Towards a Distributive Integrity Framework. Data Governance Network Working Paper. Draft available at: https://itforchange.net/sites/default/files/1741/ITfC-DRAFT-The-Abstract-Object-of-Data.pdf

Arindrajit Basu

Reconfiguring control and power in the modern digital economy

The global digital economy today is both structured around, and dependent on entrenched power asymmetries, further augmented by the continued assertion of control by entities wielding power. The exploitation of data for profit by private processors marks a heinous commodification of human life itself, and usurps the faculties of independent thought and action from individuals. Legal, political and social structures amplify and enable these asymmetries as the limited entities in power – nations of the developed world, large multinational corporations, and global governance bodies make rules that all the others in the global ecosystem must abide by. Trade agreements, taxation clauses and municipal laws are all brokered by and scripted for the benefit of a limited set of actors that hold the keys to the global digital economy.

The dominant narrative championed by the brokers of power is the value of data as a resource. Exploitation by the powerful few, according to this narrative, will spur innovation and benefit the exploited many-a tragic rehashing of 'trickle down' capitalism. Several civil society actors and activists have taken this narrative head on by exploring ways in which individuals and communities can unlock value from their own data.

However, the master's tools will never dismantle the master's house. Those holding the reins of power in the modern digital economy want data to be both understood and regulated as a resource – one that can be exploited for economic gain. Monetisation as a means of enabling users to benefit from their data are opting into the existing structures of control-legitimising the actions of those who run the global political economy today. This framing compels individuals to bargain away their rights and dignity in an infinite quest to see how their work and leisure can be exploited by data processors to derive maximum value.

Keeping this background in mind, I propose to address the following points in my intervention:

1. Explain how the present power structures around global data arrangements further an agenda that is inherently exploitative and benefits the actors who shape them,

2. Discuss why alternate ownership/commodification of data helps shape this narrative and plays into the hands of those in power,

3. Argue why mechanisms of reconfiguring control should be the topmost priority through the following ways:

a. Autonomy, as a central societal/constitutional tenet to empower and safeguard the interests of individuals and communities,

b. Sovereign equality in international law, as the tool that preserves the interests of all nations at global governance fora and ensure accountability in global rule-making,

c. Competition law mechanisms and taxation systems that prevent the entrenchment of monopolistic and oligopolistic structures around data governance such that consumer welfare is furthered and market concentration prevented.

The battle today is about the loss of control over an individual or group's own data – a summation of their lived experiences. This loss of control is what data governance mechanisms should look to check by using governance tools that shaped previous struggles of resistance.

Barbara Prainsack

Solidarity-based data governance

To date, most of the approaches seeking to protect the interests of data subjects and to mitigate the power asymmetries between people on the one hand, and powerful corporate data users on the other, have focused on strengthening control over data use at the individual level. While this is clearly important, it is also necessary to strengthen collective forms of responsibility, oversight, and also ownership of data. Importantly, this needs to go beyond approaches that merely strengthen group rights, where groups are considered a sum of individuals (e.g. data cooperative approaches that foster exclusive or even elitist forms of in-group solidarity). Instead, it is necessary to acknowledge and accommodate the relational nature of people and of data. This requires nothing less than (a) a new way of thinking of data subjects and of data that is underpinned by a relational ontology, and (b) an explicit commitment to solidarity and justice.

We have developed a programme of solidarity-based data governance in recent years that seeks to reach that goal. Being informed by work on relational autonomy and other approaches that consider people's relationships to their human, natural, and artefactual environments as shaping their interests and subject positions (e.g. Mackenzie & Stoljar 2000), this programme has three main pillars:

The first one is to facilitate data use that is in the public interest. At present, it is often much easier for for-profit enterprises to use even sensitive personal data than it is for non-profit organisations, universities, public hospitals, and other entities whose main goal is the creation of public value. This situation needs to be remedied.

The second pillar of solidarity-based data governance consists of the strengthening of instruments of collective responsibilities for harms that may emerge from data use. Specifically, we have suggested the introduction of Harm Mitigation Bodies (McMahon et al. 2020) that would provide unbureaucratic, low-threshold support for people who have plausibly been harmed by data use but have no access to legal remedies.

The third pillar of solidarity-based data governance seeks to strengthen mechanisms of benefit sharing to ensure that some of the profits that emerge from commercial data use come back to the public domain, which has enabled the data use via the data work of patients and other citizens, public infrastructures, etc.

Importantly, our approach gives equal value to justice and solidarity. It considers the two as necessary complements of each other. Solidarity – understood as a practice by which people support others with whom they are bound together through a shared goal or other characteristic – is not only necessary to realise justice, but also to understand what justice is and should be.

References:

Mackenzie, C. and Stoljar, N. eds., 2000. *Relational autonomy: Feminist perspectives on autonomy, agency, and the social self.* Oxford University Press.

McMahon, A., Buyx, A. and Prainsack, B., 2020. Big data governance needs more collective responsibility: the role of harm mitigation in the governance of data use in medicine and beyond. *Medical Law Review*, 28(1), pp.155-182.

Prainsack, B., 2017. Research for personalised medicine: time for solidarity. *Medicine and Law*, 36, p. 87.

Bruno Carballa Smichowski

Alternative data governance models: Moving beyond one-size-fits-all solutions

In the past few years, many political and societal issues have arisen around data. The Cambridge Analytical scandal has illustrated the problems posed to both privacy and democracy by having a for-profit private firm controlling the use of detailed personal data of millions of people. Antitrust scholars and regulators such as the European Commission warn and have started taking action against anti-competitive uses of data. In many cities, transportation authorities lack access to data on ride-hailing trips or real-time traffic that is vital to their mission. As a result, companies like Uber and Waze have started selling their data to public actors. In this context, one of the main challenges the data economy faces today is the insufficient level of data sharing between public and private actors.

Although these issues are heterogeneous and demand diverse policy answers, they have one common root: they all originate in what we will hereafter call the 'hegemonic data governance model'. This data governance model relies on a data collector (e.g., a platform) retaining exclusive control over the data it collects, typically through draconian clickwrap general conditions of use (GCU), particularly when the data collection involves individuals. After the data is collected, given that there is no such thing as de jure data ownership, the data collector 'owns' it de facto, although there are legal ways to protect third parties from accessing the data (yet not the data itself) through copyright over the database and/or the software that allows access to it. Parallel to specific policy solutions that have been put forward to tackle each of these issues separately (the General Data Protection Regulation (GDPR), antitrust investigations, sector-specific regulations, etc.), some authors and politicians have proposed dismantling hegemonic data governance and replacing it with an alternative one. Among the most popular alternatives, two polar options have gained in popularity: either the state would make data a public good, or it could create property rights over personal and non-personal data so that a frictionless data market in which each natural or legal person can sell 'its' data can emerge.

However, no one-size-fits-all alternative data governance model can respond at once to the many issues the data economy poses. This is evidenced by both existing and envisaged alternative data governance models, for which I will provide some guidelines on the scenarios and the conditions under which they might represent an alternative to the hegemonic model. Thereby I focus on the purpose of the model (what issue it tackles), the type of data it fits and its legal, technical and economic conditions of success. In particular, I will briefly examine four models: (1) crowdsourced data commons, (2) data requisition, (3) collective bargaining on rights over personal data and (4) data pooling between organisations. Data as a public good managed by the state, as we will see, is one possibility comprised in the data requisition model. I conclude by pointing out how these models can be combined to build the data economy into a variety of data governance models.

Cecilia Rikap

Tech giants, mostly coming from the US but also China, have monopolized continuously expanding and crucial data sources. They turn these data sources into intangible assets and, thus, extract (intellectual) rents. The result is a process where the whole world produces data that leads to a redistribution of value in the form of data-driven intellectual rents garnered by those tech giants.

At the geoeconomic level, a new layer in the international division of labour is emerging. It splits the world between raw data providers and a handful of tech giants that became data-driven intellectual monopolies. Peripheral countries (and even Europe) are net providers of raw data and pay for digital intelligence.

US tech giants' data advantage is complemented by their concentration of the required infrastructure to transport, store and process data and the most powerful algorithms to analyse those datasets. These algorithms also rely on knowledge produced by other organizations but that is appropriated and monetized by tech giants. Overall, the digital economy is standing on data and knowledge extractivism.

Controlling data not only limits others from using and, therefore, from learning from data insights. Machine learning algorithms learn as they process data, which means the development of a new method for invention that is transforming how innovations take place. Within machine learning, deep learning and neural networks have the potential to speed up the process of innovation using algorithms to locate the most promising new combinations of the existing elements of knowledge. These artificial intelligence approaches are changing the innovation process itself, with digital intelligence offering potentially unlimited applications. The monetization of digital intelligence turns data into an intangible asset. As big data are increasingly gathered and processed, machine learning techniques self-improve algorithms, thus continuously augmenting data management proficiency. Digital intelligence gives direction to sales, acquisitions and innovation. Hence, as this general-purpose method of invention is concentrated in a few hands, the potential for further innovating will be further monopolized.

In this context, what is to be done? Data privacy acts, which have spread in several parts of the world, although are aimed at limiting tech giants' power, further contribute to knowledge privatization by fostering individual property over data. Considering that every Google or Amazon search, every Facebook or YouTube post and so on contribute to improving the algorithms used, thus, to improve the services we all receive, and since digital services-in particular those in the hands of big tech companies-tend to be natural monopolies, a more decisive move could be to make those services global public/commons goods.

Several questions emerge from this proposal, who and how will these global public/common goods be governed? How could we assure that economic and political surveillance will not take place as it does in the current data governance structures both of the US and China? How could such a global transformation be enforced? If global public goods result unfeasible, what other initiatives could be fostered to create data for the people and not for private or partisan gains?

Chee Yoke Ling

Governance of Digital Sequence Information

In the 1980s, the documentation and expose of biopiracy of agricultural seeds and plants with medicinal and cosmetics value and the actors concerned, especially researchers and corporations, triggered widespread protests. This was coupled with growing alarm over the rapid loss of biodiversity and the violations of the rights of indigenous peoples and rural populations caused by unsustainable development. United Nations negotiations that followed resulted in the legal framework of the 1992 Convention on Biological Diversity (CBD) with its 3 objectives: biodiversity conservation; sustainable use of genetic resources; and fair and equitable benefit sharing from that use.

The CBD established that governance over biodiversity is national by reaffirming sovereignty of the State over natural resources within its territory. The concept of biodiversity as a "common heritage of mankind" was rejected by the governments of the Global South, indigenous peoples' organisations and also many civil society organisations. Benefit sharing includes "appropriate access to genetic resources" and such access is granted upon prior informed consent (PIC) and mutually agreed terms. This framework shaped the CBD's Nagoya Protocol on access and benefit sharing and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) of the FAO.

At the centre of conservation and sustainable use are the traditional knowledge and practices of indigenous peoples and local communities (farmers, fisher folk, pastoralists), and this is recognised in the CBD wherein decisions over the years have put in place direct participation of indigenous peoples and local communities (IPLCs) in the relevant processes of the treaty. Farmers' rights are also in the ITPGRFA but requires national implementation. With digitalisation, biopiracy does not require physical transfers of biological materials triggering a debate on governance over digital sequence information (DSI) and the applicability of the access and benefit sharing regimes of the above 3 treaties where PIC is not only that of the government authorities of the country of origin / source but also of IPLCs.

1. *From unregulated transfer and use of DSI to local biocultural information systems with benefit sharing regimes as one step*[1]

While recognising that benefit sharing for DSI cannot undo historical injustices to IPLCs, it is a legal hook to prevent a total corporate digital takeover by invoking PIC requirements as an example. We need to work with IPLCs and like-minded policy makers to define and entrench the role of IPLCs in governance over DSI benefit sharing to:

- support local knowledge, promote local innovation consistent with the cultures and values of IPLCs;
- develop alternative biodiversity knowledge systems governed by IPLCs themselves.

2. Defining the role of the State in safeguarding the public sphere and localized data ecosystems

There are increasing monopolies over the value from data processing via the legal tools of intellectual property such as patents and trade secrets. The global crisis over access to Covid-19 vaccines developed from gene sequences accessed freely from open data bases and then locked up in proprietary claims is not accidental. There have been moves for several years to make sharing of DSI of pathogens an international obligation in the World Health Organization followed by open access, with public health as the clarion call. But equitable benefit sharing of the resulting medical products does not see the light of day largely because Northern governments leave this to their private corporations and research institutions. Instead, the Northern states' political energy is spent on ramping up intellectual property rights protection and enforcement in the South.

These also expropriate traditional knowledge of IPLCs that often provide the link to the potential commercial uses of biodiversity. Digitalisation cannot exclude the need for knowledge of nature and societies.

We therefore urgently need to push back on the aggressive imposition of emerging digital rules under the rubric of seductive promises of the "digital economy" that essentially seek to not regulate the technology giants while creating more "rights" for them. This entails active advocacy with national governments at the World Trade Organization where "e-commerce" negotiations are on-going, and regional/bilateral trade agreements and economic partnerships that are building a new set of legal norms which are opposed to IPLC rights and the real public interests across generations to come.

In the North, competition law is increasingly used to tackle abuse of market dominance, but this is not enough. Within the realm of competition law, proactive policies and measures on mergers and takeovers need to be prioritised and at the same time a fundamental shift is needed in society's mindset on how we want to value data, information, knowledge and people.

Endnotes:

1. See Hammond, E. (July 2020). *Finding Traditional Knowledge's Place in the Digital Sequence Information Debate.* TWN Briefing Paper.

Ingrid Schneider

Data value and just distribution of benefits and risks

Data is often described as the most important raw material for Big Data, Artificial Intelligence and the transformation of the current economy. However, data as a generic term is a peculiar category which encompasses different "things" in different contexts. Technically, data are machine-readable encoded characters tied to an electronic storage or transmission medium. In their semantic dimension, data are carriers of information content. Data are neither work nor capital, but represent a third thing of their own, which cannot be grasped simply as knowledge either.

The current business model of many large B2C platforms depends on network effects and on two-sided markets. They offer their services to users mostly free of charge, and generate most of their revenues and profits from the sale of advertisements, which are presented to specific target groups by analyzing users' preferences. Therefore, the saying "If you are not paying for the product, you are the product being sold" means that people are being commoditized for releasing their data ultimately to advertising companies. Consumer data is used to create digital profiles that can be made available to third parties. Huge user numbers help to create market power. The associated new power asymmetries of the data economy are raising concerns. The bargaining power of the platform is much greater than that of individual users. Therefore, the benefits and risk are unevenly distributed.

In the search for models that could open up alternatives in and to the existing business models of the platform-based data economy, I will examine four forms of governance that want to see data managed and administered (1) as a private good, (2) as a public good, (3) as a common good, and (4) by means of a trusteeship. I will scrutinize the corresponding claims to validity and ask how the informational self-determination of those providing data can be preserved and whether a bridge can be built between regulated commercial use and the utilization for the common good.

Special focus will be devoted to fiduciaries or data trusts who could possibly serve as an interface between data protection concerns and the data economy. The establishment of data trustees who can grant data access to companies on behalf of and in accordance with citizens' preferences. These include Personal Information Management Systems (PIMS), which are services that implement users' individual preferences largely automatically ("data agents"). They range from single sign-on services, local data vaults and online storage systems to more or less comprehensive third-party management of users' data through various types of data trusts. The range of functions extends from managing access rights to storage, processing, refinement, sharing aggregated or analyzed data, and negotiating data access rights. Such PIMS are intended to take on behalf of users vis-à-vis third parties their preferences regarding the exercise of their data protection rights of access, rectification, erasure, data portability and objection on behalf of data subjects. I will discuss the pros and cons of such PIMS and data trusts, and whether and to what extent they may support citizens' rights and a more just distribution of data value.

Kristina Irion (and Balazs Bodo, Heleen Janssen, Alexandra Giannopoulou[1])

Data ordering in context: The interaction of mesolevel data governance regimes with macro frameworks

Data is the most important resource of our times. This insight emanates from the newfound realization that highly detailed data can be extracted and processed by private parties and governments at unprecedented scales, speed and efficiency. Data's fate is under intense debate, which takes place at multiple stages, ranging from the individual, micro-level strategies, via the meso-level approaches experimented by data sharing organisations, firms and municipalities, to how countries, competing on the global stage, define strategic frameworks around data at the macro-level. Albeit data is not entirely lawless, there is much uncharted terrain opening spaces for competing logics of data governance.

While the production, use and trade in data may seem not transparent at best, chaotic at worst, it is certainly not without structure. In the last decade a number of different data governance models emerged, both at macro-level, and on the more context-specific meso-level. On the macro level, there are substantial political differences between the United States (US), the European Union (EU), and for example China, about the role data is envisioned to play in the economy, or in the organization of the social-political order. These differences play out in the generic political, economic and legal frameworks that define data governance at the macro-level, such as the European General Data Protection Regulation (GDPR), or the laissez-faire approach which characterizes the US approach.

At the meso-level, there is considerable variation in technical, legal and normative frameworks that govern the production, extraction and exploitation of data. Different firms, industries, national governments and municipalities, and a diverse group of techno-legal driven communities came up with their own data governance practices, frameworks, technologies, such as data sharing agreements, data trusts and cooperatives, or distributed ledgers and personal data stores. The large variations between approaches to govern data can be attributed to the field being relatively nascent, and that 'good' governance of data depends on the highly specific local conditions in which data is being extracted, used and traded (Daly et al. 2019). This paper is looking at data from a broad perspective and it interrogates how different meso-level data ordering regimes develop in the context of their macro-environment.

By now, we may have entered a next stage of consolidation, where economic, geopolitical and ideological differences over data play out, and are contested to the point where more successful data governance frameworks crowd out others. We argue that this consolidation process is also a product of the interaction between vertical layers of data governance: the macro-level political regimes can favor particular meso-level strategies at the expense of others, while pressure from the meso- level, such as

from firms of local public institutions, such as municipalities, or universities, influence the normative contours of the macro-level.

Various stakeholders have defined their own approaches to how they organise their data related practices. The bulk of meso-level governance regimes were developed by economic actors, often before any overarching macro-level framework emerged, and are shaped by technical capacities, and business interests. A second set of data governance logics emerged in the public sector. The making available of public sector information to the public in general, and for commercial uses, has released large caches of information with relatively few restrictions. National legislations introduced a third set of what is predominantly ad-hoc, sui generis data governance rules, often in response to emerging business models, specific sectoral needs, social, political controversies, or new technologies.

Last but not least, a number of governance models emerged as counter-practices, defined in opposition to dominant public or private data regimes. New legal frameworks try to establish communal forms of data governance, such as data cooperatives, data trusts, data commons and the likes. Since it is easier, and faster to implement data governance frameworks in code than in law, some of these counterinitiatives are heavily technological in nature, such as individual data control technologies developed by crypto-libertarian communities, or distributed ledger technologies.

Despite all the alternatives, the dominant meso-level practices seem to suffer from equally serious shortcomings, independent of how the data is being treated. On the one hand, the problems with the dominant data appropriation logics are well known. A substantial part of our social and economic interactions take place within often private, but in most cases, inaccessible and largely opaque technological and business ecosystems. Data extraction and production take place inside walled gardens of online platforms so that data accumulates and concentrates in the hands of a few firms, which then commodify and monetize data, while excluding everyone else from the potential benefits.

The fact that this happens at scale, creates immense social, economic and political power, and information asymmetries between those who control data vis-à-vis other businesses, governments and individuals. On the other hand, even in those cases when data is on the move, and widely traded, serious issues have emerged.

The current data governance frameworks of data trade have failed to produce transparent and functioning data markets. We only have an ad-hoc, and incomplete picture of the trade and flows in personal data, for instance, and therefore it is impossible to ensure that individual rights are not breached in the course of, or as a result of such transactions. Quite to the contrary, there are indications of irregular and shady data markets while regular practices of data sharing and trade are underdeveloped. In short, the current data governance regimes produce inadequate results both when the data is static, and when it is the subject-matter of transactions.

Our paper contends that any solution to the aforementioned issues must appear as an alternative data

governance logic at the meso-level. European policymakers, public and private sector organizations and civil society have to focus on exactly this data governance space between macro-level data governance frameworks and data producers, because this is where the different logics, visions of data ordering and governance are competing for social, political and economic recognition, adoption, success. The paper is structured as follows. After a brief overview of the types of data we refer to in this analysis, we introduce leading macro-level regimes, i.e. political, economic and legal, that prestructure data governance, with a special focus on the EU approach. In the subsequent section we turn to the discussion of meso-level data governance frameworks. We start with spelling out the expectations vis-à-vis a good enough data governance framework, then we match the currently competing alternatives against this background. We conclude with an analysis of how the macro- and meso-level frameworks may interact so the outcome of the competition at the meso-level results in successful governance frameworks that map closely to the characteristics of good enough data governance.

Endnotes:

1. Institute for Information Law, University of Amsterdam. Authors are listed in alphabetical order. All authors contributed equally to the article. The article was prepared for the Special Issue of Internet Policy Review on Protecting “European values” inside data flows, and its related conference. The article writing was supported by the European Research Council (ERC) under the European Union’s Horizon 2020 research and innovation programme under grant agreement No 759681. Corresponding author: a.giannopoulou@uva.nl

Marina Micheli

To establish more inclusive and responsible data governance models means to allow citizens and other actors to control the value that can be generated from data. Such data governance models do not *just* address the power unbalances of the data landscape by increasing *access* to and *control* of data, but foster more socially relevant *usages* of data. The involvement of citizens, communities, civic organisations, and public authorities in data governance increases the chances that the knowledge and value produced through data is redistributed across society.

One path to explore, to foster collective claims over data and socialise its value, is to promote the capacity of public bodies to access data and to use it responsibly on behalf of citizens' interests. Local administrations, in particular, could have a key role in redressing the power unbalances of the current data landscape. In this regard, an interesting data governance model is that of 'civic data trusts' in which a local or regional administration accesses, aggregates and uses data about its citizens, including data held by commercial entities, with which it establishes a relationship of trust. Civic data trusts are more an imagined (or conceptualised) model than a reality, except for a few exceptions, including undesirable ones. In civic data trusts, public actors assume the role of trustees that guarantee citizens' data is handled ethically, privately and securely. They imply the establishment of a relationship of trust between citizens and public bodies: citizens must be reassured that public actors are capable of keeping their personal information safe and secure and that they will use data to improve their lives. To earn such a level of trust, public bodies might engage in citizens' consultations and living labs, or require the intervention of external independent organisations that act as trusted intermediaries.

Another key issue is how to enable local administrations (and public authorities) to gain access to private sector data of public interest and then to actually use it for the public interest. In terms of access, several operational models have been currently adopted in experimental and pilot projects by administrations, yet access to private sector data is still an emerging practice and not necessarily an empowering one; in certain cases, data sharing from private to public entities serves the needs of monopolistic data platforms, more than the public good. A positive approach, instead, is that promoted by the city of Barcelona that, in its plan for a "social act" on city data, has advocated for introducing data sharing obligations as clauses in the tender contracts to guarantee that the value of data collected by public infrastructures is given back to citizens.

Once access to data is achieved, the question of how data is used to serve the public interest remains. Although there are new data sources available to understand policy relevant issues and to improve the delivery of public services, it rests to be seen to what extent the use of such data assets have an impact, and of what kind, on the people from whom the data comes. This is especially relevant when the analysed personal data belongs to vulnerable or less privileged groups. Furthermore, a new data source may be of limited analytic utility for a certain problem or the problem formulation might be too challenging for data to be useful. So, even if new data sources are *potentially* appropriate to address a

certain policy issue, *in practice*, they might not provide the necessary information (for instance, because of the lack of data quality or representativeness) or the hoped for solution. Data-driven technologies implemented to address specific societal problems might face unforeseen operational obstacles that hinder their efficacy and sustainability. So, a final question is: do the efforts necessary for accessing data and putting in place the necessary infrastructure (technical, legal and operational) pay off in terms of outcomes and social benefits deriving from its use?

Nadezhda Purtova

Important questions to answer before talking of "data commons"

- What do we mean by "data commons"?
    - Many scholars speak of the new models of data governance in terms of "data commons". But what do we mean by "data commons"? There are two options:
        * **Data commons = data as a common-pool resource (CPR)** according to the traditional economic resources classification along the axes of excludability and rivalry. Elinor Ostrom proposed this new type of economic resources and founded a branch of neo-institutional economics that studies how CPRs can be managed to avoid a "tragedy of the commons". Classification of data as a CPR implies that data is not (fully) **excludable**, i.e. access to data cannot be prevented, and is **rival**, or subtractable, i.e. enjoyment or other "consumption" of data leads to deterioration of its quality/usefulness. This deterioration is referred to as common social dilemmas.
        * **Data commons = data "held in common"**, i.e. commonly "owned" and managed. Unlike "data as a CPR", this framing does not imply that data has certain inherent characteristics. Instead, it is more of a normative claim: data should be held in common, as opposed e.g. to by a few tech giants. Ostrom noted a conceptual confusion between the 2 meanings and urged to guard the separation.
    - Why are we talking about data commons? How is this framing useful for us?
        * The "data as a CPR" framing is useful because studies led and inspired by Ostrom have resulted in several **design principles for governing common-pool resources** (e.g. here) that could be used for data governance, provided data is a CPR.
        * The "data should be held in common" frame is useful to make a **normative statement, make a claim on data, talk about data politics, etc**. But it does not provide ready answers as to how data should be governed, other then "in common".
        * Research that talks about data commons as "data should be held in common" often reach to the commons design principles which belong to the "data as a CPR" frame. This is not correct.

- If we go with the "data should be held in common" frame, what are the normative underpinnings to argue that all data should be common?
    - It is easier to argue this when we talk about personal data, since individuals have a claim on "their" personal data, and personal data affects groups of people beyond the immediate "data subjects".
    - But what is the normative ground to claim all data in commons?
- Suppose we want to go ahead with the "data as a CPR" frame and use the design principles. Then other questions arise.
    - What is the resource that is a CPR? Data is not rival (one's "enjoyment" of data does not lead to its deterioration or depletion).
- Open questions:
    - (To what extent) are the CPR design principles transferable to the "data held in common" context? Perhaps, they are transferable to a limited extent, since the CPR design principles also deal with problems of cooperation common to both frames. But further research is needed.

Paul-Olivier Dehaye

(PersonalData.IO, MyData & HestiaLabs)

In order to address data power, it is necessary to understand how market power is derived. First, data is pooled to derive insights. The quality and exclusivity of these insights define their commercial value. Volume of data collected tends to affect quality, while variety tends to affect exclusivity. Due to the asymmetric nature of the relationship created, both of those factors will actually negatively impact the trust an individual might have in the entity processing their data. From there, in a second stage, a feedback loop is created whereby small competitors operating under the same premises are unlikely to gain sufficient foothold (due to suspicion and direct competition). This, in turn, makes the entire space a winner-take-all market to those trying to confront it with the same logics. However with this size and dominance comes fragility: these giants' business models, or rather their scale, tend to produce externalities, which current operators are not well equipped to address.

This opens a gap, wherein much smaller projects focused on directly addressing these externalities do have an opportunity to find a niche and effect change. These projects can take advantage of a few distinct levers. Most likely they can survive by expanding the use cases they address, which suggests a first focus on variety rather than volume. In order to achieve this, it is essential that they maintain trust throughout their operations, through technical and governance means. While these projects might be thought as a unit, we have found that such projects regroup different functions that are best located in the hands of different entities.

Governance and technical development, for instance, need not happen within the same actors. In fact, for reasons of cost and trust, it might be highly desirable to split the two functions. On the technical side, approaches through open-source should be favored, with copyleft licenses as well as data standards being almost essential tools to reduce costs. We personally believe it is necessary that some commercial actors also be involved on this technical side in order to provide continuity. The democratization of this technology should in turn favor the emergence of autonomously governed entities using those tools. Should these take the form of trusts, cooperatives, foundations, etc.? It is still unclear at the moment, and it could very well be that several layers of this governance intertwine, particularly from the perspective of an ecosystem. A necessary condition seems to be that through a first layer individuals should be able to granularly direct both how their data is used, and for what purpose.

We leave with a practical question. Over the past two years or so, Uber drivers throughout Europe have had some good success at challenging the company's handling of their data. Leveraging rights of access and portability, they have made efforts to better understand how the platform takes decision about their work. They have recently obtained some success in a Dutch court. Their explicit goal is to pool this data and e.g., address issues of discrimination. I am a firm believer – but definitely in the minority – that

such a reverse engineering effort is possible from a technical standpoint, if the data protection law is properly leveraged and applied. In any case these Labor Union 2.0 efforts also raise many questions of governance: should such a structure's audience be "all the Uber drivers of the world"? There are many alternatives: all the for-hire drivers of the world, of a given country, of a given city. Or all the gig workers, or all the Uber/UberEats workers? All of them would have overlapping purposes related to workers' rights, but for different subsets of workers. But the data of concern could also have other uses, for instance, addressing issues of pollution in a city. This vast set of possibilities is thus dizzying in three directions: what data and whose data gets pooled into these collectives, and for what purpose. We, thus, don't think there is one answer for the governance question: many of them should be tested, in some form or another, but it will be inescapable that both the data and the purposes have a natural structure that will be reflected in the governance hierarchies that get created for these collectives.

Raymond Onuoha

It is important to assess possible institutional frameworks to democratise data value creation and distribution within the global digital economy, because the digital economy has reached a defining juncture (exacerbated by the COVID-19 pandemic) where lightly regarding the issue concerning data governance could have sustainable socio-economic implications. While current research within this domain has typically focused on the proximate causes of digital inequality, more recently, there is a shift towards the underlying value structures shaping the socio-economic contexts of data. This shift is fundamental to evaluating the institutional options for embedding the evolving digital economy within a sustainable-values data framework.

From a techno-economic paradigm (TEP), Kostakis and Bauwens (2014)[1] have put forward three institutional models for analyzing the digital economy, which can be extended to socialising data value creation and distribution. These are – proprietary capitalism, cognitive capitalism, and peer-to-peer production. While the first two, more dominant models are focussed on wealth production and protection of economic interests through centralised control of data via technological and media platforms, the budding latter is focussed on distributed (commons) data control for socio-economic sustainability, however, it requires innovative policymaking to reach dominance levels for ecosystem users. This data governance mechanism will require a commons-based reciprocity license that would permit any user to benefit commercially from the data commons insofar as they contributed to the co-created (consumer + producer) data value chain.

To attain this institutional order, according to Ostrom (1990),[2] this governance mechanism will not be self-regulated privately due to perceived free-rider arguments, but can only be externally imposed on the stakeholdership affected (by the state and/or citizens), concerning access and withdrawal rights to the data commons, especially for commercial appropriation. However, before this imposition can be effective, an institutional analysis of the data commons is imperative to understand the structure of incentives, resource contribution and benefit-cost valuation, and their influence on governance outcomes.[3] In operationalisation, it is also pertinent to note that the aforementioned parameters are complex and variable over time, and therefore commons rules will require to be dynamic and not static. Nevertheless, the process is still largely underdeveloped and lacks a conceptual framework.[4] In the short term, therefore, the state can lead by harnessing and strengthening commons-based actor groups to catalyse bottom-up institutional strategies for effectively and efficiently implementing these data commons idealisations.

From a Global South perspective, with the centrality of data as a key economic resource in the digital economy, the current global uncertainty with regards to the ownership and consequently governance of data raises critical issues especially for cross-border trade and trade negotiations within and without the region. This situation might risk becoming a non-tariff trade barrier, limiting investment flows to the region especially for Africa in the light of the recently brokered African Continental Free Trade

Agreement (AfCFTA). The current push-back from African countries with respect to the latest World Trade Organization (WTO) commitments on data governance as it pertains to e-commerce is a clear example of this.

Endnotes:

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Salomé Viljoen

A theoretical provocation to consider data governance as the task of governing data social relations

Data governance law – the legal regime that regulates how data about people is collected, processed, and used – is a subject of lively theorizing and several proposed legislative reforms. Different theories advance different legal interests in information. Some seek to reassert individual control for data subjects over the terms of their datafication, while others aim to maximize data subject financial gain. But these proposals share a common conceptual flaw. Put simply, they miss the point of data production in a digital economy: to put people into population-based relations with one another. This relational aspect of data production drives much of the social value as well as the social harm of data production and use in a digital economy. To properly approach the task of socializing data value requires first conceptually reorienting the impulse of data governance laws to take data's relationality as central, rather than marginal, to the task of governing data.

A theoretical account of data as social relations takes data as constituted by both legal and technical systems. It shows how data relations result in supra-individual legal interests, and properly representing and adjudicating among these interests necessitates far more public and collective (i.e., democratic) forms of governing data production. This theoretical account offers two notable insights for data governance law. First, this account better reflects the realities of how and why data production produces economic value as well as social harm in a digital economy. The data collection practices of the most powerful technology companies are primarily aimed at deriving population-level insights from data subjects for population-level applicability, not individual-level insights specific to a data subject. The value derived from this activity drives data collection in the digital economy and results in some of the most pressing forms of social informational harm. Individualist data subject rights cannot represent, let alone address, these population-level effects. Second, this account offers an alternative (and it argues, more precise) normative argument for what makes datafication – the transformation of information about people into a commodity – wrongful. What makes datafication wrong is not (only) that it erodes the capacity for subject self-formation, but also that it materializes unjust social relations: data relations that enact or amplify social inequality. This egalitarian normative account indexes many of the most pressing forms of social informational harm that animate criticism of data extraction yet fall outside typical accounts of informational harm. This account also offers a positive theory for socially beneficial data production that is particularly significant for attempts to socialize data value. To address the inegalitarian harms of datafication – and develop socially beneficial alternatives – will require democratizing data social relations: moving from individual data subject rights, to more democratic institutions of data governance.

Siddharth de Souza and Aaron Martin

The Global Data Justice Project

Places and populations that were previously digitally invisible are now part of a 'data revolution' that is being hailed as a transformative tool for human and economic development. Yet this unprecedented expansion of the power to digitally monitor, sort, and intervene is not well connected to the idea of social justice, nor is there a clear concept of how broader access to the benefits of data technologies can be achieved without amplifying misrepresentation, discrimination, and power asymmetries.

We therefore need a new framework for data justice integrating privacy, non-discrimination, and non-use of data technologies into the same framework as positive freedoms such as representation and access to data. The Global Data Justice project researches the lived experience of data technologies in high- and low-income countries worldwide, seeking to understand people's basic needs with regard to these technologies. We seek the perspectives of civil society organisations, technology companies, and policymakers and in doing so focus on the diverse debates and processes occurring around data governance in different regions, to draw out overarching principles and needs that can push data governance in the direction of social justice.

In doing so, we relate our findings to current governance and rights frameworks in order to understand whether they match with people's subjective needs, and build our findings into a conceptual framework. We begin from a conceptualisation of data justice along three dimensions of freedom: (in) visibility, autonomy with regard to technology, and combating data-driven discrimination. This entails that people should be visible in ways that benefit them, but also have privacy when visibility is counter to their interests. We should be free to use data technologies in ways that we choose, but should not be used by those technologies. Finally, we should have the ability to challenge discrimination, and should also be guarded from discrimination by those in charge of governing technology development and use.

In our presentation, we will delve into this conceptual framework for the project. We will share some insights from our 2020 book on Data Justice and COVID-19, as well as some insights from an ongoing project on sphere transgressions.

We will also reflect on some of the following questions which have animated the project:

- How should data technologies be governed on the global level?
- What kind of debate can we have across borders and cultures about datafication, and what kind of debate do we need?
- How do we balance data markets, apps, and technology firms that are global with regulatory and governance systems that are local?

Most recently, the Global Data Project has been considering the potential role of peremptory norms, which are a principle of international law, for data governance: 'bright lines' that prohibit certain behaviour, no matter the circumstances. There are relatively few of the norms, including genocide, torture, and apartheid. Norms are not principles but mechanisms for preserving the essential functioning of the international community. They come to exist through a process of international commitment both to their content, and to the shared responsibility for ensuring they are not transgressed. We will challenge workshop participants to think about what they either intuitively consider off-limits, or see as indispensable and, therefore, the duty of particular actors, in the digital sphere. If we can identify such things, what would then be possible starting points for establishing these positions as international norms? If so, what is the community that could agree and establish them, what sort of enforcement would be necessary, and what would be the first steps?

Stacco Troncoso

Recipes for a data commons are ubiquitous. Despite noble intentions, the solutions offered often conflate commons with commons-based peer production (CBPP). The latter describes the proto-mode of production found in Wikipedia and Free Software projects, characterized by often permissionless contributions and lack of direct compensation, and where there may be participation in a community but perhaps not in a close-knit group.

Meanwhile, in concrete, small-scale commons (and cooperatives to a certain extent) face-to-face interactions and close relationships prevail, while rewards and benefits are more directly related to work or shared inputs.

Despite these fundamental differences, both CBPP and commons are characterized by procedural similarities that question the premises of mainstream economics. Many readings of Ostrom and CBPP conceive the commons as a resource, rather than a social process. This limited understanding places the development of a data commons at the hands of institutions ill-suited to understanding the often in-situ nature of commons governance or Open-Source contributory cultures. The unchecked for-profit digitalization and exploitation of data leads us to assume that data is a resource to be exploited, opening the question of who benefits from this exploitation. What is to be done?

Our suggestion is that any data or knowledge commons needs to, first and foremost, be an experiential learning process that creates new commons, rather than exploit it for absentee shareholder interest or under the mandates of institutions with little notion of open-source cultures and economics. How can we achieve this?

DisCO (Distributed Cooperative Organizations) is a set of tools and methodologies based on Feminist Economics, P2P cultures and distributed computing that bridges the divide between small-scale, trusted commons and complex transnational Commons Based Peer Production projects. Applicable to a host of organizations including worker-owned coops, SMEs, non-profits, Community Land Trusts and more, DisCOs generate data metrics which include (often invisibilized) care or reproductive work.

If data is value, DisCOs ask, "what are the *values* informing the way we collect, share and leverage data"; and more importantly, "to what end?". With their orientation towards social and environmentally positive outcomes and federated nature, DisCOs can help provide feasible management strategies for a people-controlled data commons that leverage the best of small commons and coops with CBPP. DisCO also provides ethical templates for the development of technologies with a special focus on AI and blockchain/DLT applications.

Find out more in the links below:

DisCO Official Publications

- DisCO.beat (The DisCO Newsletter)
- DisCO Manifesto
- DisCO Elements

External Publications

- Platforming Equality: Care Before Code Care (Chapter on DisCO from Autonomy.work's booklet
- Deliberate Dancing: A Critical Investigation of DisCOs' Potential to Re-Politicize the Economy (Master's thesis on DisCO)

Articles

- How to Account for the Future of Work: Automation, Blockchain, and the Knowledge Economy on Hackernoon
- Last Night a Distributed Cooperative Organization Saved My Life: A Brief Introduction to DisCOs on Hackernoon
- Tales of a DisCO Straight from the Dance Floor for Grassroots Economic Organizing. (Practical experiences of Guerrilla Translation as a DisCO)
- Anoche una organización cooperativa distribuida me salvó la vida: una breve introducción a las DisCO. Introductory article in Spanish for alternative digital newspaper El Salto.

Videos and Public Presentations

- The DisCO Mothership has Landed: Feminist, Cooperative, Commons & Blockchains (1 minute video trailer)
- Groove is in the Heart: the DisCO Elements (1 minute video trailer for the DisCO Elements)
- Feminista, cooperativista, distribuido y orientado al procomún: bienvenidas a DisCO (1 minute video trailer in Spanish)
- Take Back the App! (Episode of the Laura Flanders Show featuring DisCOs, Platform Coops and more...)
- DisCO.coop – The Future of Distributed Work | Radical Practice Conference 2020/21 (22 minute

presentation by DisCO co-founder Ann Marie Utratel)

- OPEN: 2020 DisCO Webinar recording (April 2020)
- Rage Against the Machine and Science Friction: a video introduction to DisCOs (45 min presentation and audio/podcast version).
- Tech for Society #13: Rights to the blockchain city #2 a livecast episode by Pakhuis de Zwijger on the possibilities of blockchains if they were designed to support alternative economic models, with DisCO.coop among the participants.
- MoneyLab Berlin #11. (This is the whole encounter, the DisCO part begins at 1:27:00)
- DWeb Meetup: March 2021 "The Latest in the Decentralized Web" (This is the whole meetup, the DisCO part begins at 0:59:00 approx.)

Stefaan G. Verhulst

Today's Rembrandts in the attic: Unlocking data for social value

Twenty years ago, Kevin Rivette and David Kline wrote a book about the hidden value contained within companies' underutilized patents. These patents, Rivette and Kline argued, represented "Rembrandts in the Attic" (the title of their book). Patents, the authors suggested, shouldn't be seen merely as defensive tools but also as monetizable assets that could be deployed in the quest for profits and competitive dominance. In an interview given by the authors, they referred to patents as "the new currency of the knowledge economy."

We are still living in the knowledge economy, and organizations are still trying to figure out how to unlock under-utilized assets. But today the currency has shifted: today's Rembrandts in the attic are private and public sector data. And its value resides in finding ways to responsibly re-use that data to inform public interest decisions.

At The GovLab, an action-oriented think tank located within the Engineering School of NYU, we are dedicated to unleashing the societal value of data to improve decision making in the public interest. If there is an overarching theme that emerges from our work, it is about the value of *re-using data for improving people's lives*. In recent years, several countries have witnessed the rise of an open data movement, and a growing number of private organizations have taken steps to release or made accessible previously siloed data sets. Despite occasional trepidation on the part of data holders, our research has repeatedly shown that such efforts can be value-enhancing – both for data holders and for society at large. Better and more transparent re-use of data is arguably the single most important measure we can take to unleash the full possibilities of data. Toward that end we should consider four immediate steps:

1. Develop new participatory methodologies to identify and measure the value of data

The first step required to fulfill this potential is for all stakeholders to arrive at a better understanding of just what we mean by value. Today there exists widespread consensus that data is valuable. Despite such agreement, however, there exists no equally accepted method for calculating or estimating the value of data. Such a consensus must be arrived at through a broad process of consultation that involves data holders and users from all sectors, as well as policymakers, researchers and academics, and civil society or other groups representing the public interest. In particular, it will be required to collectively determine what are the questions we seek to answer by re-using data (See The 100 Questions initiative) and subsequently acquiring a social license to re-use data to answer these questions through citizen assemblies (See The Data Assembly).

2. Develop enabling ecosystems and collaborative frameworks to move from extraction to co-creation of value

Unlike physical assets, data goods are non-rivalrous and intangible, which means that they can be shared without depriving their original holders of benefit. The process of maximizing under-utilized data assets will therefore often involve arriving at new institutions and frameworks to enable data collaboration and what we call "co-creation of value." This concept of co-creation is not new and various experts have called for the creation of new institutions to facilitate it in different sectors. In her book, *The Entrepreneurial State*, University College London Professor Mariana Mazzucato argues that such a framework is necessary to bring the public and private sectors together to spur innovation.

Drawing on the analogy with patents (those earlier "Rembrandts in the attic"), it is worth, in this context, pointing out the dangers and risks of *not* sharing. While patents can be competitive assets for companies, they also often block innovation and prevent true competition from emerging. In much the same way, data hoarding can result in broader societal and monetary losses. These losses may ultimately rebound on the data holders themselves, who fail to benefit from missed-out innovations or breakthroughs.

3. Innovate with new data collaborations and re-use conditions

In order to enable sharing, we need new structures that foster partnerships and more collaborative approaches. The old model of single-ownership is outdated and no longer conducive to maximizing the value of data assets. Several structures have been proposed, including data co-ops, data commons and (our preferred term at the GovLab) data collaboratives.

Data collaboration can take many forms. In our typology, we generally focus on two defining variables: engagement and accessibility. The first variable, ***engagement***, refers to the degree to which the data supply and demand actors co-design the use of corporate data assets. We find that collaboration is often independent, in that the private-sector holder has little to no involvement in data re-use, cooperative, in that data suppliers and data users work together, and directed, in that the data holder seeks a specific product. The second variable, ***accessibility***, is the extent to which external parties can access private data. Within it, we find that data is either open access, in that there are few restrictions on who can see it, or restricted, in that only pre-selected partners received unfettered access.

4. Identify and nurture data stewards

As data collaboratives and other similar structures gain increasing validity, it is becoming clear that new human and institutional roles will be required to foster them (and more generally to encourage a culture of sharing). In our work at the GovLab, we have identified a key role within data holding organizations for what we call *data stewards*. As the European Commission's High-Level Expert Group on Business-to-Government Data Sharing recognizes, these individuals or teams empowered to

proactively initiate, facilitate, and coordinate data sharing are essential to using cross-organizational and cross-sector data toward the public interest.

Data stewards are individuals or groups who manage data within organizations, and whose specific remit is to foster collaboration and sharing, with an eye to maximizing both societal and monetary value. Among other responsibilities and roles, data stewards can identify under-utilized data that may have potential value; locate and foster partnerships to help unlock that value; and ensure a responsible framework that balances potential benefits of sharing against possible risks such as harms to privacy or security.

To conclude: Re-using data is a vital step toward generating social value in data. Yet we are only beginning to understand the trade-offs involved in re-using as well as the institutional frameworks and structures that can encourage it. The four points outlined above represent a start, but we need a rigorous assessment into what's already being done, and more experimentation to push the frontiers of what's possible. We need, above all, a more creative and innovative mindset that can help organizations dust off the cobwebs from their hidden Rembrandts, in the process allowing them – and society at large – to maximize the monetary and public good value of our ever-growing data streams. Toward that end, looking forward to this workshop.

Suggested Readings

Amber Sinha and Arindrajit Basu – The politics of India's data protection ecosystem: https://www.epw.in/engage/article/politics-indias-data-protection-ecosystem

Angelina Fisher & Thomas Streinz – Confronting Data Inequality: https://cloud.itforchange.net/s/7xgemmbbwCaXs2Y

Barbara Prainsack – The political economy of digital data: introduction to the special issue: https://www.tandfonline.com/doi/full/10.1080/01442872.2020.1723519

Barbara Prainsack – Data Donation: How to Resist the iLeviathan: https://link.springer.com/chapter/10.1007/978-3-030-04363-6_2

Cecilia Rikap & Bengt-Åke Lundvall – Big tech, Knowledge Predation and the Implications for Development: https://cloud.itforchange.net/s/JJRb48mRb76RkAC

Cecilia Rikap – Amazon: A story of accumulation through intellectual rentiership and predation: https://journals.sagepub.com/doi/10.1177/1024529420932418

Elinor Ostrom and Charlotte Hess – Ideas, Artifacts, and Facilities Information as a Common-Pool Resource: https://cloud.itforchange.net/s/8bBiifGA92WLppi

Gurumurthy, A. and Chami, N. (forthcoming). Governing the Abstract Object of Data: Towards a Distributive Integrity Framework. Data Governance Network Working Paper. Draft available at https://itforchange.net/sites/default/files/1741/ITfC-DRAFT-The-Abstract-Object-of-Data.pdf

Michael McGinnis and Elinor Ostrom – Design Principles for Local and Global Commons: https://cloud.itforchange.net/s/kamwJw92X2en8nP

Micheli, M., Ponti, M., Craglia, M., & Berti Suman, A. – Emerging models of data governance in the age of datafication: https://doi.org/10.1177/2053951720948087

Micheli, M. – *Accessing privately held data: Public/private sector relations in twelve European cities*. Paper presented at Data for Policy 2020. Zenodo: https://doi.org/10.5281/zenodo.3967044

Mittal, A. (2020). Exploring the constitutional tenability of data sharing policies. Data Governance Network. Available at https://datagovernance.org/report/exploring-the-constitutional-tenability-of-data-sharing-policies

Nadezhda Purtova – Health Data for Common Good – Defining the Boundaries and Social: https://cloud.itforchange.net/s/68qkQp93si8jAgi

Robert Fay – Digital Platforms Require a Global Governance Framework: https://www.cigionline.org/articles/digital-platforms-require-global-governance-framework

Robert Fay & Michel Girard – Statistics Canada Should Be Central to a National Data Reuse Framework: https://www.cigionline.org/articles/statistics-canada-should-be-central-national-data-reuse-framework

Robert Fay – Reckoning With the Size, Scope and Power of Social Media Giants: https://www.cigionline.org/articles/reckoning-size-scope-and-power-social-media-giants

Salomé Viljoen – Democratic Data- A Relational Theory for Data Governance: https://cloud.itforchange.net/s/jeLMCsSxpsPScsg

Salomé Viljoen – Data as Property? https://phenomenalworld.org/analysis/data-as-property

Singh, P. J. (2019). Data and digital intelligence commons: Making a case for community ownership. Data Governance Network. Available at https://datagovernance.org/files/research/ITFC_Parminder_Data_Commons_-_Paper_2.pdf

Singh, P. J. and Gurumurthy, A. (forthcoming). Economic Governance of Data Balancing Individualist-Property Approaches with a Community Rights Framework. Data Governance Network Working Paper. Draft available at https://itforchange.net/sites/default/files/1880/Economic-governance-of-data.pdf

Taylor, L., & Broeders, D. (2015). In the name of Development: Power, profit and the datafication of the global South: https://doi.org/10.1016/j.geoforum.2015.07.002