Data Cooperatives

Gael van Weyenbergh, Chief Executive Officer, MEOH

The urgency of addressing climate change and its devastating consequences demands a proactive and inclusive approach. While progress has been slow, primarily relying on government and business actions, we must find a better way to harness the collective drive of The People for a sustainable future. The transformation required to mitigate climate change necessitates the participation of all people worldwide, and an inclusive approach is paramount.

The orchestration of sustainable practices and technologies within communities involving the behaviour of 8 billion individuals is crucial. We have learned from history that religion, finite resource-based capitalism, and autocracy are insufficient in motivating the necessary cooperation and enthusiasm. Instead, a self-driven approach is essential, and democratic processes have consistently proven successful in this regard.

The digital revolution has provided us with the tools to mobilise the needs, informed consent, and human capital of 8 billion people toward achieving the United Nations' 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). Technology facilitates the connection of individuals on a large scale, enabling both bottom-up and top-down civic participation. Traditional power hierarchies are being reshaped as digitisation transforms the dynamics of power.

Creating a more democratic and fair internet by developing data cooperatives and digital commons while addressing social media polarisation will foster greater participation. Empowering communities to organize online and directly engage with their representatives will help those same representatives advocate for effective climate laws.

The initial event on this topic took place as part of the event of the UN Science Summit (Link to recording).

Speakers

- Gurvinder Ahluwalia, Digital Twin Labs
- Kelly Achenbach, Communication Officer for Citizen Science, Max Weber Foundation, Germany
- Eugene Brave Rock, Indigenous Actor
- Stephanie Carrol, Associate Professor of Public Health, University of Arizona
- Dr. Aunkh H. Chabalala, National Director, Indigenous Knowledge-Based Technology Innovation Unit at South Africa's Department of Science and Technology
- Mei Lin Fung, Co-Chair, People Centered Internet
- Wangari Kuria, Chief Executive Officer, Farmer on Fire Ltd.
- Inder Monga, Director, Berkeley Lab’s Scientific Networking Division
- Morshed Mannan, Research Fellow, European University Institute's Robert Schuman Centre
- Hossein Rahnama, Chief Executive Officer, Flybits

- Navroop Sahdev, Chief Executive Officer, The Digital Economist

Further Contributions

Harnessing AI Potentials: from Data cooperatives to AI commons

- Amir Banifatemi

Data Cooperatives: A Case for Collective Participatory Governance

- Anastasia Kalinina, Co-Founder and CEO, reState Foundation;
- Alexandra Seaman, Co-Founder and Visionary Strategist, reState Foundation

The Role of Indigenous Knowledge Systems in Data Cooperatives

- Dr. Aunkh H. Chabalala, Department of Science and Innovation, South Africa

A look at Data Cooperatives (legal framework) in Kenya

- Brian Omwenga

Data Cooperatives to Empower SMEs of the construction sector

- Michael Bühler
- Konrad Nübel
- Thorsten Jelinek
- David Riechert
- Lothar Köhler
- Pia Hollenbach

An Understanding of Data Cooperatives When Viewed from the Lens of the 2023 YOUthDIG Messages

- Izaan Khan

Towards an Equitable Data Future: Data Cooperatives x Digital Public Infrastructure

Fostering an African Data Commons

- Marie Shabaya
- Simon Sun

A Scalable Framework for the formation of Data Alliances and Co-operatives

- Hossein Rahnama

India's Digital Public Infrastructure

Salus.coop, data cooperative for health research

- Javier Creus

Why data cooperatives should be an essential component of digital public infrastructure

- Kate Wilson

Data Cooperatives

- Mandeep Rai

Digital Horizons: Empowering Youth in the World of Access, Literacy, and Opportunities

- Natalie Tercova

Data cooperatives : Why it matters? A European perspective from the academic domain

- Suzanne Dumouchel

Summary by Gael Van Weyenbergh

Data Cooperatives: A Concrete Pathway for a Human-Centered Internet

In global forums, discussions around rectifying systemic imbalances in the digital economy have gained urgency [1]. These imbalances, largely favoring platform giants, have precipitated a crisis of trust and are increasingly viewed as unsustainable in a world where digital transformation is becoming central to societal functioning. This has brought to the fore the necessity of reshaping the digital landscape, advocating for Digital Public Goods (DPGs) and Digital Public Infrastructures (DPIs) as critical enablers for a more equitable digital future [2].

Data cooperatives have emerged as a compelling concept in the evolving context of digital transformation, democratizing its benefits. These entities, which integrate cooperative principles with the recognition of data as an essential asset, are increasingly acknowledged and have been explicitly recognized in new regulatory frameworks, such as the European Data Governance Act [3]. They are committed to setting new standards in equitable and ethical data practices, focusing on championing privacy and ensuring the fair distribution of benefits.

Functioning as hubs of aggregated and reliable data, data cooperatives establish themselves as key contributors to providing innovative insights for evidence-based policy-making and strategic decision-making. Their role extends to enhancing business intelligence and operational efficiency. These cooperatives hold the potential to rejuvenate local economies, notably by assisting SMEs in using data as collateral for securing loans [4]. Furthermore, they can act as trusted intermediaries in dealings with data-hungry third parties, potentially influencing future data market dynamics.

As hubs of collective intelligence and ethical practices, they can augment human and social intelligence and tackle a variety of critical societal issues, such as protecting youth from harmful digital addictions, combating hate speech and digital divides, or ensuring indigenous data sovereignty, thus preventing new forms of digital colonialism [5]. Additionally, their involvement in non-profit initiatives like enhancing cross-border data exchange and academic collaboration for open science, wildlife preservation or biodiversity monitoring, aligns with UNEP's call for reliable data to drive environmental action [6].

Despite their promise, pioneering experiments show that data cooperatives confront multifaceted challenges. These include data privacy concerns, technological barriers and regulatory uncertainties coupled with issues in seed funding and financial sustainability realms, typical of emerging ventures. Placing purpose above profit, these cooperatives navigate a path often at odds with traditional investment models. Amidst this landscape, there is a growing assumption among practitioners and theoreticians that data cooperatives could benefit from adopting a collective approach to governance, encouraging collaboration, resource pooling, and federation [7]. Such a collective strategy, while

essential for managing complex issues that exceed the capabilities of individual entities, also introduces the challenge of effectively navigating decentralized governance.

Additionally, the escalating impact of technology underscores the importance of multistakeholder solutions that include a wide spectrum of voices, from civil society and minority groups to the Global South, which has a long tradition of decentralized decision-making. Furthermore, the pursuit of human and planet-centric solutions calls for innovative revenue schemes and incentive systems, aiming to balance economic viability with broader societal concerns. These numerous hurdles, thoroughly documented in empirical evidence and expert commentary [8], necessitate a rethinking of decentralized governance strategies from the ground up.

While technical solutions like blockchain offer paths to decentralized governance, they often reveal significant limitations in practice. Blockchain, for instance, while pioneering decentralization at scale [9], consistently encounters issues: market-driven dynamics that often overlook societal needs, potentially magnifying existing economic disparities; challenges in implementing community governance without defaulting to centralization; and the tendency to treat decentralization more as a political stance than as a practical strategy for increased agility in complex scenarios.

For data cooperatives, the primary challenge extends beyond simply managing decentralization. It involves intricately navigating both transactional and relational dynamics, crucial in a framework founded on fiduciary representation, where human beings are both the focal point and the ultimate beneficiaries of the digital system. Addressing these challenges demands innovative approaches that transcend purely technical solutions. Emphasizing trust in the system's integrity also means integrating interpersonal trust as a key component. As an example, and with the rapid evolution of exponential technologies, it becomes equally important to focus on the accountable governance mechanisms of these technologies. The recent developments in AI governance have highlighted the critical need for responsible oversight and ethical use of such technologies.

In recognizing these intricacies, we propose the exploration of the 'Small Worlds' phenomenon as a strategic method to address the challenge of decentralization. Rooted in the natural network of informal cooperation within human societies and popularized by the concept of 'Six degrees of separation', the 'Small Worlds' phenomenon, represents a unique social structure in which individuals maintain strong connections within their immediate communities while also fostering weak, distant connections [10]. This dual structure aligns interests through reciprocal behaviors, creates horizontal chains of accountabilities that distribute checks and balances while acting as unifying agent or social glue, and facilitates both local cohesion and global reach, inherently supporting the social capital crucial for cooperative endeavors [11].

Ultimately, the Small Worlds framework offers a unique harmony between local trust and broad outreach, reflecting the inherent cooperative nature of societal interactions. This approach contrasts sharply with the prevalent "one-to-many" model seen in social media influencer dynamics, where a single source broadcasts to a vast audience. Instead, it positions data cooperatives as 'few-to-few' networks based on the Small Worlds architecture, connecting various layers of federated cooperatives both vertically, from micro to macro levels, and horizontally, between federated groups.

This structure allows for a nuanced blend of local and global interactions, fostering a more participatory and inclusive form of communication and decision-making. While this framework ensures that technology serves to enhance, rather than overshadow, human and societal needs, it also presents unique challenges. These include balancing local clustering with global connectivity and weaving

informal human interactions into technological systems while preserving their nuances and maintaining privacy. Successfully navigating these challenges requires moving away from rapid, disruptive innovation models towards a more sustainable, value-driven approach.

In conclusion, data cooperatives are at a pivotal point in the era of digital transformation, reigniting the Internet's foundational spirit of openness, decentralization, and collaboration. As a vessel adeptly suited for navigating the complexities of our increasingly digital world, they represent a demanding yet viable path towards a people-centered Internet. This vision aligns with UN Secretary General Antonio Guterres's observation: “We often hear that the future will be digital, but the future of digital must be human-centered” [12]. However, realizing this vision necessitates a broad coalition of the willing and from all spheres of society, facilitating the transition from the 'Internet we have' to the 'Internet we want' (Internet Governance Forum Kyoto, 2023).

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