



Sociology and Ethics of Quantification

Taking responsibility in times of AI, crisis and the fight for societal facts

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Outline

- 01** **Trusted facts**
Facts need responsible producers and respect for their independence
- 02** **Epistemic backbone**
Well-governed data and metadata ground AI in trustworthy facts
- 03** **Professional ethics**
Values, Principles, Application
- 04** **Public statistics**
Epistemic Backbone for the Common Good
- 05** **AI and knowledge**
AI is changing how knowledge is produced and consumed
- 06** **Distributed power**
Power must remain distributed and democratically governed

01

Trusted facts

Facts need responsible producers and respect for their independence

News & BlogPosts - 2026



Interview: Warum liberale Ordnungen sich selbst schwächen

lmu.de

<https://doi.org/10.1080/13501763.2025.2580519>



https://www.linkedin.com/posts/mirkolange_diedrift-machtvorrecht-kulturkampf-activity-7415302384580509697-RRla?utm_source=share&utm_medium=member_desktop&rcm=ACoAABa-g44B69Plc4H-20rRu3hQuwG8zVA7GwI

America's Statistical System Is Breaking Down

Canceled surveys, missing datasets and staffing cuts are leaving the US with growing blind spots — and weakening trust in official numbers.



Illustration: Joonho B Ko for Bloomberg

Give me a number!

Andrea Saltelli



“The pandemic has also shown that the act of quantifying, either by a model or by an algorithm, increasingly nourishes the science–policy interface with the opportunity to outsource decision-making authority to number-based decision-making , when momentous political decisions are delegated to the purported neutrality of model generated numbers.”

<https://www.nature.com/articles/s41599-020-00557-0>

Trust in scientists: The role of values, moral and political identities

<https://www.kcl.ac.uk/research/trust-in-scientists-the-role-of-values-and-moral-and-political-identities-in-the-uk>

- Trust in scientists is highly related to the perception of shared values and identity
- But other drivers of trustworthiness still really matter
- Only a small minority actively distrust scientists – but some distrusting beliefs are widespread
- Trust is most polarised for climate scientists
- Trust matters to support for science and personal actions
- The UK population ranges from ‘Science Advocates’ through to ‘Science Critics’
- What different groups say would actually build trust

02

Epistemic backbone

Well-governed data and metadata ground AI in trustworthy facts

Democracy needs more than data

“Democracy needs more than data. It needs an epistemic backbone.”

G.-S. Ulrich, Swiss Federal Statistical Office (FSO/BFS) – LinkedIn

2020

The Swiss Federal Council appoints the FSO as Data Steward.

Not more data

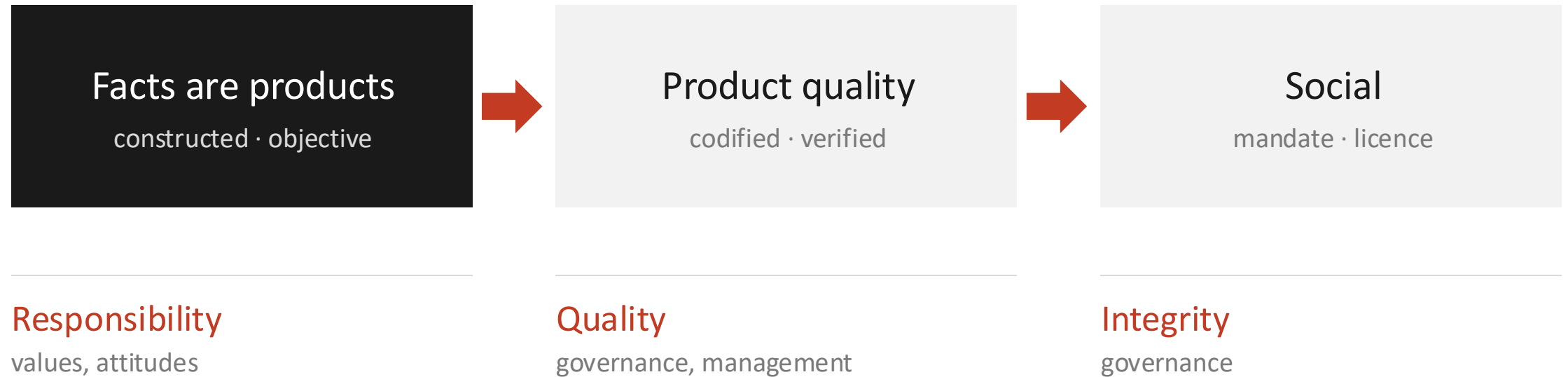
...but public data made institutionally usable for decision-making.

Governance

Value emerges through governance, definitions, accountability and trust – not through data alone.

Facts are products

...and products need quality, governance and a social licence



Responsibility, quality and integrity turn a statistical product into a trustworthy fact.

Sociology of quantification

Numbers are made – and they make things

Constructed

Quantification is a social practice: what is counted, how, and by whom reflects conventions, choices and interests.
Objectivity as an illusion: Numbers appear neutral, but they are the result of social processes

Desrosières, The Politics of Large Numbers (1998)

Trustworthy

Numbers create impersonal trust: quantification lets decisions be justified beyond personal acquaintance.

Porter, Trust in Numbers (1995)

Reactive

Numbers act back: measures reshape behaviour, categories and institutions. As with language, purposes and meanings of quantification are established through use.

Espeland & Sauder, Rankings and Reactivity (2007)

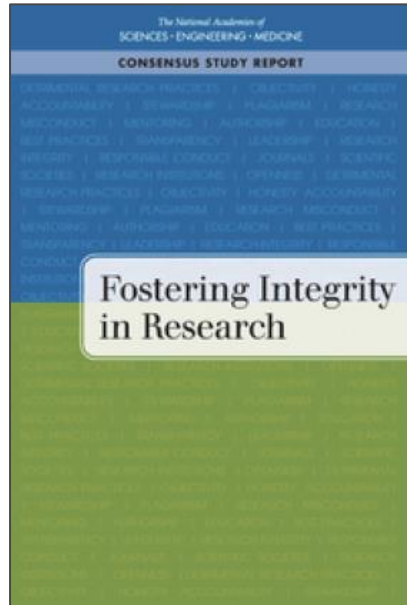
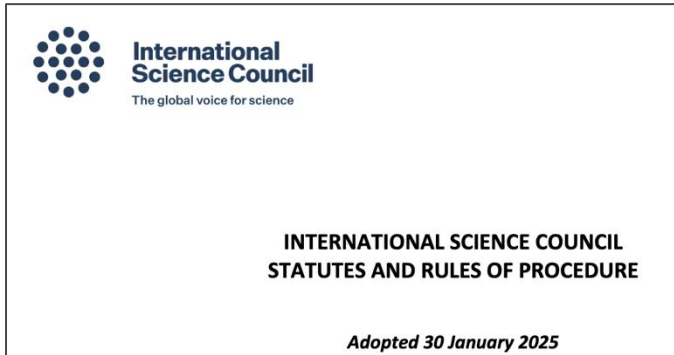
Facts are products – their trustworthiness depends on how, and by whom, they are made.

03

Professional ethics

Values, Principles, Application

Scientific ethics



Interconnected levels

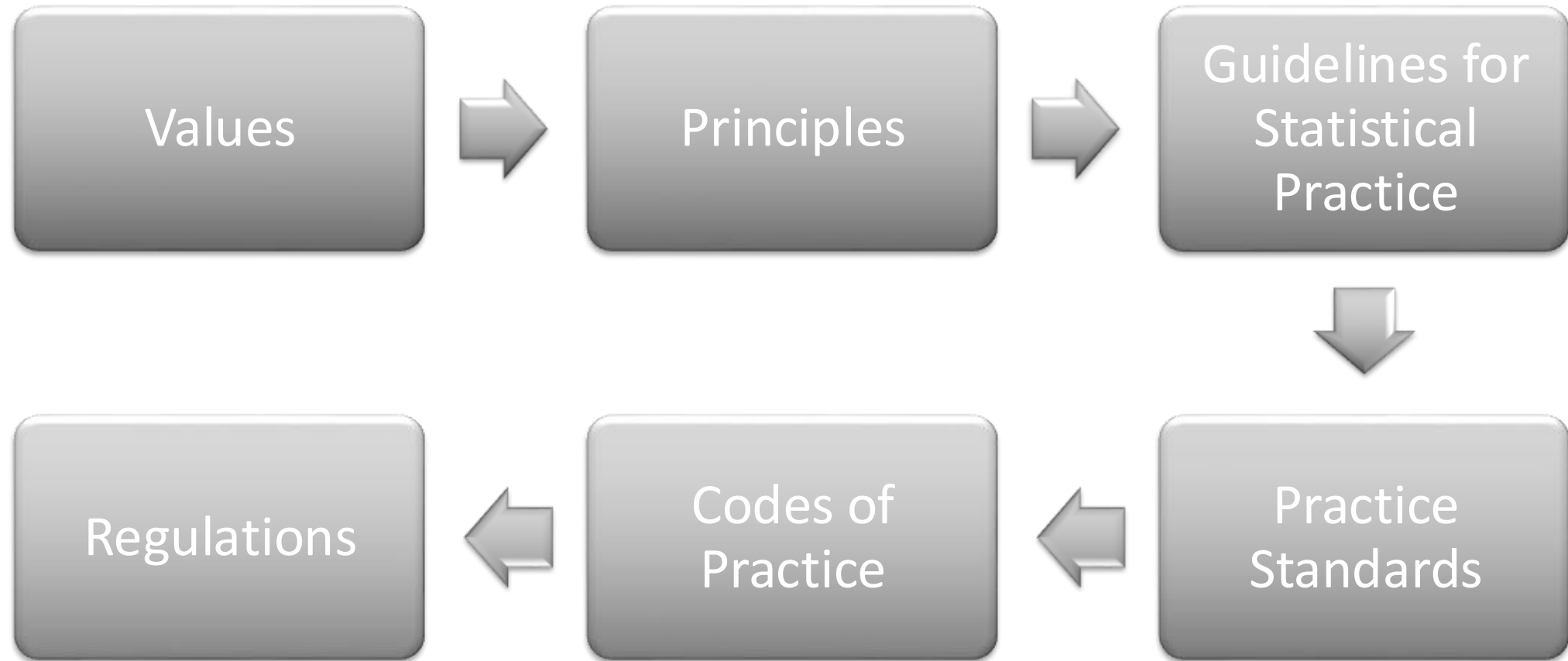
- individual ethics, emphasizing honesty, objectivity, and responsibility
- institutional ethics, requiring accountability, transparency, and fair governance
- global ethics, grounded in freedom and responsibility of science and the stewardship of knowledge for humanity's benefit

<https://council.science/publications/statutes-and-rules-of-procedure/>

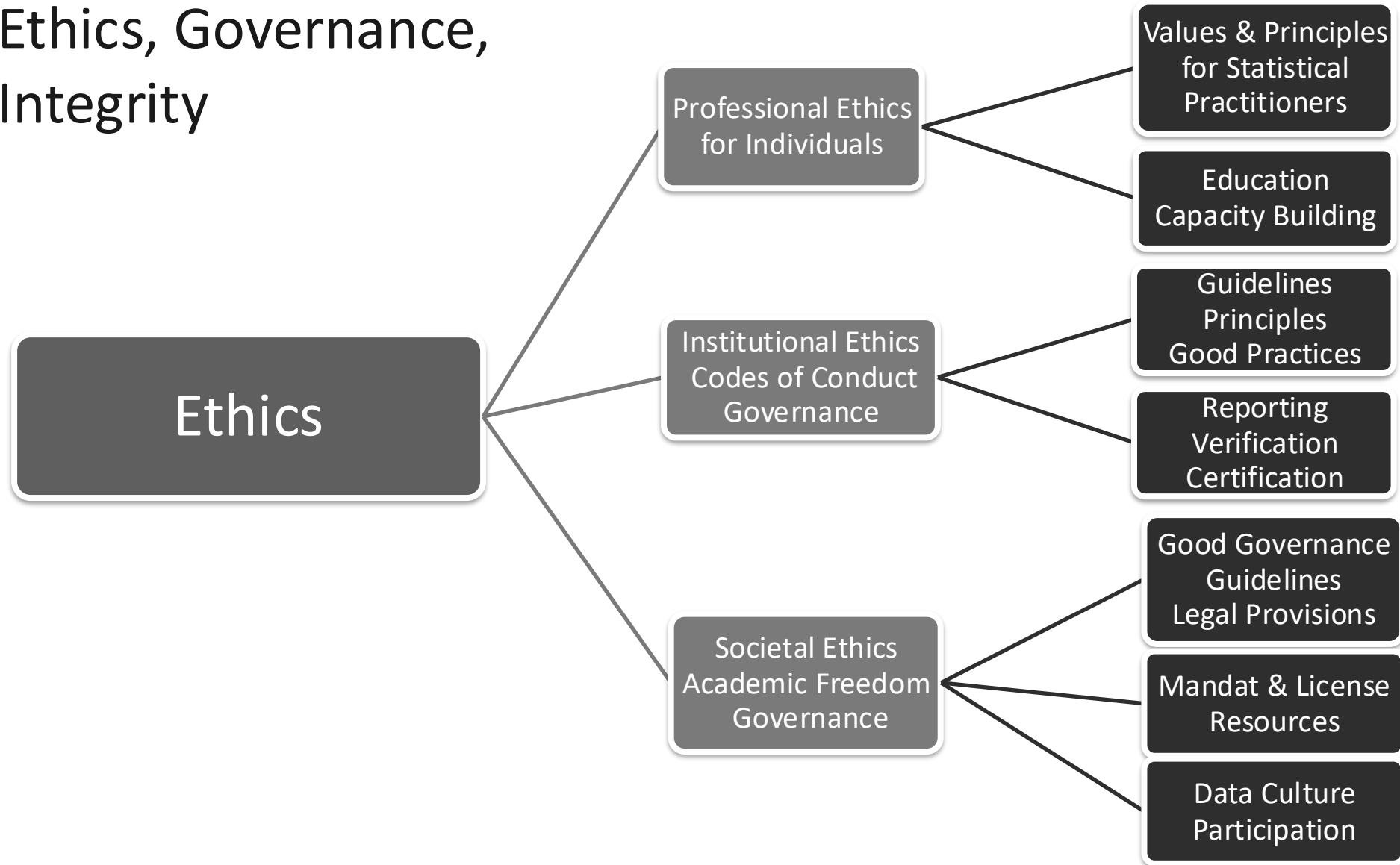
<https://allea.org/code-of-conduct/>

<https://nap.nationalacademies.org/catalog/21896/fostering-integrity-in-research>

Professional Ethics: A Kind of Hierarchy



Ethics, Governance, Integrity



Ethics, Good Governance Principles, e.g.



04

Public statistics

Epistemic Backbone for the Common Good

Two conditions for trustworthy facts

Trustworthy facts are of fundamental importance to public discourse

1 Responsible producers

- Honesty and methodological rigour
- Transparency about limits and uncertainty
- Professional ethics and codes of conduct
- Involving social stakeholders in the design of statistics

2 Respect for independence

- Recognition of the integrity of those who produce facts
- ...by those who use them, particularly in politics
- Independence safeguarded by law and institutions

Producers create value. Users appreciate this value. These are hallmarks of a positive data culture

Rigour, transparency, accountability

How public statistics provide the backbone – in terms of the European Statistics Code of Practice

Methodological rigour

Sound methodology and appropriate procedures; accurate, reliable, coherent and comparable output

Principles 7, 8, 12, 14

Transparency

Impartiality and objectivity; methods and metadata openly documented; accessible and clear output

Principles 6, 15

Public accountability

Professional independence, a legal mandate, a commitment to quality – open to public scrutiny

Principles 1, 2, 4

Together they continue to make public statistics a shared reference for society also in times of AI

The Future Statistician



RSS and GSS joint vision, 2026

The vision

We envision the future statistician as a trusted, tech-enabled leader of evidence — combining rigorous statistical foundations with strengths in AI, communication and data stewardship to deliver ethical, timely analysis for better public decisions. The report pairs enduring professional principles with new skills and responsibilities needed for the decade ahead.

The report also identifies five priority areas for action:

Equip Statisticians for Technological Change: Strengthen training, modern data infrastructure and AI leadership, working closely with digital and data professions.

Clarify Professional Identity and Skills: Update role definitions and competency frameworks to reflect new skills and specialisms within multi-disciplinary teams.

Support Career Progression and Learning: Create structured CPD across all career stages, fostering talent retention, cross-sector learning, and consistency in skills and expertise.

Integrate Statisticians: Embed statistical expertise across government, including in early in decision-making; promote collaboration with key departments; and share best practice for evidence-based policymaking.

Empower Statisticians as Arbiters of Truth: Build confidence in challenging misinformation and communicating transparently to maintain public trust.

<https://rss.org.uk/news-publication/news-publications/2026/general-news/the-future-statistician-our-joint-vision-with-the/>

Data stewardship joins rigour and communication in the statistician's profile.

05

AI and knowledge

AI is changing how knowledge is produced and consumed

AI needs an epistemic backbone

Reliable, well-governed data and metadata

AI outputs

grounded in shared facts

Metadata and semantics

machine-readable, unambiguous concepts

Well-governed data

quality-assured, documented, accountable

Responsible producers

integrity, independence, professional ethics

Shared facts

instead of

probabilistic
narratives

The backbone carries the load – from producers to answers.

AI is changing how knowledge is used

Produced with AI – consumed through AI

Production

Texts, code, analyses and data are increasingly generated with AI

The line between measurement, model and narrative blurs

Consumption

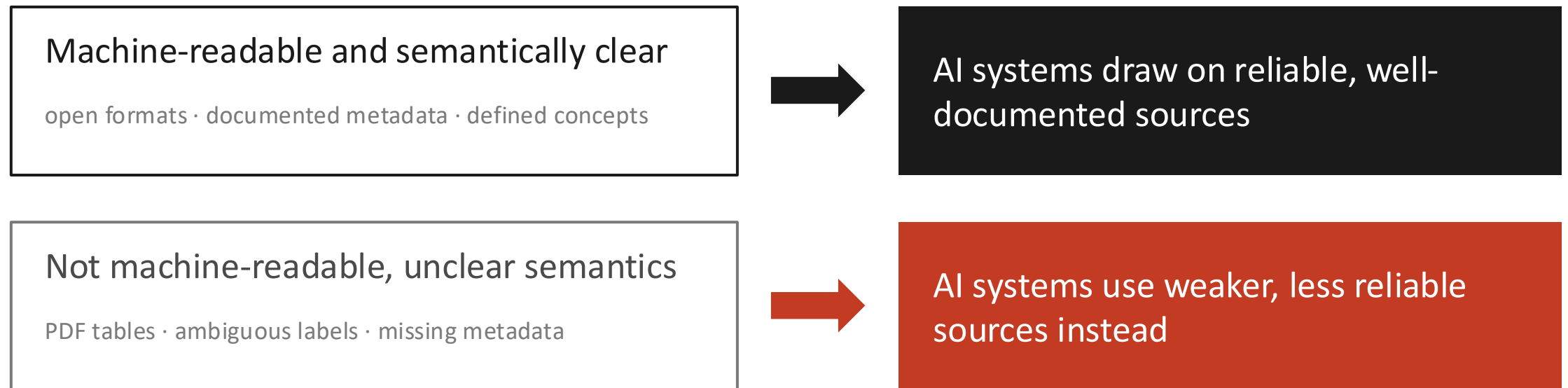
Answers arrive as fluent summaries, rarely with sources or uncertainty

It is difficult for users to distinguish between verified facts and probabilistic text.

The quality of an answer is dependent on the sources that the system can locate and comprehend.

Machine-readable – or displaced

What AI systems do with statistics and administrative data



Standards such as SDMX and the FAIR principles point the way – machine-actionable by design.

Public statistics are not platforms

Comparing them is a category error

Platforms and large language models

Meaning emerges – largely purpose-free

Coupled to attention dynamics

Outputs generate “reality”

Public statistics

Questions and concepts defined ex ante

Registers and metadata

Accountability and transparency

Public data are responsibly constructed references: trust arises from stable institutions, clear rules and long-term coordination.

Source: G.-S. Ulrich (FSO/BFS), LinkedIn. The Federal Council mandates the FSO to provide trustworthy metadata as a foundation for AI – democratic infrastructure, not technology.

06

Distributed power

Power must remain distributed and democratically governed

Digital statecraft

Governing well in the algorithmic age needs ability and legitimacy – together

	Statecraft over digital systems	Statecraft with digital systems
Ability	Ability to act on the digital substrate itself	Ability to act through digital and algorithmic systems
Legitimacy	Basis on which authority over the substrate is justified	Basis on which authority exercised through algorithmic systems is justified
Ability without legitimacy Technocratic leviathan		Legitimacy without ability Platform sovereignty

Engin et al. (2026), Governing Well in the Algorithmic Age: The Foundations of Digital Statecraft – DSA working paper (pre-print)

Ten principles of digital statecraft

Each names a condition whose absence produces a structural governance failure

- | | | | |
|----------|---|-----------|--|
| 1 | Public Interest First
The purpose statecraft serves – and the corrective when it is displaced | 6 | Adaptive Governance
Recalibrate as human-machine configurations shift |
| 2 | Human-Machine Complementarity
Gain capability without losing accountability | 7 | Human Centricity and Civic Agency
The human being is the measure and the purpose |
| 3 | Governability by Design
Governability, contestability and interpretability from the outset | 8 | Accountable and Traceable Authority
Identifiable humans, unbroken chains of authorisation |
| 4 | Systemic Coherence
The full stack governed as a whole, with end-to-end accountability | 9 | Judgment Across Time
Accountable for consequences beyond the present |
| 5 | Hybrid Institutions
New institutional forms that sustain legitimacy continuously | 10 | The Non-Delegable Core
Some decisions cannot be delegated to algorithms, whatever their capability |

1 3 4 8 closest to the role of public statistics as backbone

Engin et al. (2026), Table 4 – wording shortened

Power must remain distributed

...and democratically governed

Producers	Independent statistical institutions and researchers – protected from those who use their facts
Users	Politics, business, media, citizens – respect integrity, use facts openly, accept scrutiny
AI providers	Few actors shape what counts as an answer – public, open data keeps a common reference point
Society	Mandate, oversight and participation by science, civil society and the public

Five theses

- 01 Trustworthy facts need responsible producers – and respect for their independence.

- 02 AI is changing how knowledge is produced and consumed – data must be machine-readable and semantically clear.

- 03 AI needs an epistemic backbone: reliable, well-governed data and metadata.

- 04 Public statistics provide it: methodological rigour, transparency, public accountability.

- 05 Power must remain distributed and democratically governed.

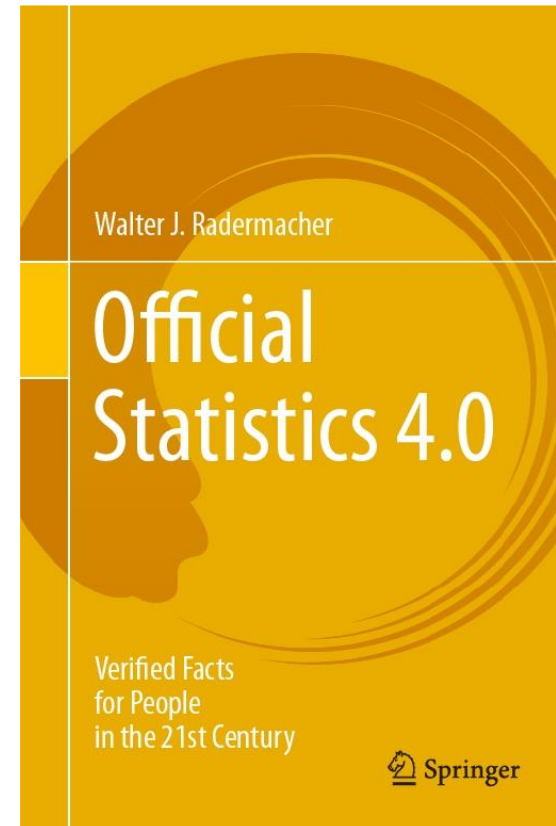
Thank you

Vielen Dank · Merci bien
Muchas gracias · Muito obrigado

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Official Statistics 4.0
Verified Facts for People in the 21st Century
<https://www.springer.com/gp/book/9783030314910>

