

Chapter 18

Data Cooperatives to Strengthen Digital Citizenship: Opportunities and Risks

Silvio Andrae

 <https://orcid.org/0000-0002-8586-7812>

Independent Researcher, Germany

ABSTRACT

This chapter explores the concept of data cooperatives as an innovative organizational form in the modern data economy. Data cooperatives enable citizens to collectively manage, control, and use their data to achieve collective benefits. The chapter highlights the definition and principles of data cooperatives, their central functions, and the necessary technical and organizational infrastructure for their implementation. It shows how data cooperatives can help strengthen digital citizenship, promote innovation, and enable a fairer distribution of the benefits of data use. The challenges and limitations of this model are also discussed. The practical implementation of data cooperatives in various areas is illustrated based on practical examples. The chapter argues that data cooperatives represent a promising model for reducing the power asymmetries in the current data economy and for shaping a fairer, more transparent, and more democratic digital future, thereby instilling a sense of security and trust in the audience.

DOI: 10.4018/979-8-3693-9015-3.ch018

1. INTRODUCTION

Over the last decade, discussion about how to handle data and digital technologies has evolved. The rapid development of technologies such as artificial intelligence, big data, and automation has led to the collection and analysis of data becoming one of the most valuable resources in the digital economy. It is accompanied by increasing concern about compliance with ethical standards and security when using these technologies. As a result, the use of digital technologies is increasing interest. In response, 'digital citizenship' has become synonymous with the responsible use of digital technologies. Specifically, it is about the right to access information, privacy, and freedom of expression in digital space. These rights are matched by the responsibility to behave ethically and responsibly in the digital space, e.g., by respecting others and protecting personal data. Digital citizenship, in this context, refers to the rights and responsibilities of individuals in the digital space, including the right to access information, privacy, and freedom of expression, and the responsibility to behave ethically and responsibly, such as by respecting others and protecting personal data. These rights and responsibilities are complemented by active participation in shaping the digital society, e.g., by helping to design digital services and participating in digital debates.

The increasing concentration of power and influence among a few major—mainly global technology companies—makes it more difficult for citizens to use their rights and duties and participate appropriately. Platforms such as Google, Amazon, or Meta dominate the market and have access to immense amounts of data collected from user behavior, social interactions, and other sources. This concentration of power entails risks. Citizens and smaller organizations often do not influence how their data is collected or used. Many users are also unaware of how their data is processed or monetized. Finally, data misuse and surveillance can endanger individual freedoms.

The current data economy raises the question of how to create fairer access to data and more responsible use of it. New approaches like data cooperatives are becoming increasingly important in this context. They represent a promising alternative for reclaiming sovereignty over personal data and strengthening digital self-determination. The concept of a data cooperative is based on the principles of collective ownership, democratic governance, and fair data practices. Within cooperation, citizens pool their data, which is then managed, protected, and used for negotiations with companies and institutions in the interests of the members. This empowers citizens, offering them a hopeful alternative in the digital society (Bühler et al., 2023; Kapoor et al., 2024; Ruijter, 2021; Fink, 2024).

The functions of data cooperative essentially include

1. secure storage and protection against unauthorized access,

34 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/data-cooperatives-to-strengthen-digital-citizenship/370031

Related Content

Role of Generative Artificial Intelligence (AI) in Accountability, Transparency, and Governance in Higher Education: A Comprehensive Study

Heena Siroya, Manish Dadhichand Kirti Siroya (2024). *Integrating Generative AI in Education to Achieve Sustainable Development Goals* (pp. 313-321).

www.irma-international.org/chapter/role-of-generative-artificial-intelligence-ai-in-accountability-transparency-and-governance-in-higher-education/348810

AI-Driven Strategies for Maximizing Revenue in Tourism: A Comprehensive Review of Literature

Uma Pandey, Saloni Bansaland Vishal Valuskar (2025). *Utilizing AI and Machine Learning in Financial Analysis* (pp. 65-80).

www.irma-international.org/chapter/ai-driven-strategies-for-maximizing-revenue-in-tourism/368322

Identity Influence in Consumer Behavior on the Internet

Ritu Vatsand Reeta Clonia (2024). *AI Impacts in Digital Consumer Behavior* (pp. 112-140).

www.irma-international.org/chapter/identity-influence-in-consumer-behavior-on-the-internet/341043

Modeling of Agent-Based Complex Network to Detect the Trust of Investors in P2P Platform

Yuwei Yan, Jian Zhangand Xiaomeng Ma (2019). *International Journal of Intelligent Information Technologies* (pp. 20-31).

www.irma-international.org/article/modeling-of-agent-based-complex-network-to-detect-the-trust-of-investors-in-p2p-platform/225067

Effect of Digital Financial Literacy on Digital Consumer Protection: Mediating Role of Financial Self-Efficacy and Financial Confidence

Jeswin Joseand Nabanita Ghosh (2024). *Enhancing and Predicting Digital Consumer Behavior with AI* (pp. 157-172).

www.irma-international.org/chapter/effect-of-digital-financial-literacy-on-digital-consumer-protection/347200