Research Data: A Public Good or a Private Asset?

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Background

- Our work involves supporting researchers with commercially sensitive data
- Starting point: few discussions around the principle “as open as possible, as closed as necessary”
  - Confidential data
  - Privacy
  - Security considerations
  - Commercialization/patenting/trade secrets
  - +++
- Scientific article (theoretical / conceptual)

Introduction

- **Research data**
  - New or existing data that has been created and/or processed to address questions of academic interest (Research Council of Norway, 2017)

- **Research data governance (RDG):**
  - Revolves around setting quality thresholds for research data, access conditions, and infrastructures at Research Performing Organizations (RPOs) (Kouper et al., 2020)
  - Can involve various kinds of data generated with funding from diverse sources, both public and private (Kouper et al., 2020)
  - Collaboration (and competition) across organizations
  - **Inherent tension between the economic and societal values of research data** (our focus in the article)

- **RQ**: How can RPOs balance the market and non-market value of the research data they hold?

Research data as a public good

- As research is often at least a partly publicly funded activity, research data are **expected to be made publicly available and in service of public interests.**

- Research data as a public good is part of the **Open Science (OS)** movement, which has the objective of providing free-of-charge and unrestricted access to publicly funded research (UNESCO, 2021).

- **Benefits** of research data as a public good:
  - Can inform the design and evaluation of public policies (Crato & Paruolo, 2019)
  - Contribute to the development of educational resources (Coughlan, 2020)
  - Assist in the fight against pandemics (e.g., COVID-19) and prevention of diseases (Nature, 2021)
  - Help in the monitoring, protection and restoration of the natural environment (Urbano et al., 2023)
  - +++

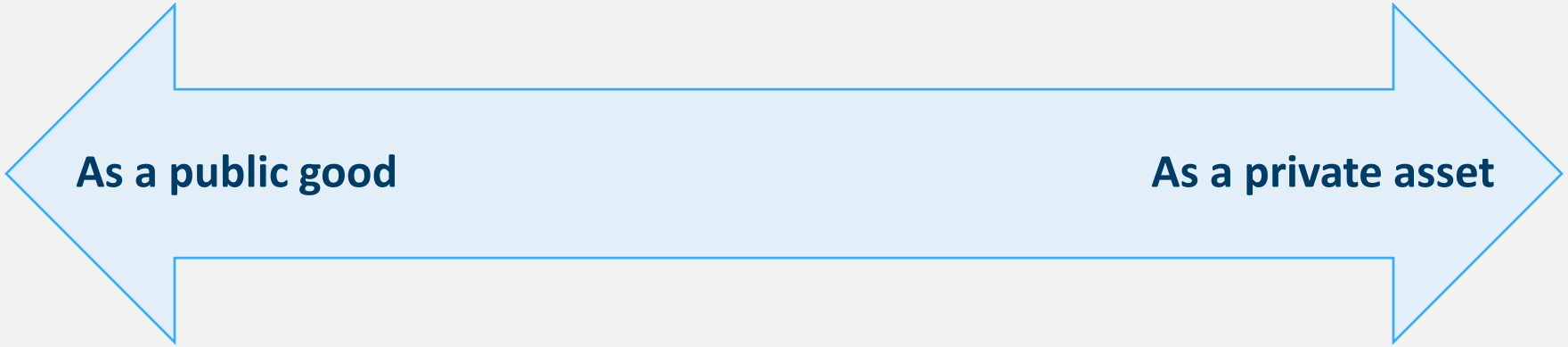
Research data as a private asset

- Research data **can be privately owned and used for commercial ends -** an input upon which products or services are built.

- Research data as an asset can be understood as part of the **Resource Based View (RBV)**, which proposes that the resources and capabilities of an organization constitutes its source of competitive advantage (Barney, 1991).

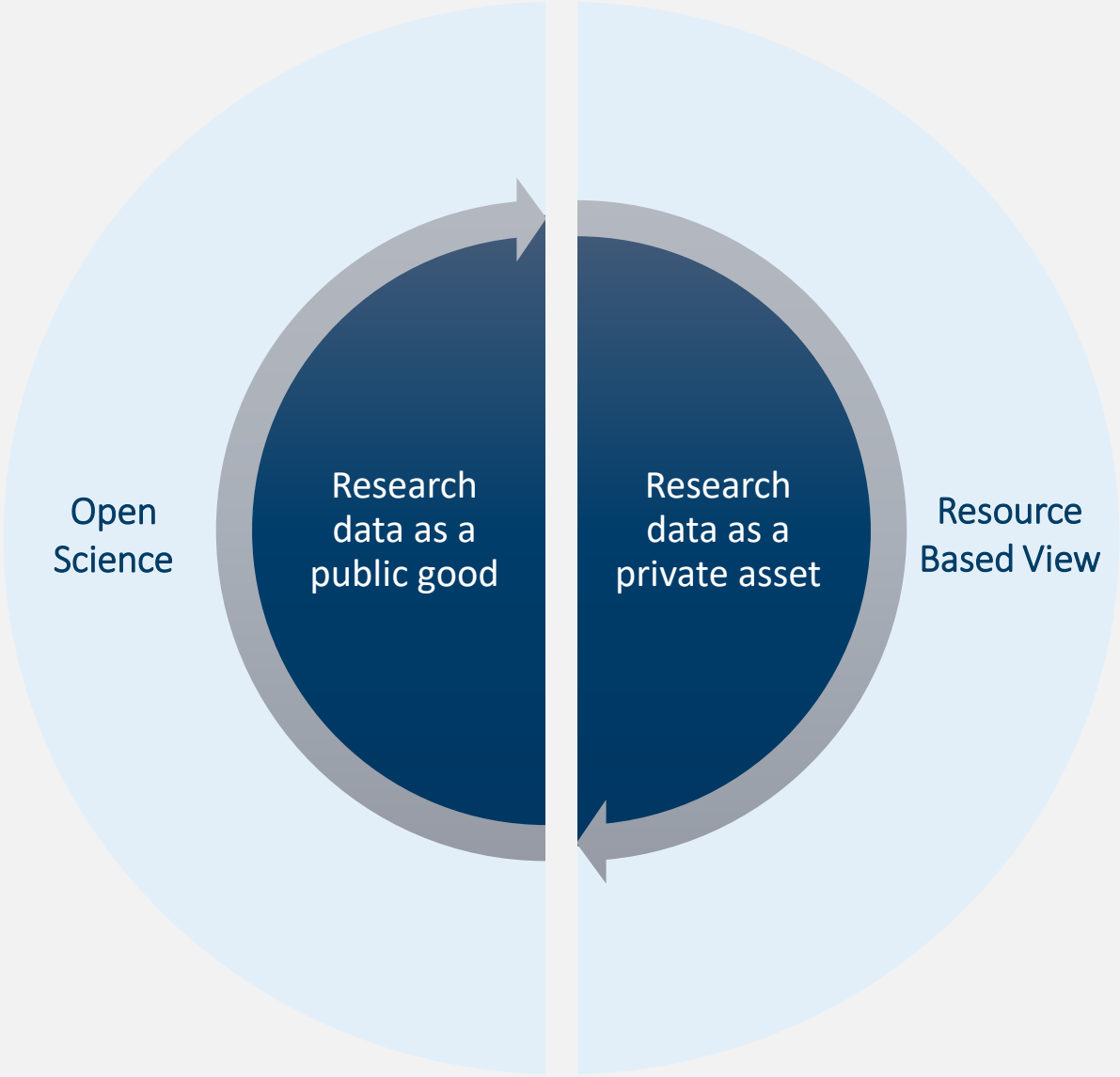
- **Benefits** of research data as a private asset:
  - Can help cover the costs involved in generating and maintaining high-quality research data
  - Source of competitive advantage for RPOs
  - +++

Conflicting perspectives [current situation]



- Research data **should be open, transparent and available to all**. Open access to research data should be maximized, and commercial considerations are not important (anchored in Open Science).
- Research data **should be managed as an asset**. RPOs should implement strategies that recognize the value of research data in the building of products and services (anchored in the Resource Based View).

Conflicting perspectives? [imagined situation]



RPOs in the institute sector as an example

- RPOs in the institute sector:
  - Typically have a strong social mission to generate value to society through applied research.
  - Frequently operate as a foundation (non-profit) and their financial return is reinvested back in the organization.

- Key challenges for RPOs in the sector regarding RDG:
  - Comply with mandates on open research data and, at the same time, protect commercially sensitive research data.
  - Contribute to the openness and transparency of science through open research data and, at the same time, strategically manage research data.
  - Sort out if their contribution to societal objectives - such as the SDGs - is best achieved through governing research data as a public good or a private asset or a combination of both.

Toward an integrated research data governance

At the organization level	At the project level
Develop and implement a **research data governance policy** recognizing research data as a public good and a private asset	Use a **data management plan (DMP)** to assess the market and non-market values of research data
Evaluate which **infrastructures** are necessary to implement the research data governance policy	Strategically negotiate terms for **research data ownership** at project start
Assist researchers in the implementation of the policy in research projects	Make a realistic **budget** for research data management
Consider forming **data partnerships** both for commercial and non-commercial purposes	Follow up on plans to **protect research data** with market value and, otherwise, to **disseminate research data as openly as possible**
Assess which **data assets** can provide unique and sustained competitive advantages	Take **Intellectual Property (IP)** into account when managing research data

Concluding remarks

- We explore the economic and societal values of research data and highlight some of the tensions between them.
- We propose the adoption of insights from the Resource Based View and Open Science in a complementary fashion.
- We also propose the adoption of practices - at the organizational and project levels - that can help RPOs move toward an integrated research data governance.

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Thank you!

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Abstract

This article is concerned with the issue of how Research Performing Organizations (RPOs) can balance the market and non-market value of the research data they hold. To address this issue, we adopt the lenses of the Resource Based View (RBV) and Open Science (OS) and explore the interplay between them. In doing so, this article addresses the question of whether it is possible to achieve a balance between research data as a public good and a private asset and if so, how. Of particular interest are RPOs in the institute sector that operate under both market and non-market logics, which have implications for how they govern their research data. From the discussions undertaken in the article, one of the main conclusions is that RPOs may benefit from adopting a research data governance model that captures both the economic and societal values of research data. They could do so, for instance, by developing an integrative institutional policy and by actively using data management plans to evaluate the value of the data produced in research projects.

Keywords: Research Data, Public Good, Private Asset, Market and Non-market Values, Research Data Governance, Research Performing Organizations, Institute Sector

Declaration of Interest

The authors are employed by SINTEF, a not-for-profit research institute. The authors declare that the research was conducted in the absence of any relationships that could be construed as a potential conflict of interest.

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