conference on
grey literature
and
repositories

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

Dealing with Research Data and Dissertations

Workshop

Joachim Schöpfel & Hélène Prost

Université de Lille 3 SCIENCES HUMAINES ET SOCIALES
Gérico
MESHS Lille Nord de France
Région Hauts-de-France

Time schedule

- 13:00 First part
  - What you should know about data
  - What you should know about data literacy, attitudes and needs
  - What you should know about data related to PhD dissertation
  - What you should know about service development
- 15:00 Pause
- 15:20 Second part
  - Presentation of Lille project
  - Discussion
- 16:50 Short feedback
- 17:00 End

Our objectives

Our intention is that each participant leaves the workshop with a better understanding of

- *A realistic model of RDM with PhD students on the campus*
- *Critical issues (anticipation of problems, risk analysis)*
- *Key success factors (governance, education, cooperation)*

Your expectations?

Preliminary questions

Do you know

- *the international directory of research data repositories re3data ?*
- *DMPonline for the creation of data management plans ?*
- *the two data repositories Zenodo or figshare ?*
- *the Educopia ETD+ Toolkit for the management of the students' research output ?*

What you should know…

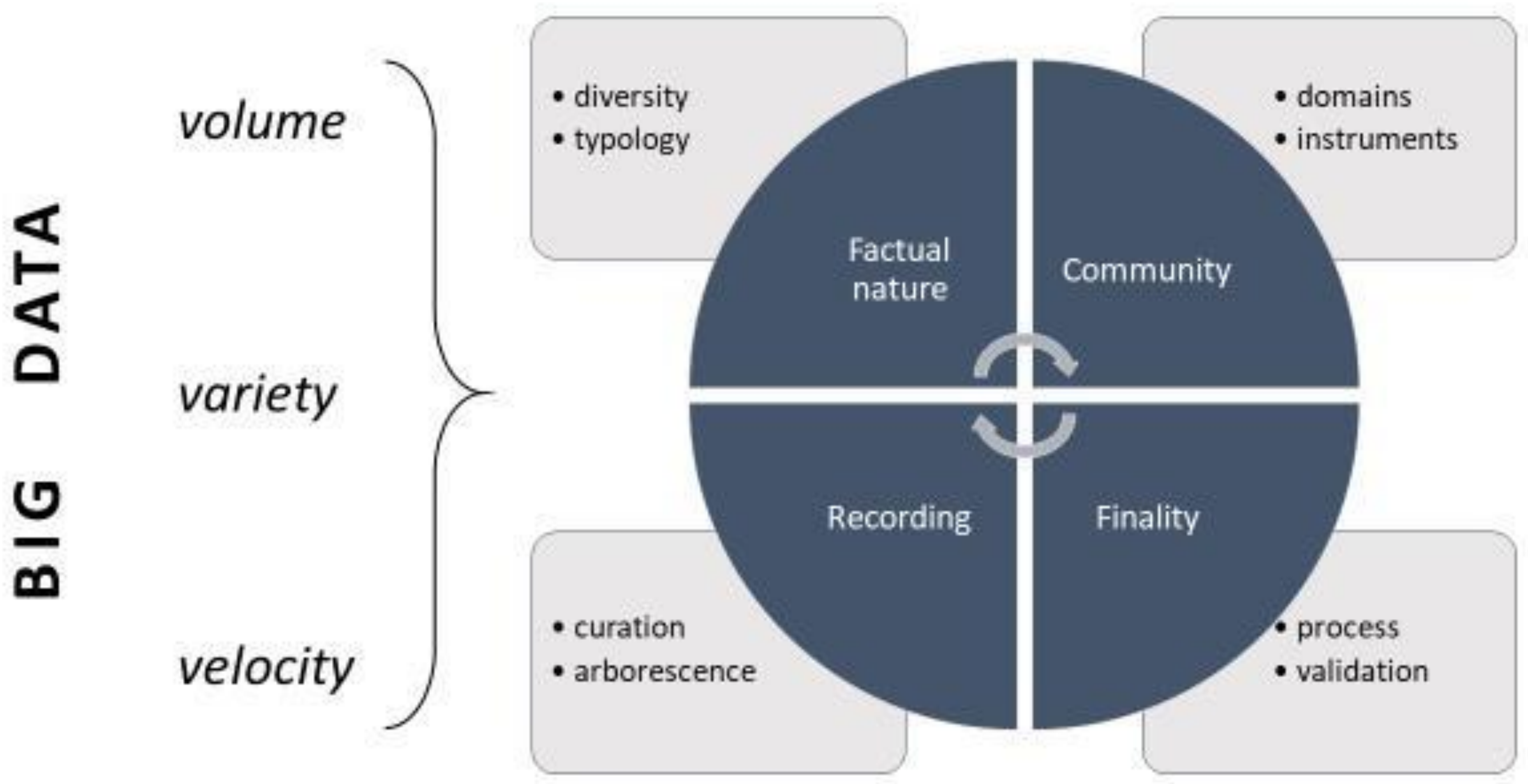
FIRST PART

What you should know about data

A popular but uncertain concept:

- « Big Data is the Information asset characterised by such a High Volume, Velocity and Variety to require specific Technology and Analytical Methods for its transformation into Value » (De Mauro et al. 2016)
- « What constitutes data is determined by a given community of interest that produces the data. However, an investigator may be part of multiple, overlapping communities of interest, each of which may have different notions of what are data » (Koltay 2016)
- « The recorded factual material commonly accepted in the scientific community as necessary to validate research findings » (OMB Circular 110)

A conceptual approach



Typology of data

« Data are most often defined by example, such as facts, numbers, letters and symbols » (Borgman et al. 2015)

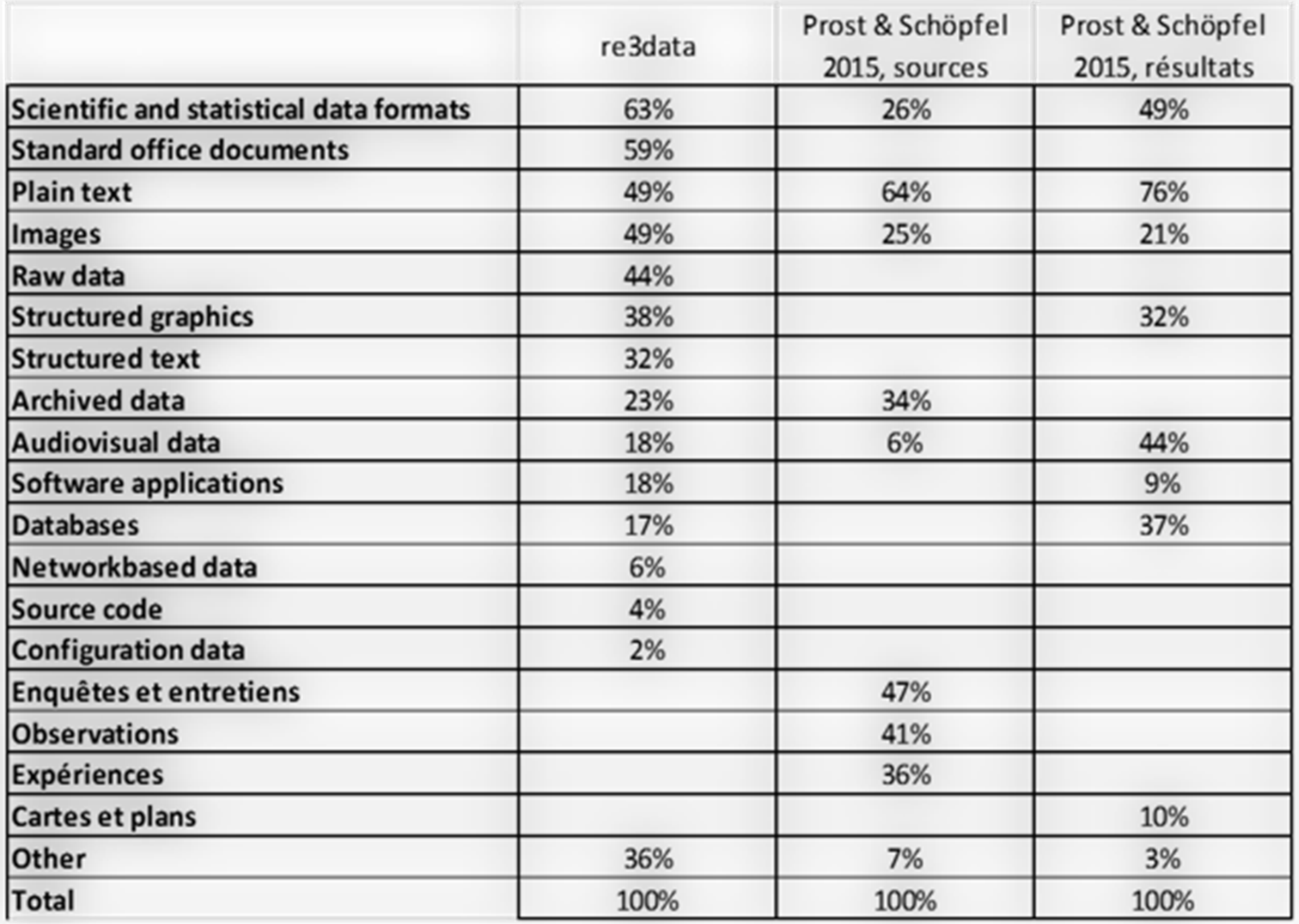
- Observation
- Experimentation
- Simulation
- etc.

Often more conditioned by instruments and methods than by disciplines and communities.

Primary and secondary data

- Data as material (resource) for research
- Data as research results

- Long tail of data
- Unequal categories
- Domain-specific profiles



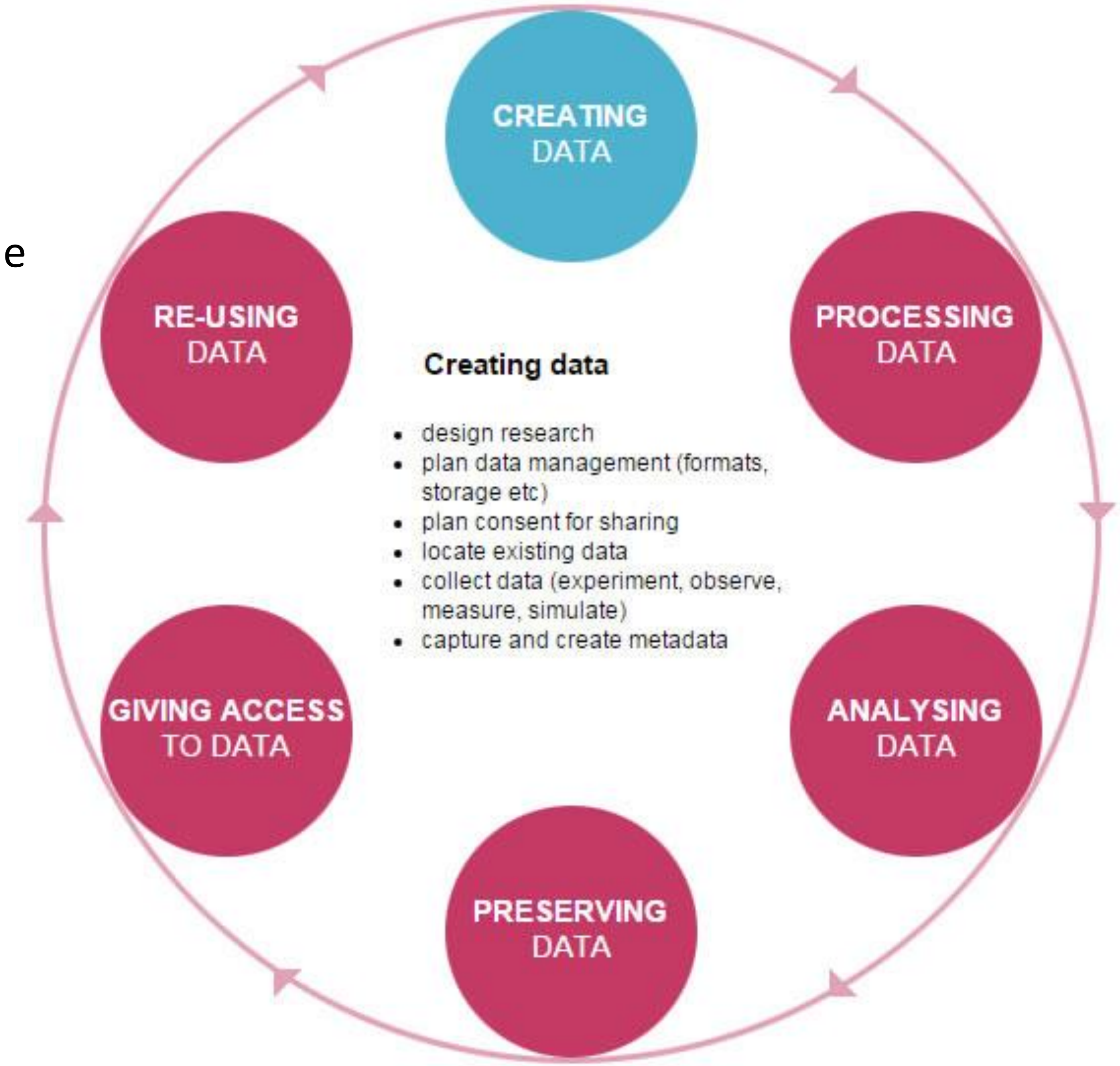
	re3data	Prost & Schöpfel 2015, sources	Prost & Schöpfel 2015, résultats
Scientific and statistical data formats	63%	26%	49%
Standard office documents	59%		
Plain text	49%	64%	76%
Images	49%	25%	21%
Raw data	44%		
Structured graphics	38%		32%
Structured text	32%		
Archived data	23%	34%	
Audiovisual data	18%	6%	44%
Software applications	18%		9%
Databases	17%		37%
Networkbased data	6%		
Source code	4%		
Configuration data	2%		
Enquêtes et entretiens		47%	
Observations		41%	
Expériences		36%	
Cartes et plans			10%
Other	36%	7%	3%
Total	100%	100%	100%

A functional approach

- Politics
  - Increase transparency
  - Increase efficiency of public action
  - Provide fuel for economy
- Economics
  - Optimize (valorize) public research
  - Accelerate innovation (health, environment)
- Science
  - Explore (reuse)
  - Visualize results (also: data journalism)
  - Compare and/or control results
  - Validate hypotheses
  - Also: citizen science

Data and research process

Data are dynamic
They have their own life cycle



Creating data

- design research
- plan data management (formats, storage etc)
- plan consent for sharing
- locate existing data
- collect data (experiment, observe, measure, simulate)
- capture and create metadata

http://library.nuigalway.ie/media/digitalscholarship/images/research-data-lifecycle.jpg

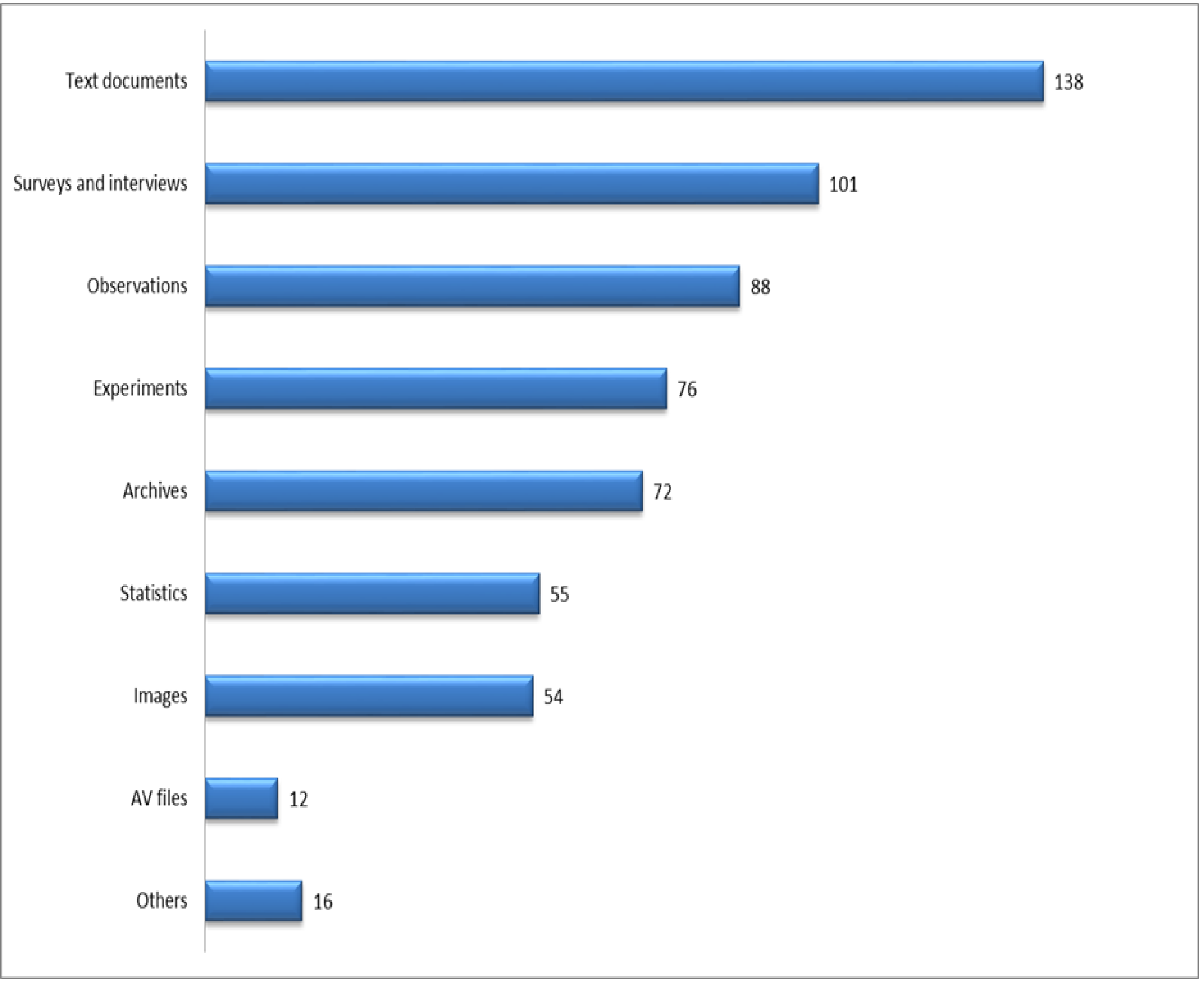
What you should know about data literacy, attitudes and needs

- An increasing number of surveys
- Institutional and disciplinary differences
- However, some common characteristics

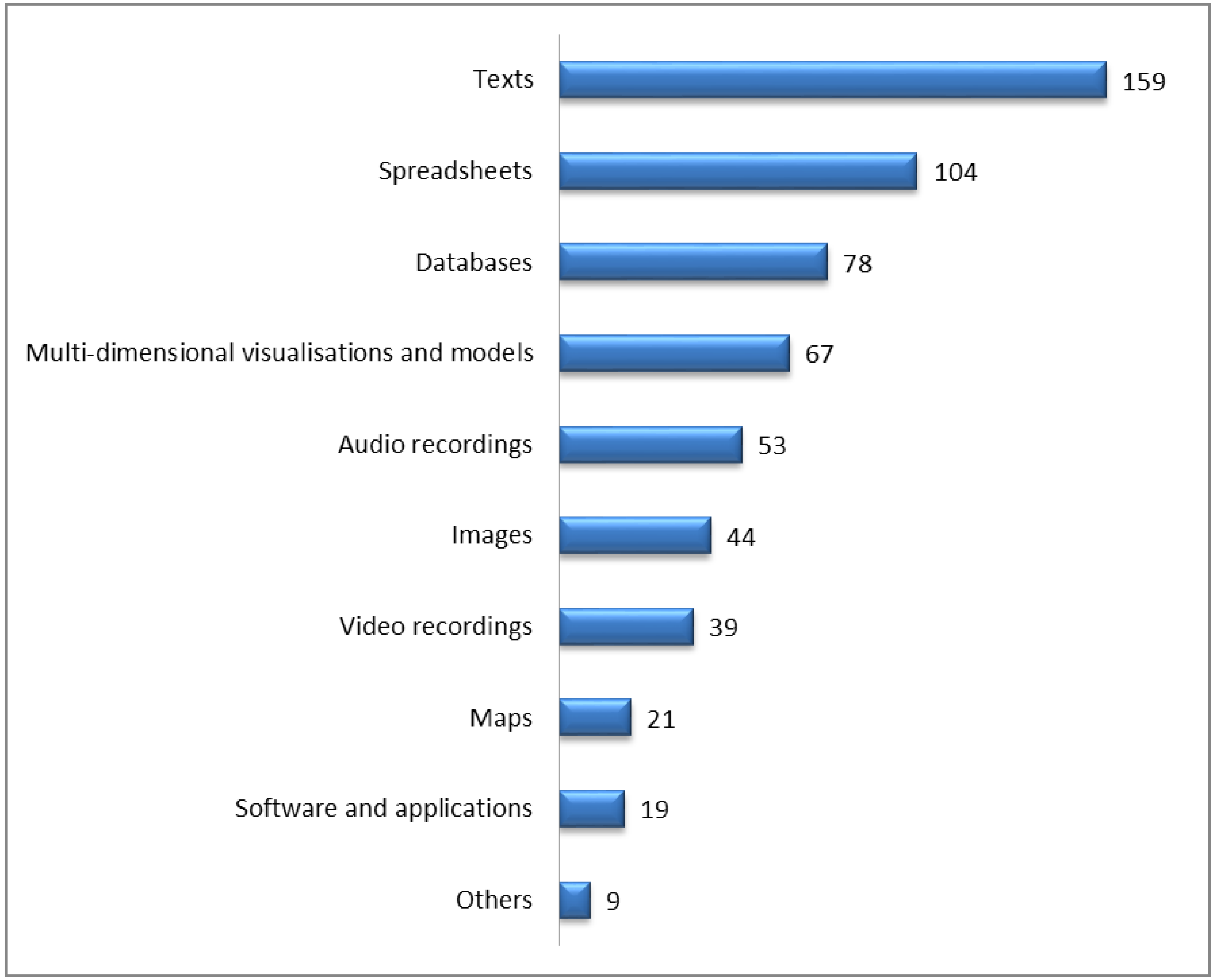
- Schöpfel, J., Prost, H., 2016. Research data management in social sciences and humanities: A survey at the university of Lille 3 (France). *LIBREAS. Library Ideas* 29, 98-112. http://hal.univ-lille3.fr/hal-01395816

Data literacy

Diversity of data



Research data sources (n=214)



Research data results (n=211)

Data literacy

Storage and sharing

9/10

store their data on local

83% on private computer
49% on professional computer

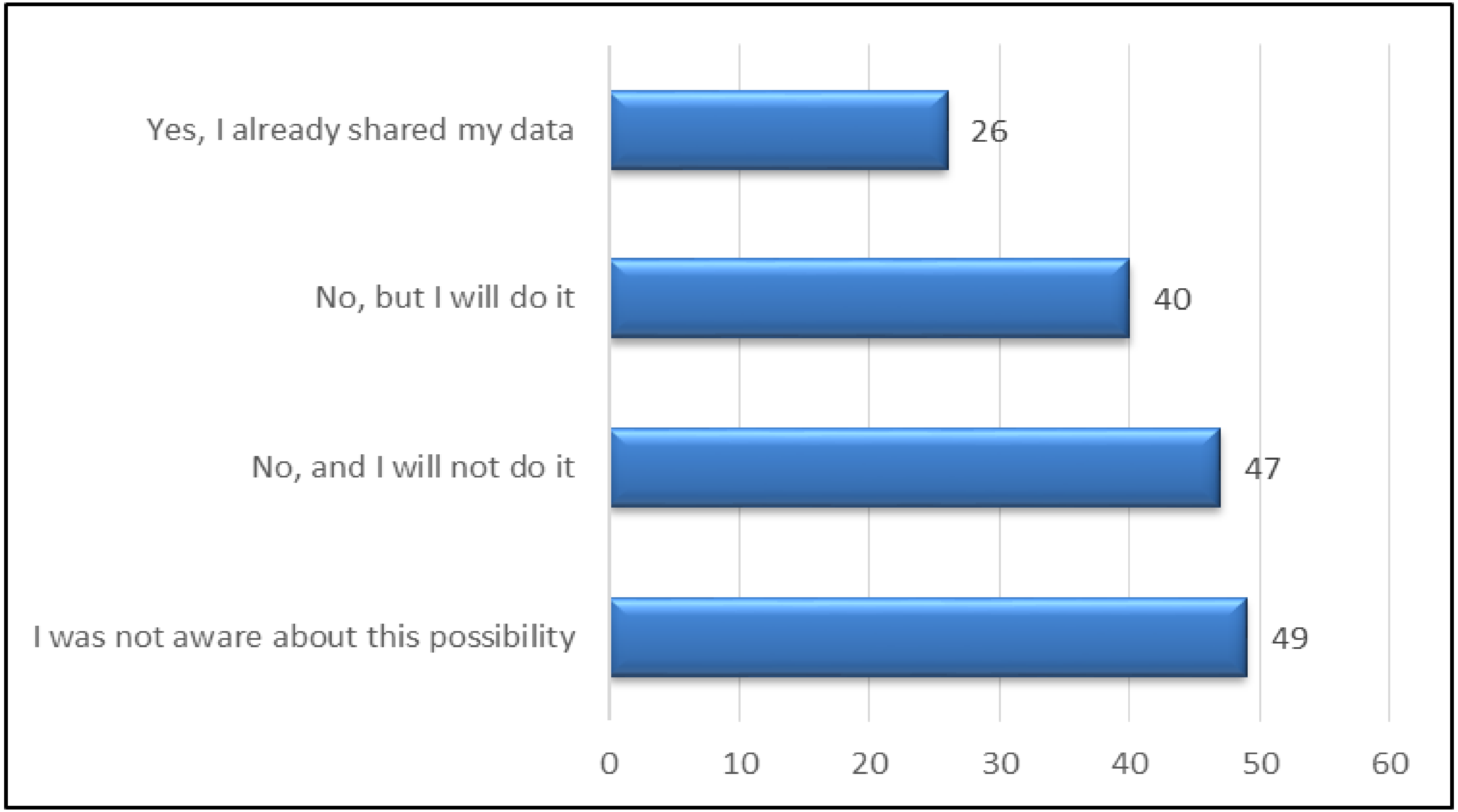
97% declare themselves responsible for data backup

Data sharing limited

64% do not share their research data with colleagues or other people
Nobody else has access to their data

Attitudes toward sharing

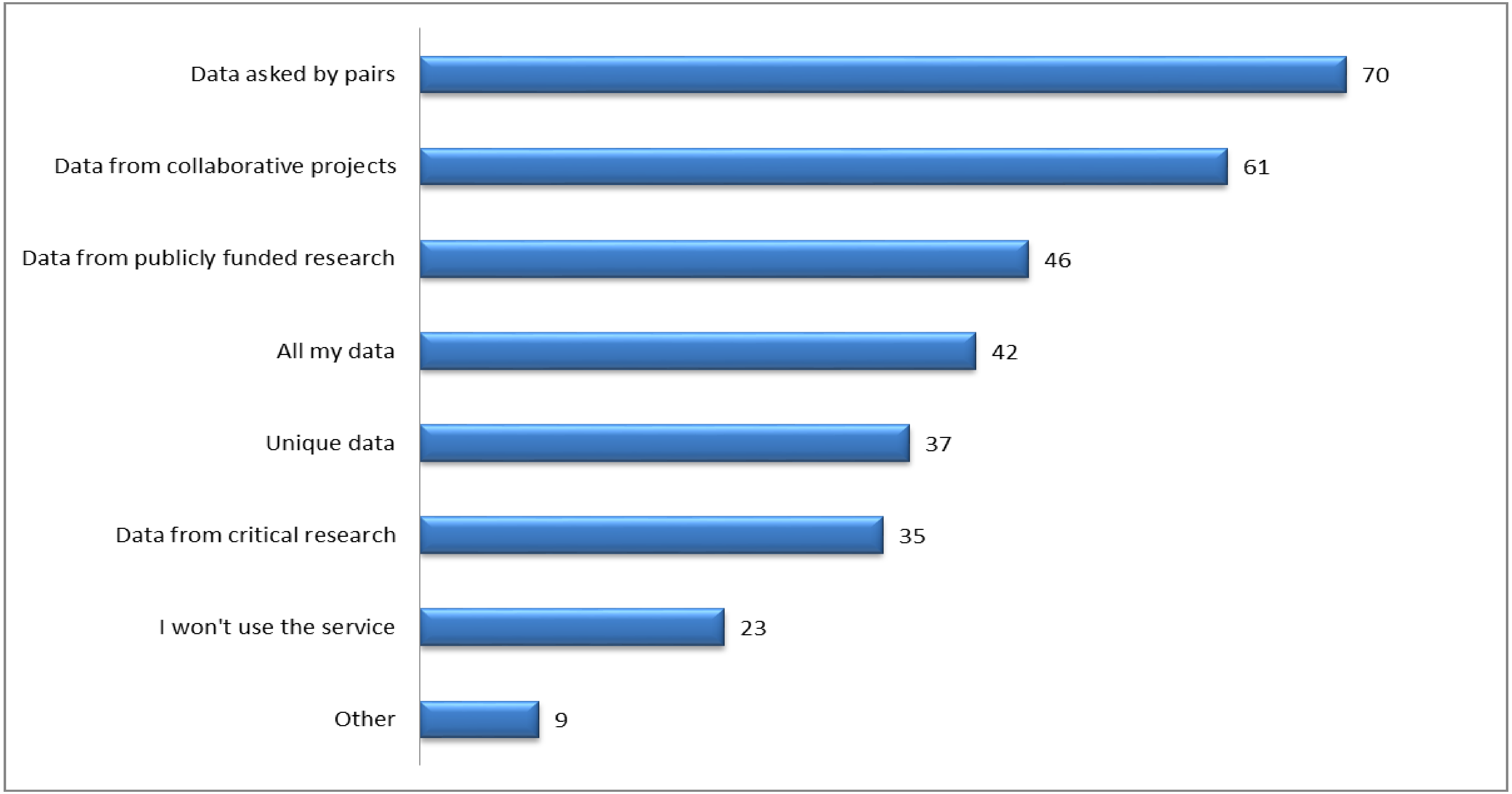
Experience, motivation



Deposit of research data in a data repository (n=162)

Attitudes toward sharing

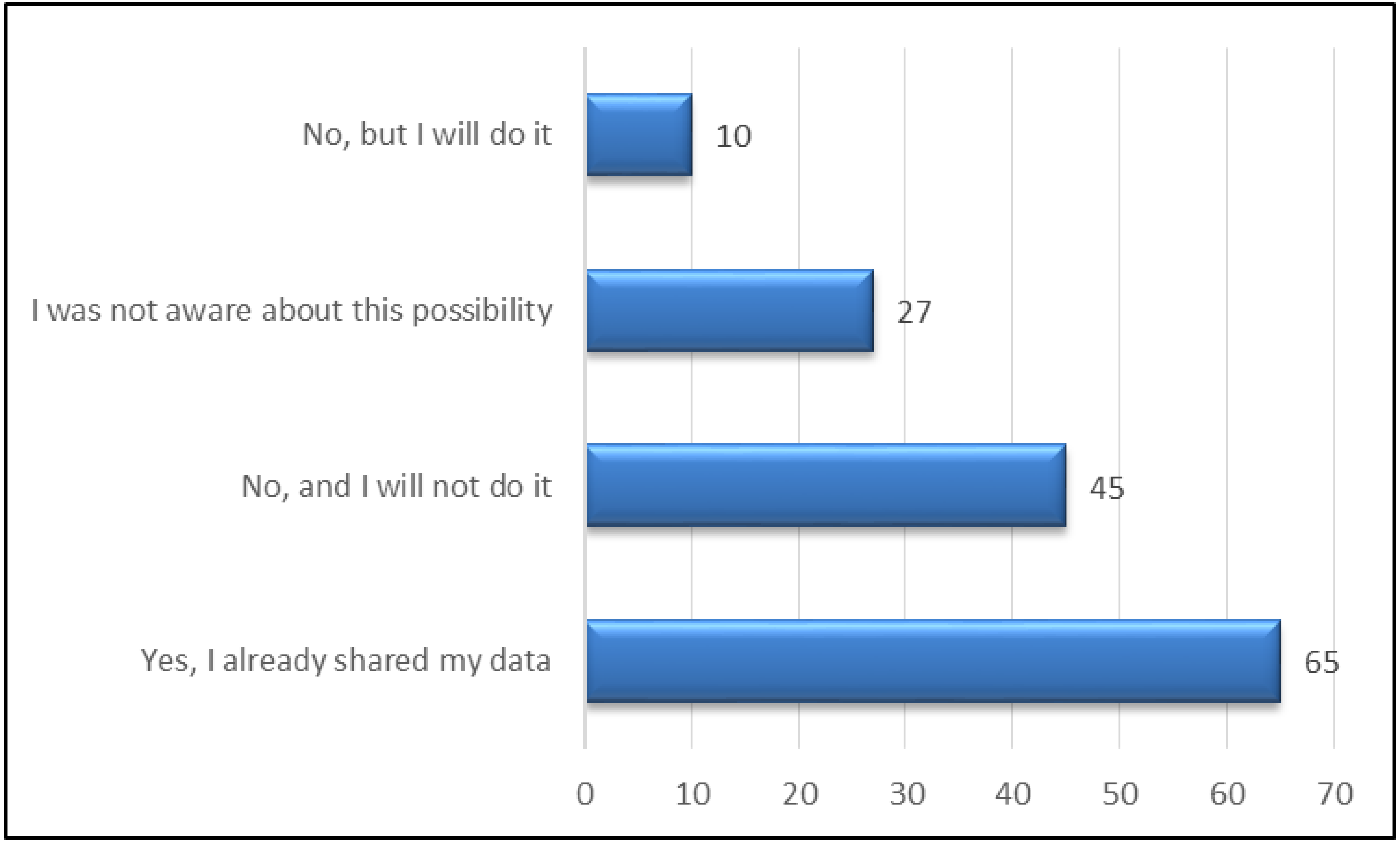
Which kind of data?



Data deposit (n=187)

Attitudes toward sharing

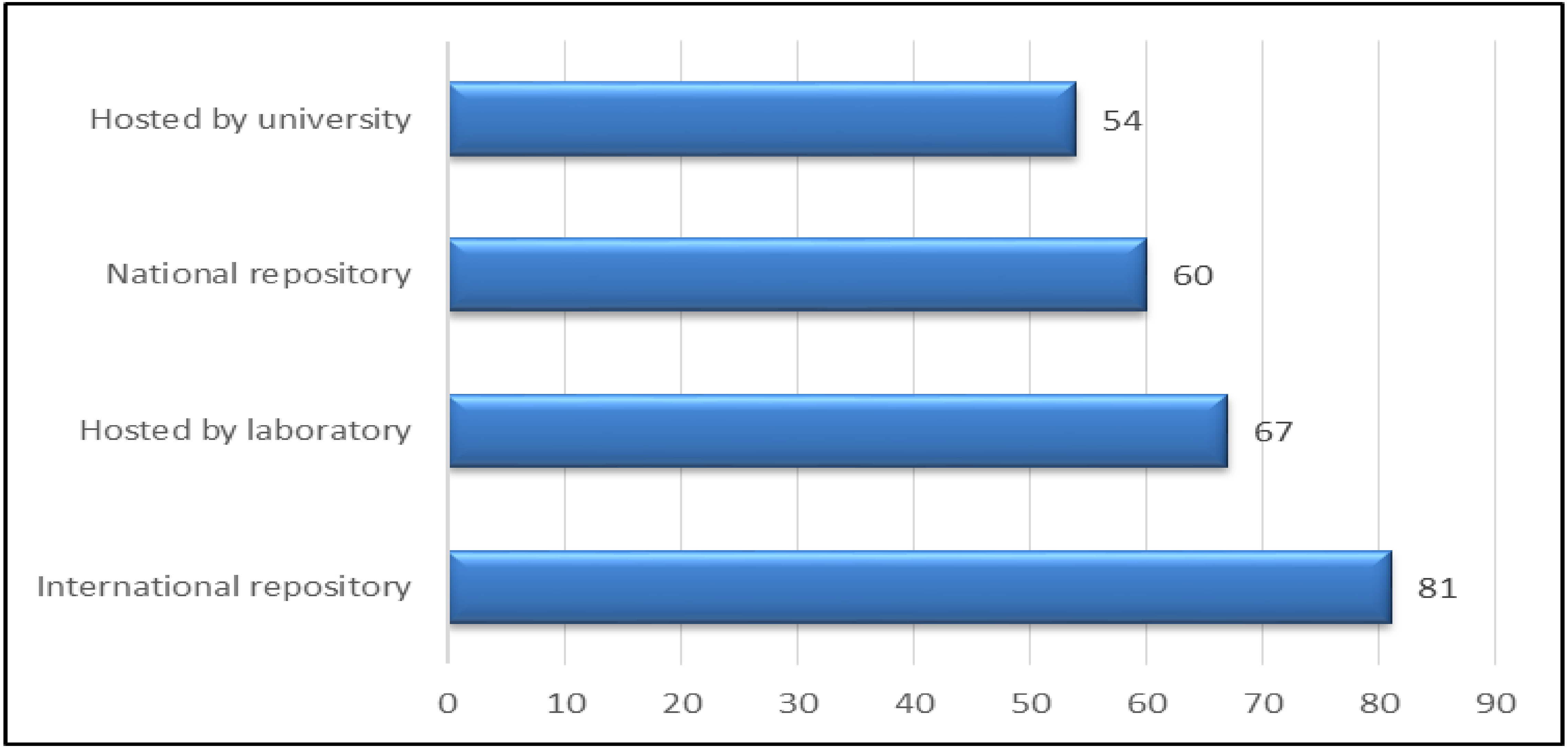
Data publishing



Data publishing (n=147)

Attitudes toward sharing

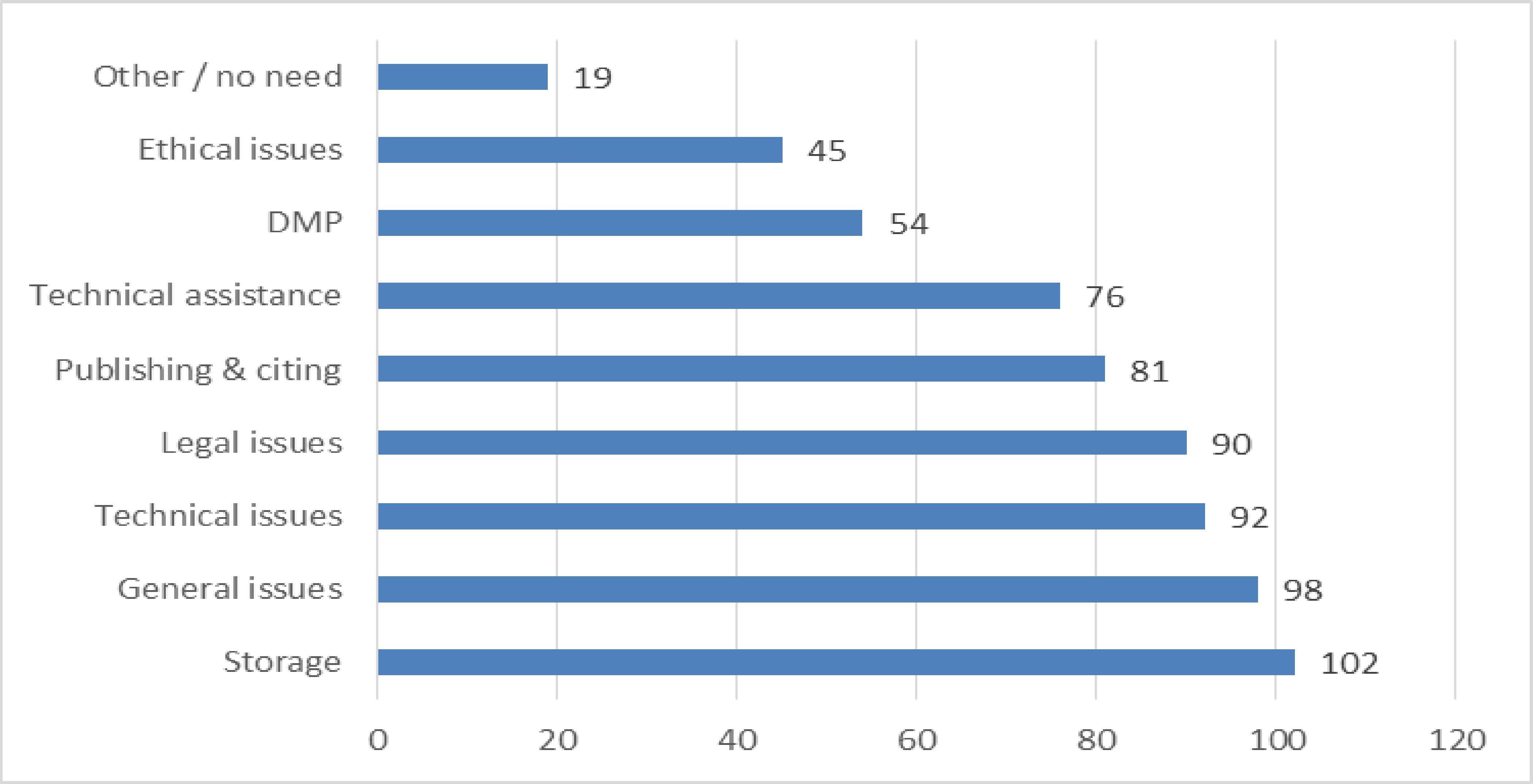
Preferred data repository



Preferred data repository (n=173)

RDM related needs

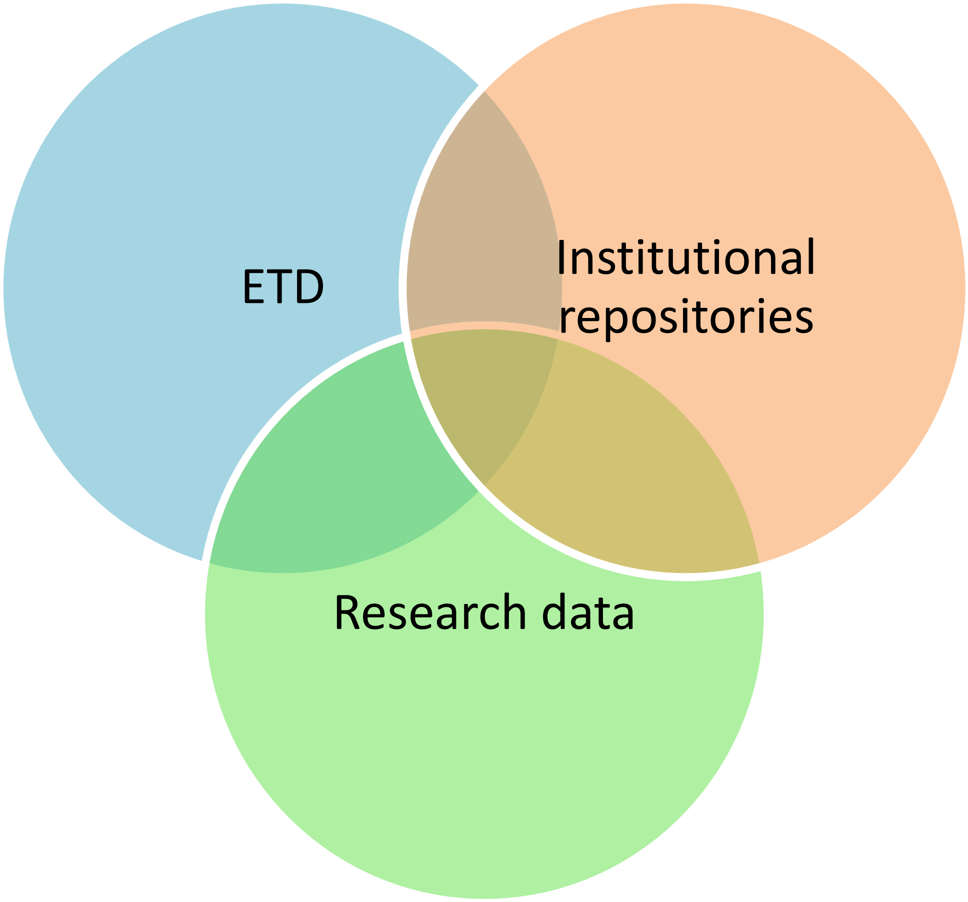
Above all, storage



Support and services needed (n=188)

What you should know about data related to PhD dissertation

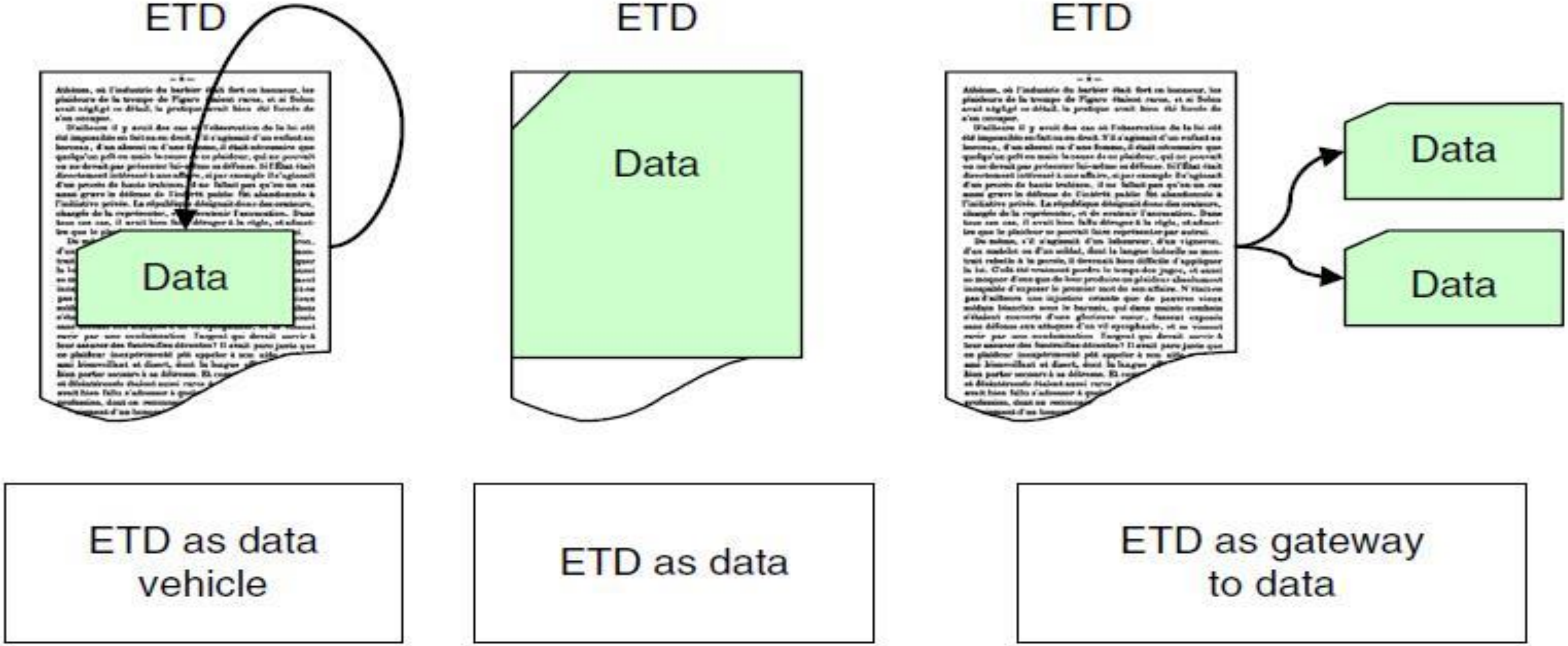
- Originality
- Linked to a scientific program
- No commercial and public character



The potential of ETDs

- Contain the results of at least three years of scientific work
- Variety and richness of appendices
- Availability in open access
- Contribute to eScience

ETDs and data

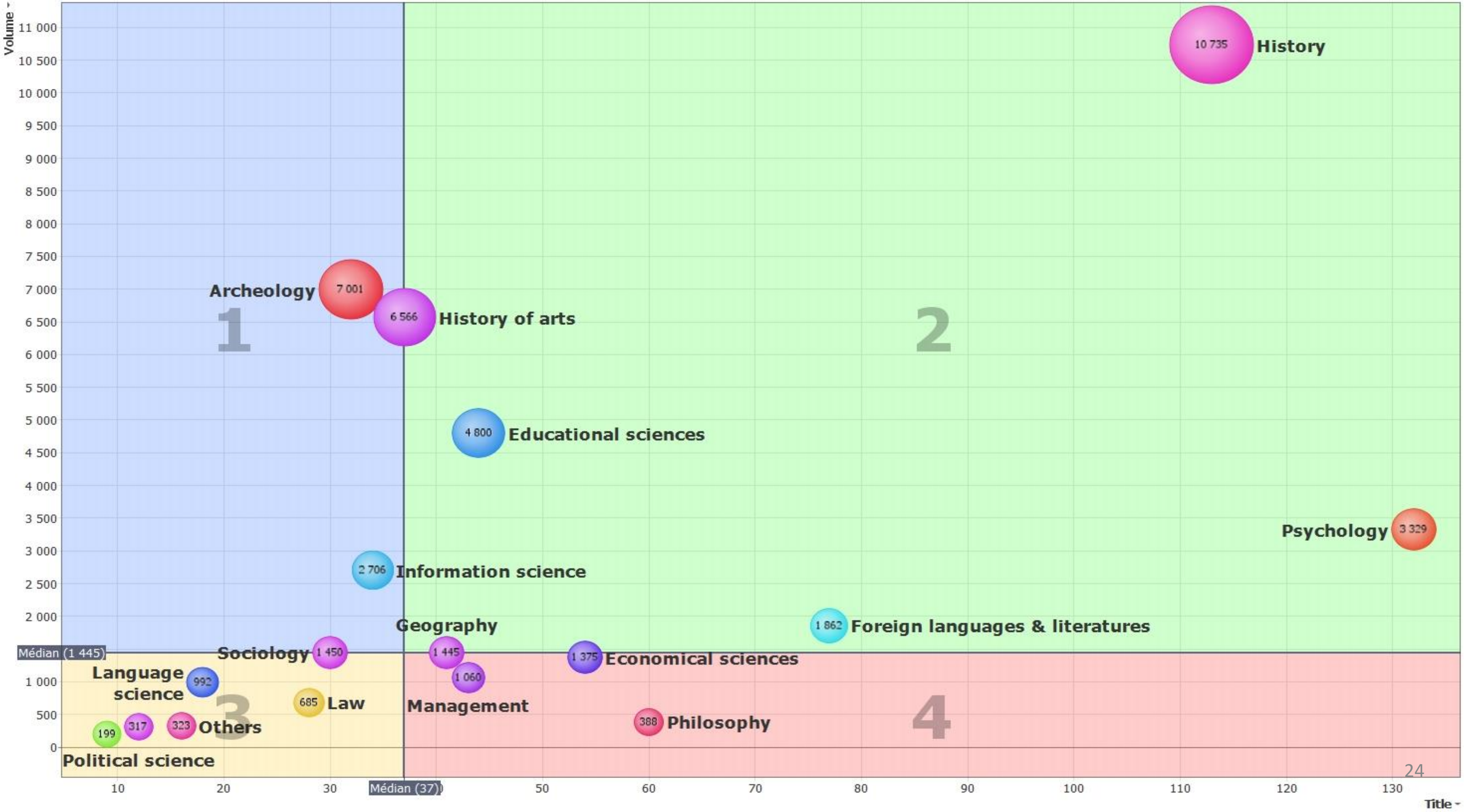


ETD as data vehicle

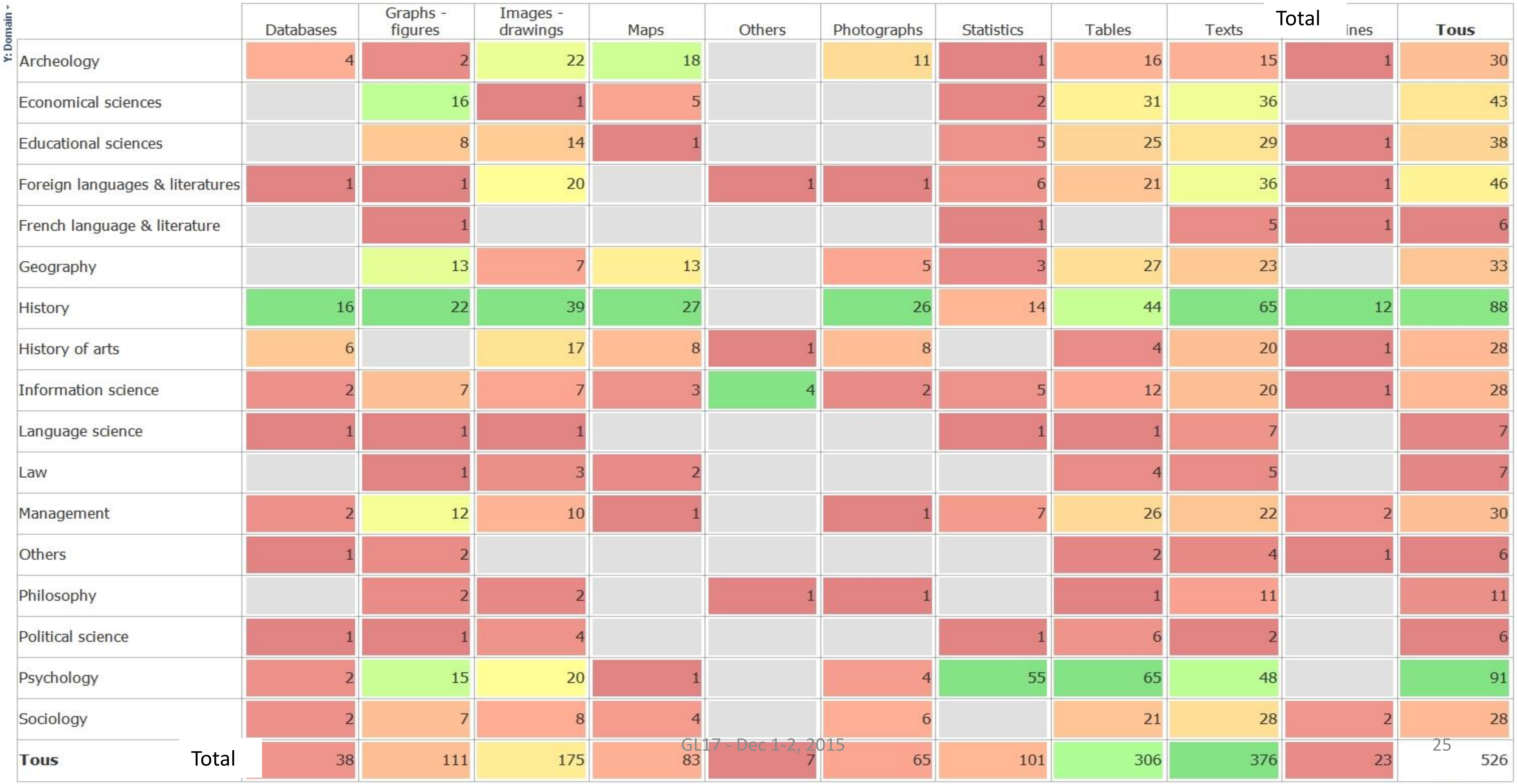
ETD as data

ETD as gateway to data

The size of data appendices



Data type and discipline



Y: Domain

	Databases	Graphs - figures	Images - drawings	Maps	Others	Photographs	Statistics	Tables	Texts	Total ines	Tous
Archeology	4	2	22	18		11	1	16	15	1	30
Economical sciences		16	1	5			2	31	36		43
Educational sciences		8	14	1			5	25	29	1	38
Foreign languages & literatures	1	1	20		1	1	6	21	36	1	46
French language & literature		1					1		5	1	6
Geography		13	7	13		5	3	27	23		33
History	16	22	39	27		26	14	44	65	12	88
History of arts	6		17	8	1	8		4	20	1	28
Information science	2	7	7	3	4	2	5	12	20	1	28
Language science	1	1	1				1	1	7		7
Law		1	3	2				4	5		7
Management	2	12	10	1		1	7	26	22	2	30
Others	1	2						2	4	1	6
Philosophy		2	2		1	1		1	11		11
Political science	1	1	4				1	6	2		6
Psychology	2	15	20	1		4	55	65	48		91
Sociology	2	7	8	4		6		21	28	2	28
Tous Total	38	111	175	83	7	65	101	306	376	23	526

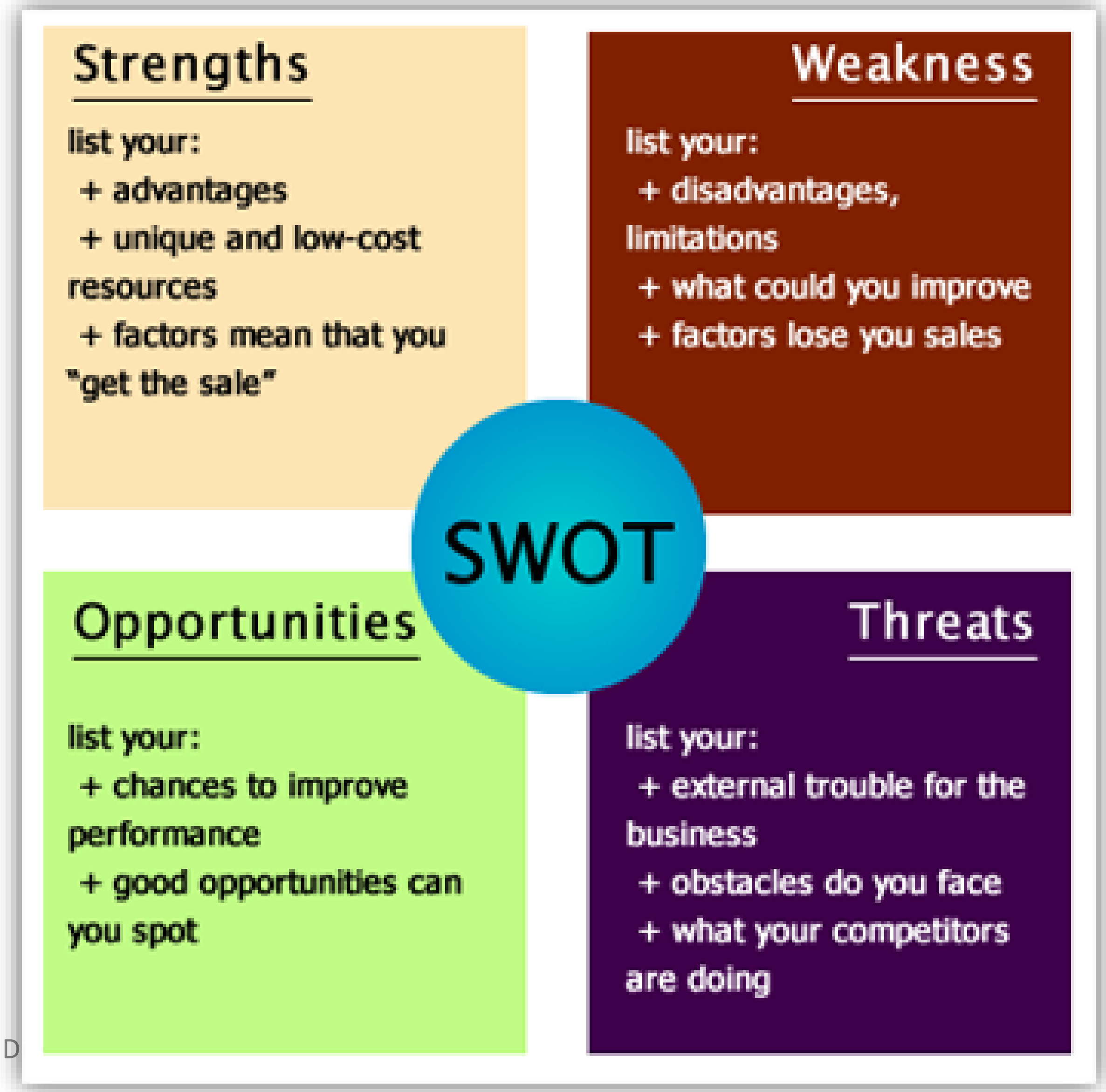
What you should know about service development

- Five basic questions of strategic service marketing
  - *What is our business?*
  - *Who are our customers?*
  - *What is our value for them?*
  - *Where is the business going?*
  - *Where should we go?*
- Collective choice
- Compliance with institutional policy

Strategical analysis with SWOT

Internal vs external factors

Helpful vs harmful factors



Strengths

list your:
+ advantages
+ unique and low-cost resources
+ factors mean that you "get the sale"

Weakness

list your:
+ disadvantages, limitations
+ what could you improve
+ factors lose you sales

Opportunities

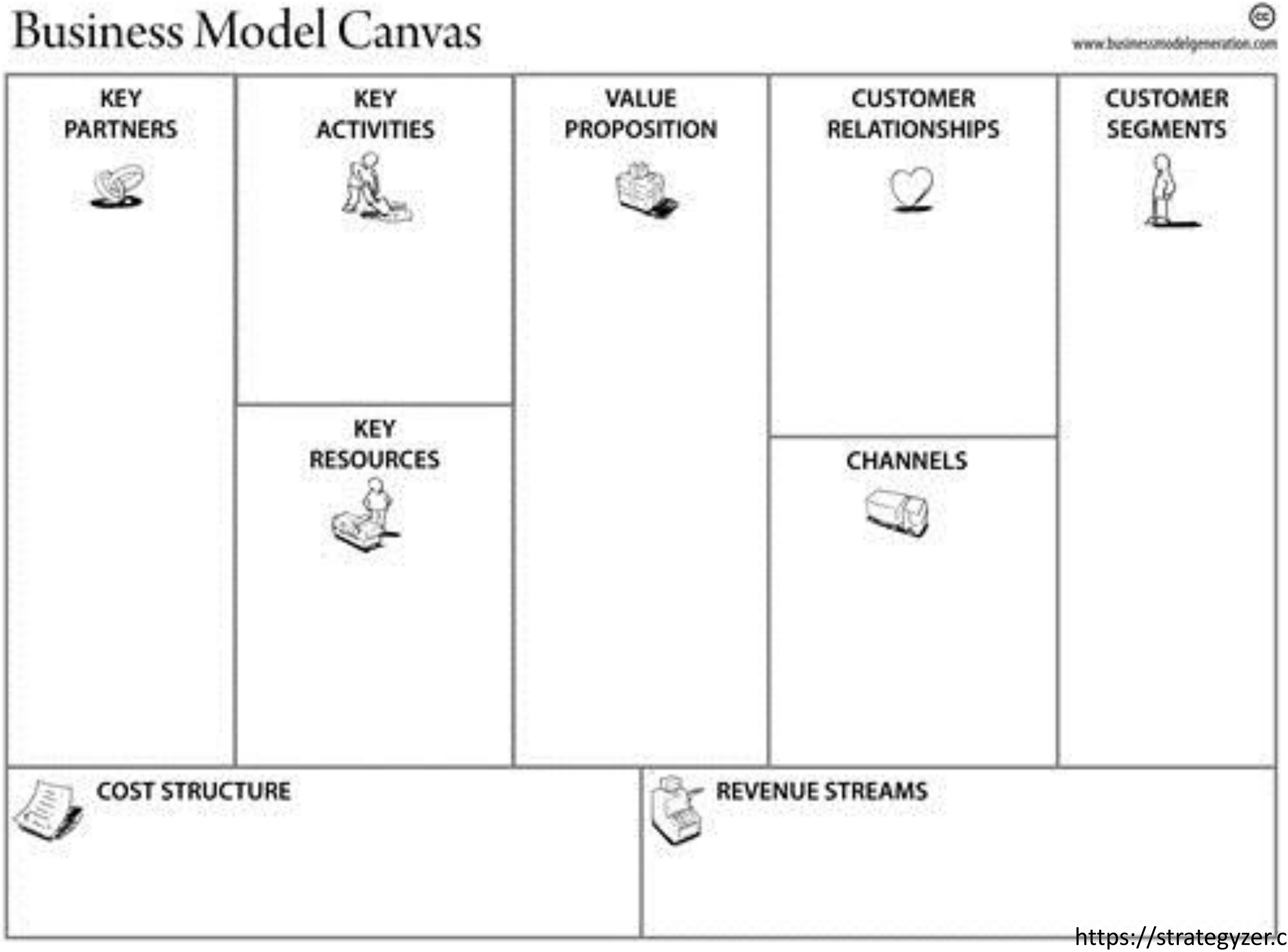
list your:
+ chances to improve performance
+ good opportunities can you spot

Threats

list your:
+ external trouble for the business
+ obstacles do you face
+ what your competitors are doing

https://canvanizer.com/images/canvas-thumb/swot-canvas.png

Preparing change with the *Strategyzer* Canvas



Business Model Canvas

www.businessmodelgeneration.com

KEY PARTNERS

KEY ACTIVITIES

KEY RESOURCES

VALUE PROPOSITION

CUSTOMER RELATIONSHIPS

CHANNELS

CUSTOMER SEGMENTS

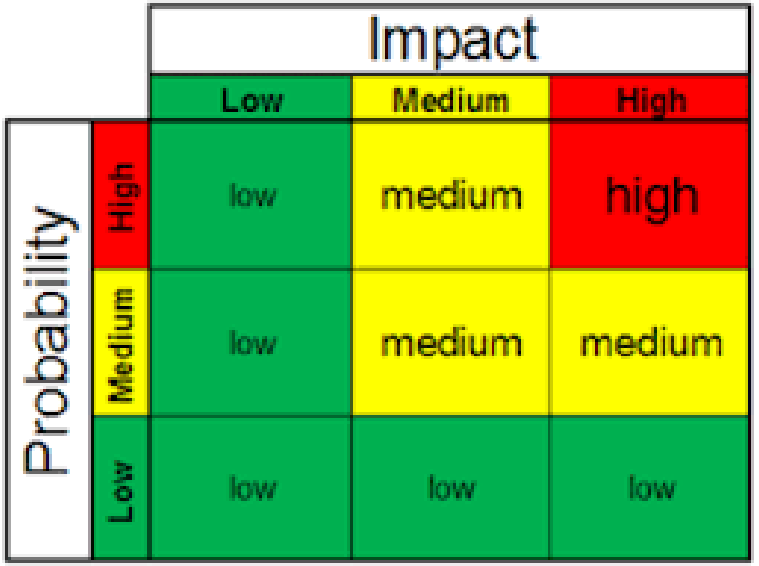
COST STRUCTURE

REVENUE STREAMS

https://strategyzer.com/canvas/business-model-canvas

Taking Murphy’s law seriously: "Anything that can go wrong will go wrong“

- Risk analysis: what can go wrong, and what should be done?
  - – Nature of risk
  - – Probability
  - – Impact (severity)
  - – Overall assessment (probability * impact)
  - – Prevention (what can be done to avoid risk)
  - – Action (what can be done if it goes wrong)



		Impact		
		Low	Medium	High
Probability	High	low	medium	high
	Medium	low	medium	medium
	Low	low	low	low

Questions?

20 minutes

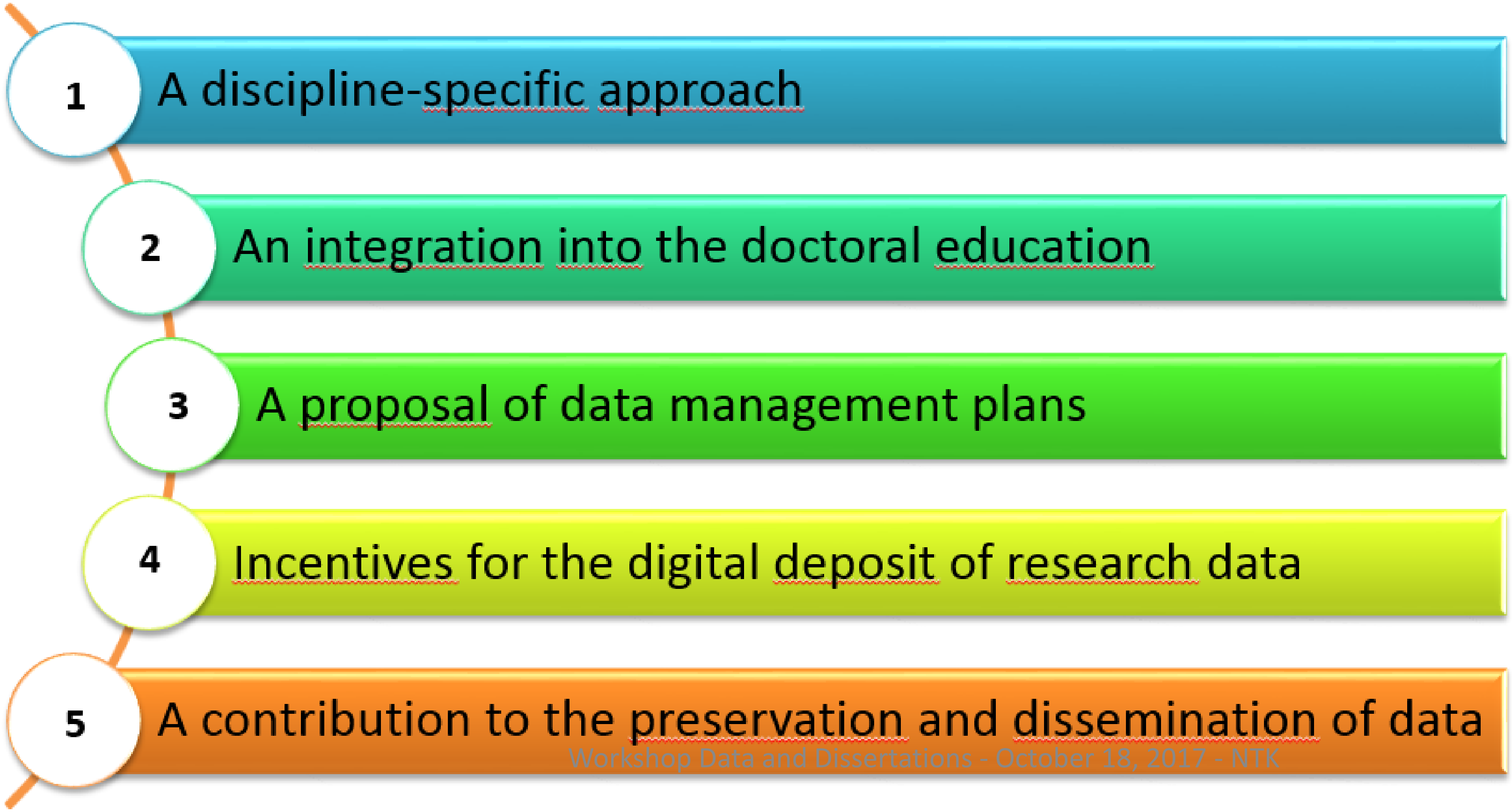
PAUSE

Our project, your initiatives…

SECOND PART

The Lille project

- White paper on data in dissertations
- 2015-2018



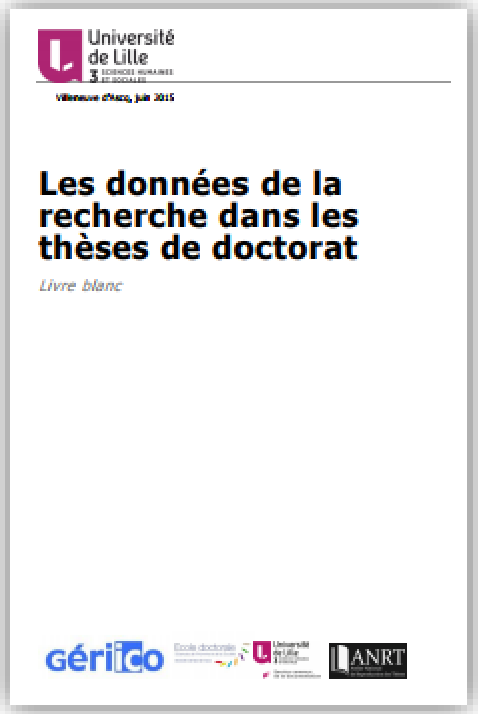
1 A discipline-specific approach

2 An integration into the doctoral education

3 A proposal of data management plans

4 Incentives for the digital deposit of research data

5 A contribution to the preservation and dissemination of data



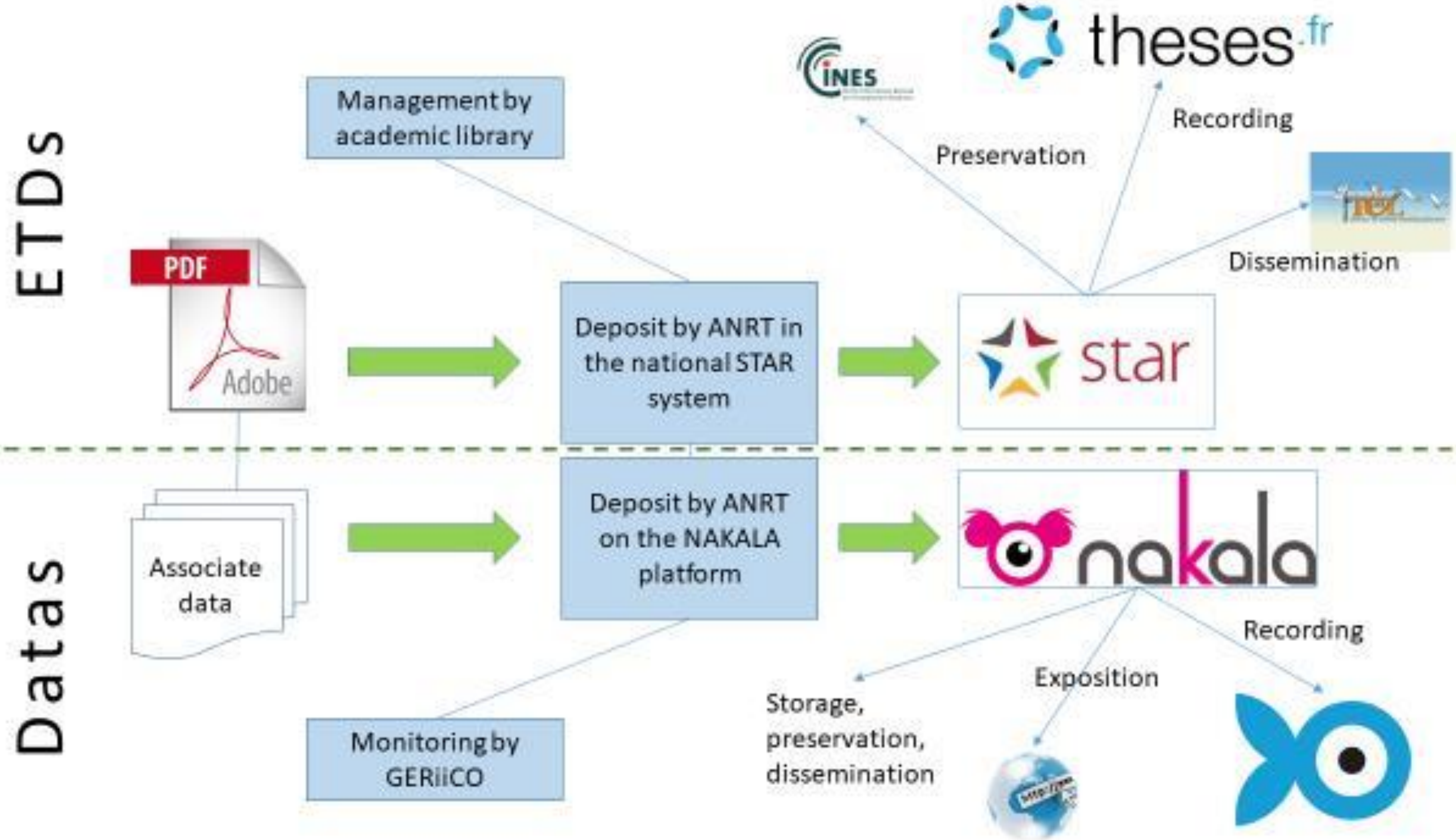
Université de Lille 3 Sciences humaines et sociales

Villeneuve d'Ascq, juin 2015

Les données de la recherche dans les thèses de doctorat

Livre blanc

Local ETD data workflow



ETDs

Management by academic library

Deposit by ANRT in the national STAR system

Preservation

Recording

Dissemination

Datas

Associate data

Deposit by ANRT on the NAKALA platform

Monitoring by GERiiCO

Storage, preservation, dissemination

Exposition

Recording

Main issues of discussion

- Content and coverage
  - Granularity
    - Reuse
  - Data format
    - Checklist
  - Data base

- Metadata
  - Indexing
    - ETD metadata
  - Data structure
    - METS
  - Referentials
    - 5 DC elements
  - Identifier
    - Handle
  - Source code

- Other issues
  - Legal aspects
  - Deposit
    - Who has access?
  - Data size

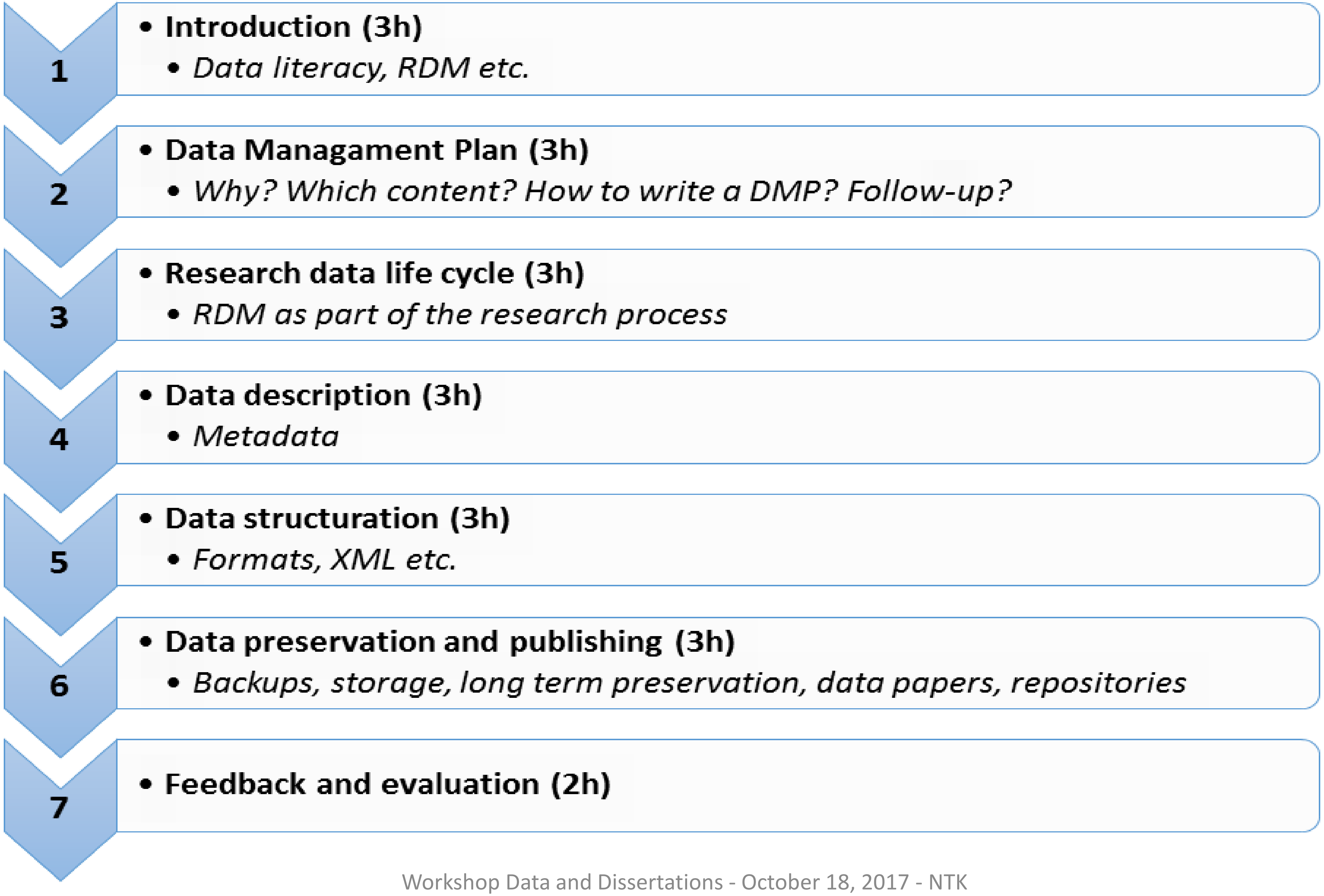
Other issues

- Long term preservation
  - National infrastructure

- Quality
  - Validation?
  - Filter?

- Promotion
  - *But no « data sharing ideology »*
- Technical documentation
  - *For students*
  - *For staff*

The PhD training program



1
- **Introduction (3h)**
  - *Data literacy, RDM etc.*

2
- **Data Managament Plan (3h)**
  - *Why? Which content? How to write a DMP? Follow-up?*

3
- **Research data life cycle (3h)**
  - *RDM as part of the research process*

4
- **Data description (3h)**
  - *Metadata*

5
- **Data structuration (3h)**
  - *Formats, XML etc.*

6
- **Data preservation and publishing (3h)**
  - *Backups, storage, long term preservation, data papers, repositories*

7
- **Feedback and evaluation (2h)**

Key elements of training program

- Mixed team (scientists, librarian)
- Multidisciplinarity (but limited to SSH)
- 20 hours, six months
- Different levels of PhD projects
  - *May be discontinued*
- Mix of (some) theory and (much) practice
- PhD DMP as the red line of the training program
  - *With DMP platform*
- Individual follow-up and time for discussion
- Evaluation

Examples of students’ DMP

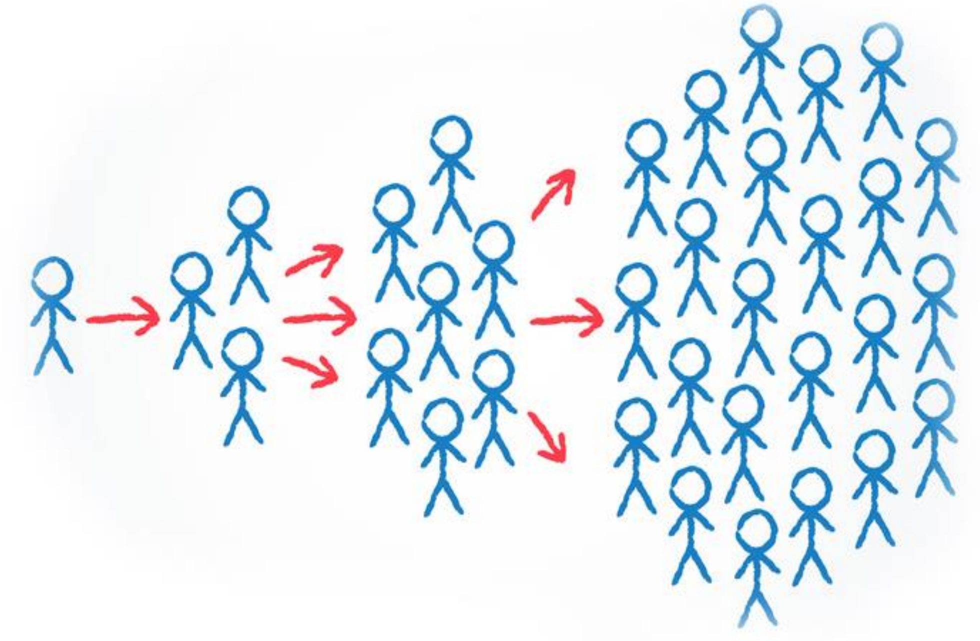
- On French CNRS platform DMP OPIDoR

- Dynamic character of DMP (initial, mid-term, final)
- Different data literacy level of students, depending on
  - Progress of dissertation project
  - Discipline (e.g. ethical and privacy issues in psychology, sociology…)

Your initiatives?

Questions?

- Main characteristics of a RDM program with (for) PhD students
- Key factors of success
  - – Governance, education, *viral marketing*, partnerships…
- Major risks
  - – Leadership, ideology (evangelism), focus on tools not people



Feedback?

THANK YOU !

References
http://www.citeulike.org/user/Schopfel/tag/data_management

Contact
joachim.schopfel@univ-lille3.fr