Multidimensional approach towards Open Science

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Prof. Basma Makhlouf Shabou, PhD

Information Sciences Department
Haute école de gestion de Genève (HEG)
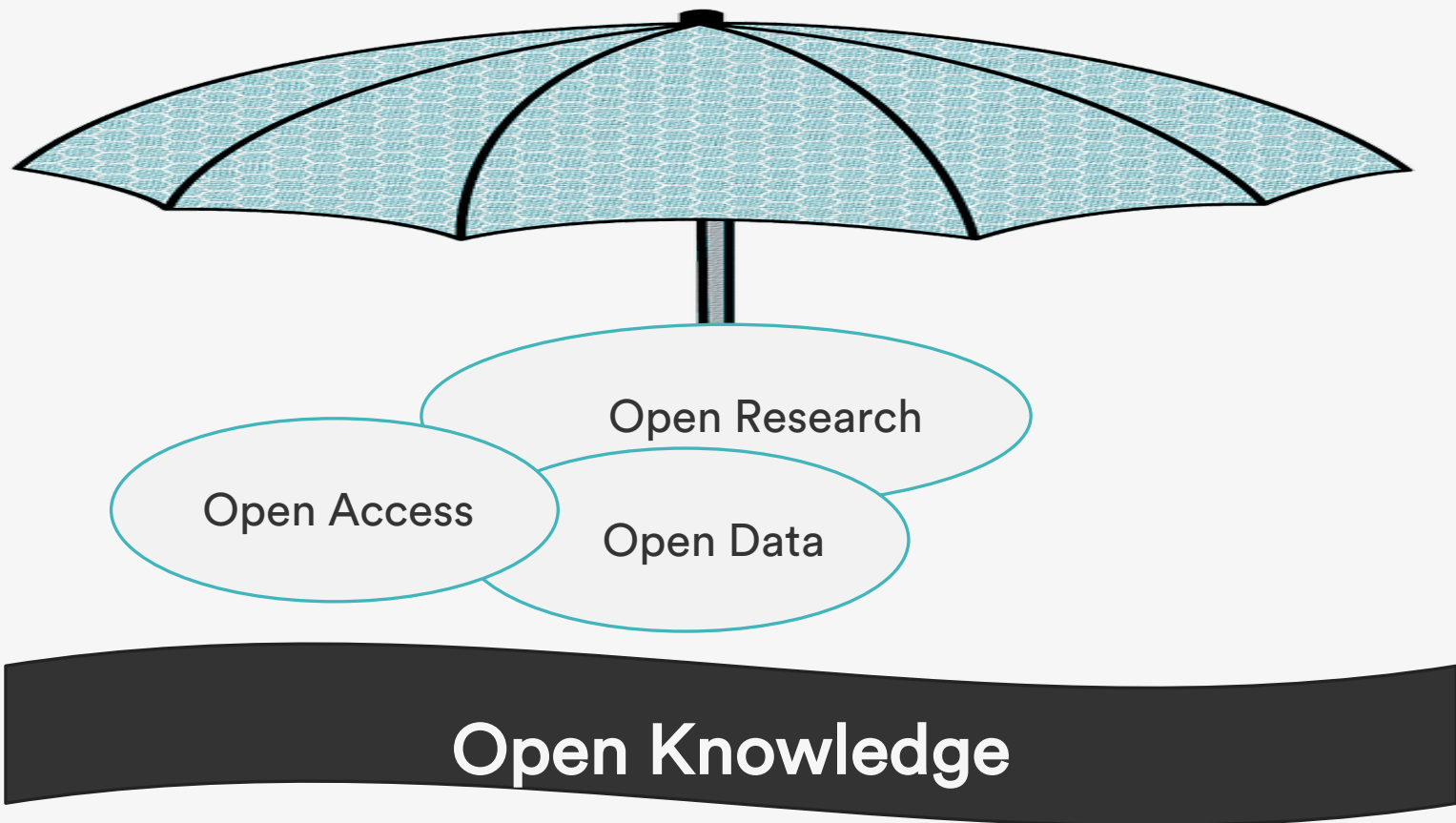
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Open Science (OS)

Open Research

Open Access

Open Data

Open Knowledge

Agenda

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- Multidimensional approach for OS : why it is needed ?

- Main dimensions : nature, actors and relevant illustrations
  - Strategic dimension
  - Archival dimension
  - Normative dimension
  - Methodological dimension
  - Technological dimension

Agenda

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  - Strategic dimension
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  - ~~Technological dimension~~

Multidimensional approach for OS : Why it is needed ?

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Complex nature of researches & projects

- *Many actors, different cultures and extended Networks*

Digitization of processes and research practices

- *RD is more disseminated and shared*
- *Transparent documented data processing*

Open Science Strategy …

International context and trends regarding OS

→ help defining national strategy

→ enable establishing institutional framework

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Archival dimension

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Main actor : Researchers and project team

Archival principles & RD processing : During the whole lifecycle of RD including the capture/creation, description, organisation analysis, use and reuse, dissemination disposal, and long-term preservation.

Resources and tools

Appropriate for...	e.g.
Research Data Management	Data Management Plan ; DMP Canvas Generator ;
Collaborative scientific writing	Authorea ; ShareLaTeX ; …
Long-term Preservation	DLCM Preservation services ; ETH Data Archive
Data repository and publication	ArODES ; Zenodo ; …

Normative dimension

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Main actor : Researchers, project team and institutional actors (funders and HEI)

It concerns the normative compliance including lows, regulations, directives, standards, ethics principles and good practices.

- **Resources and tools**
  - CCDigitallow.ch ; Updated legal data bases ; Legal referent in HEI to help researchers if they need IPR Agreements or other legal documents,

Ethical dimension

Very close to legal dimension it proposes a set of moral rules & principles to enable good practices in sharing data, research results and publications and related issues (e.g. copyright IPR roles and issues).

- **Resources and tools**

Ethics Committee in HEI ; Research Integrity

Methodological dimension

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Main actor : Researchers & project team

It offers an accurate framework to the researcher and appropriate actions and good practices to collect, analyse, anonymise and disseminate relevant data &results with the appropriate ways and tools. This helps controlling the quality of RD to be shared and trusted in an open science culture.
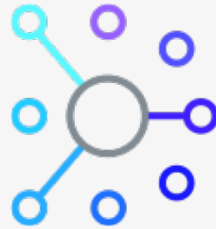

Resources and tools

- Qualitative data collection, analysis and visualisation : N'vivo ; Atlas.ti ; …
- Quantitative data processing and analysis : R ; MATLAB ; …
- Extended experts network is available at DLCM consulting services

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- Each dimension has a specific contribution for the science, research and data openness,

- Various aspects of each dimension may be a padlock that prevents the opening of RD, and consequently their access and accessibility,

- Individual and institutional cultures remain very important too and need to be considered

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- DLCM Project : https://www.dlcm.ch/

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Research Data Management Hub

Thank you!

Project Institutions

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Unil — UNIL | Université de Lausanne

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