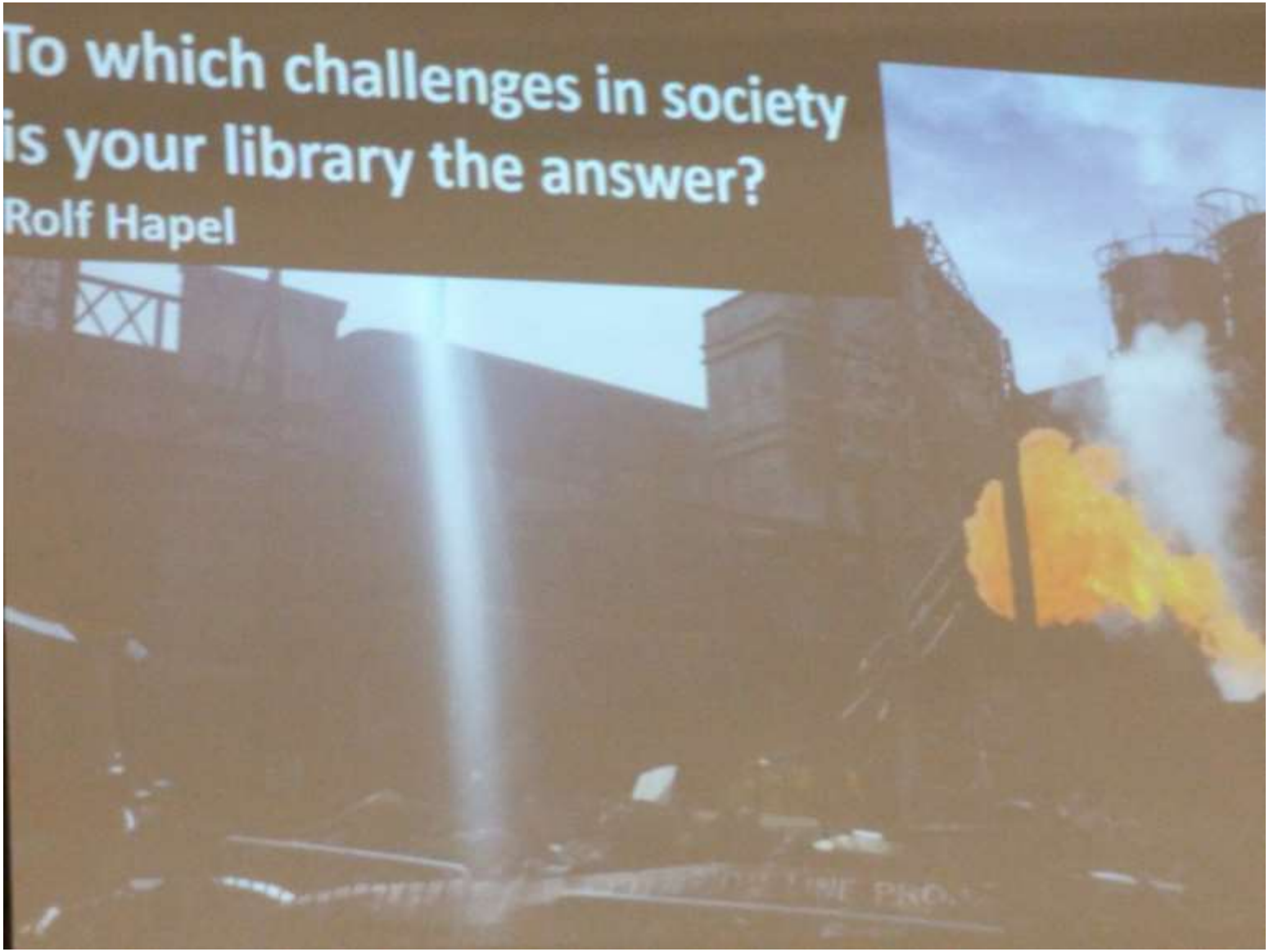
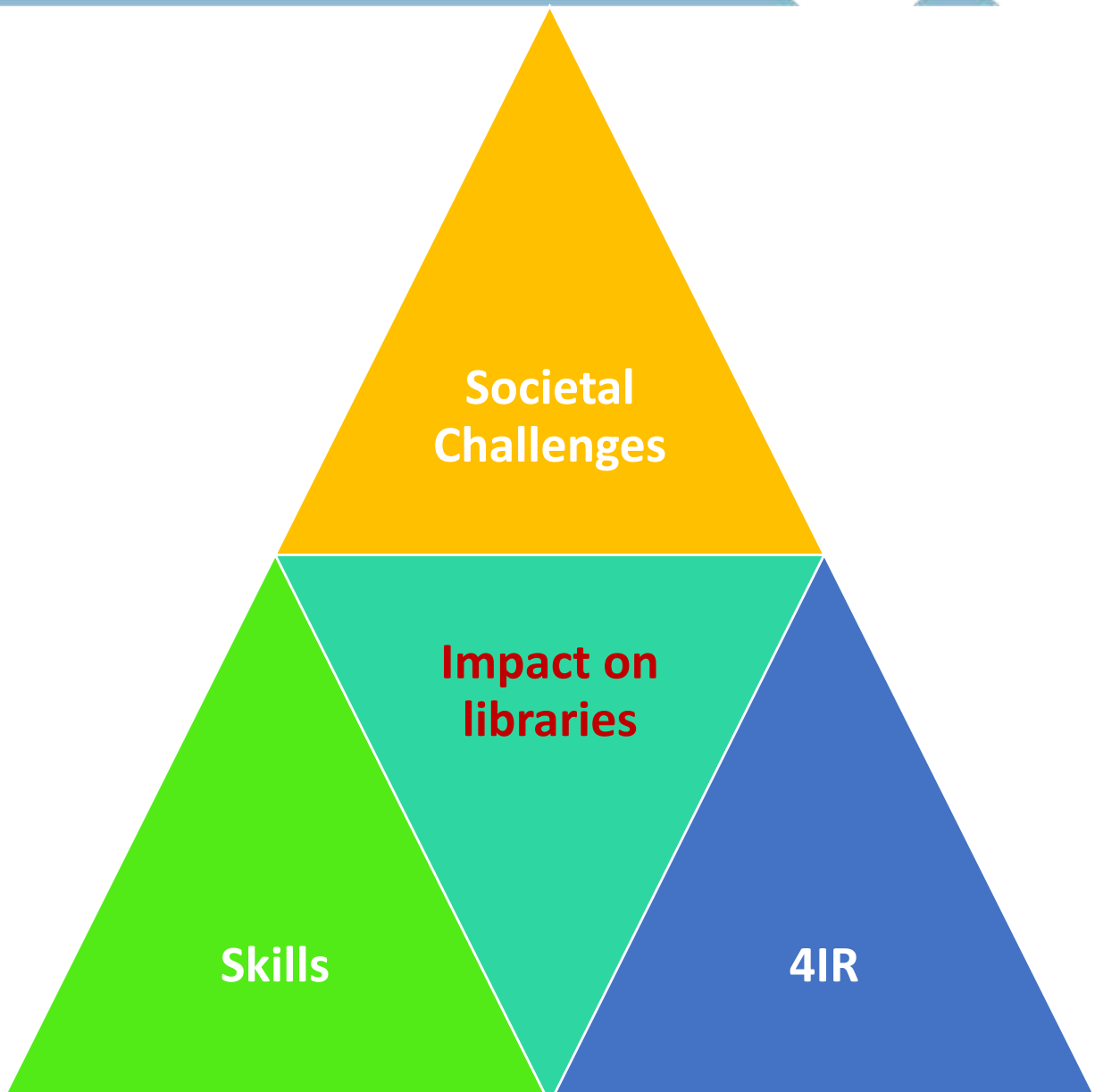
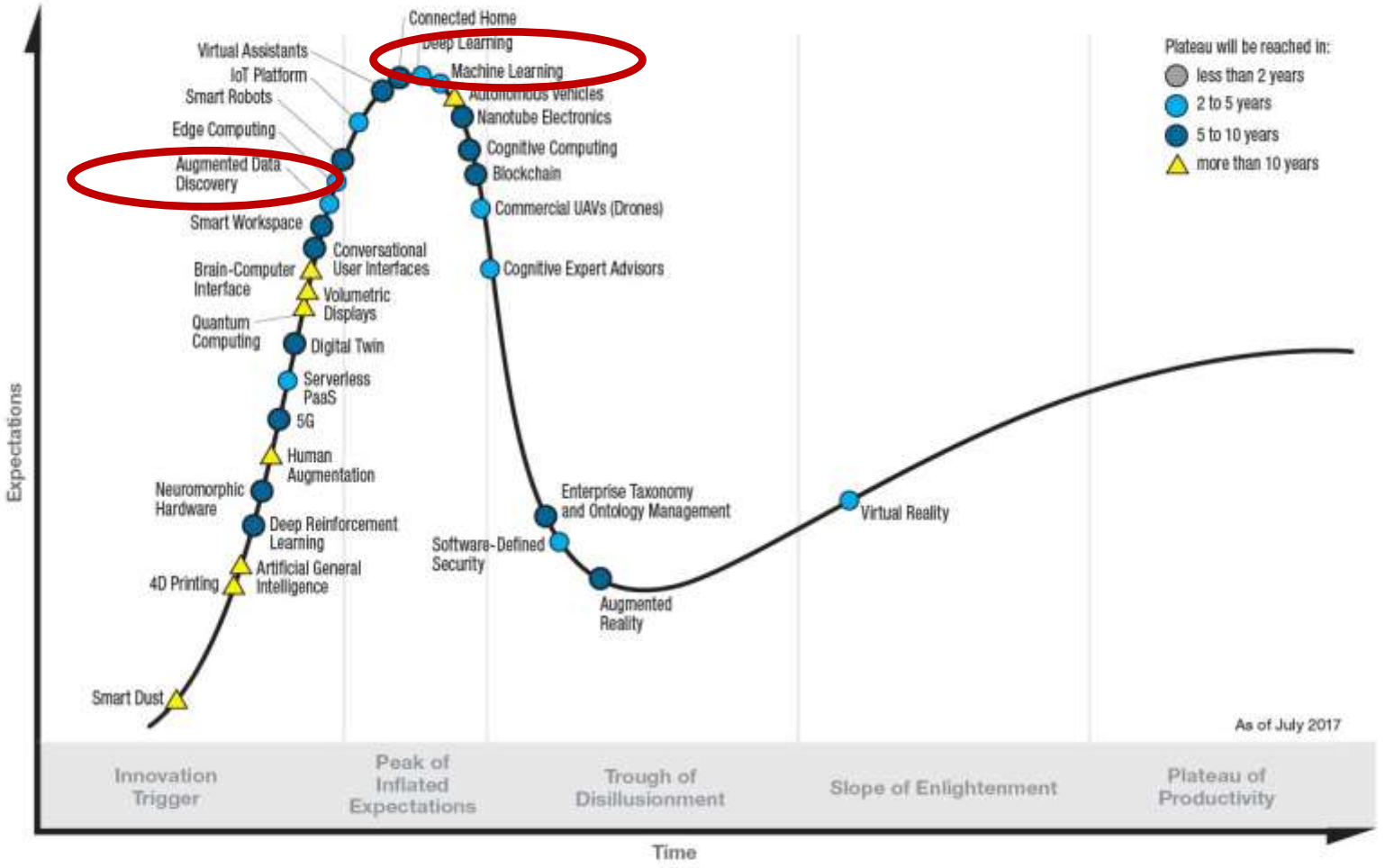
Data Librarianship in Higher Education Curricula: an Example from Qatar

Milena DOBREVA
UCL Qatar


To which challenges in society
is your library the answer?
Rolf Hapel


Societal Challenges
Impact on libraries
Skills
4IR

Gartner Hype Cycle for Emerging Technologies, 2017

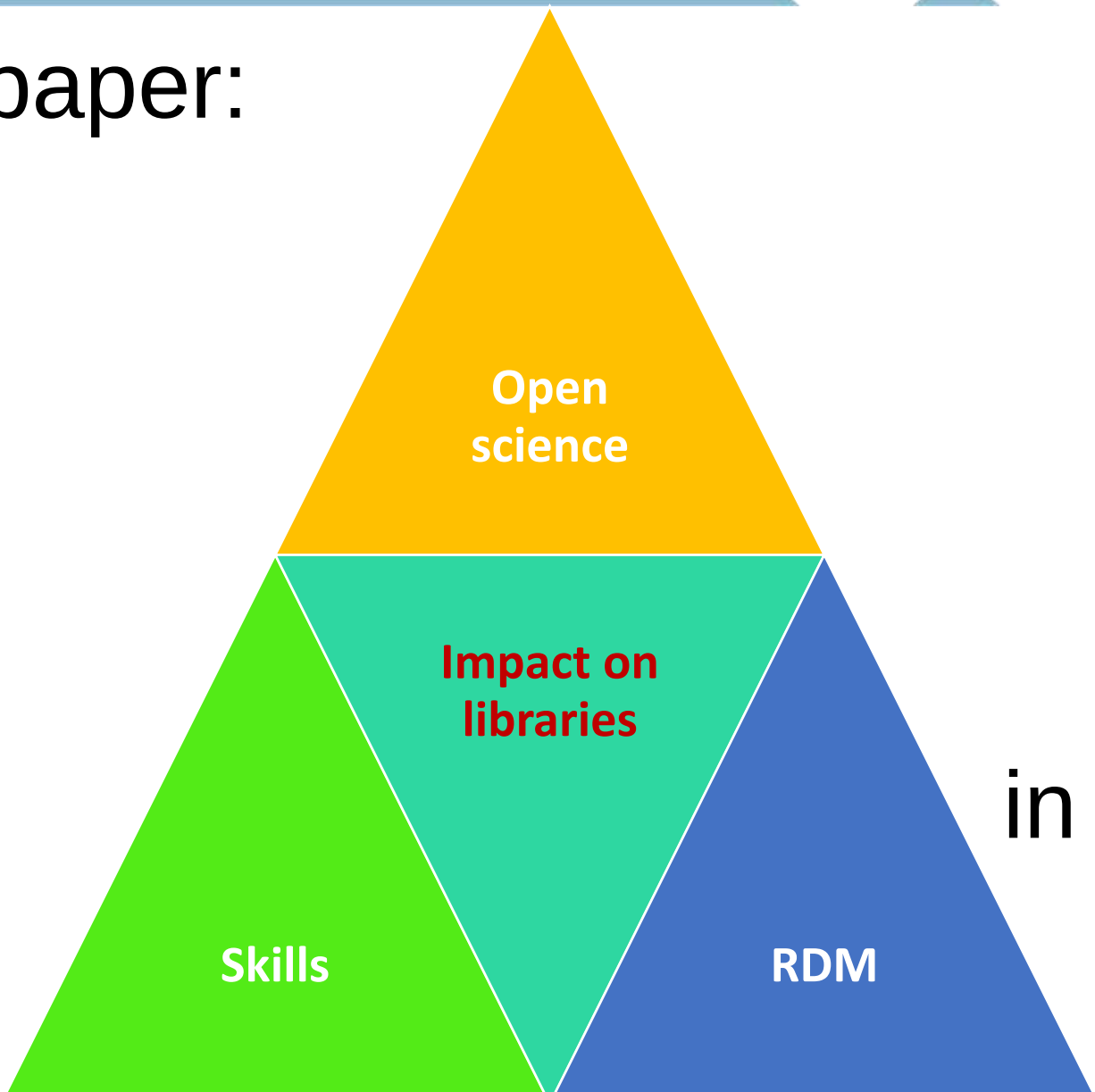


gartner.com/SmarterWithGartner

Source: Gartner (July 2017)

Gartner

This paper:



in Qatar

Challenges for the academic libraries

- Curation of research data
- Infrastructures
- Skills
- Open science

Challenges for the academics

- Curation of research data
- Infrastructures
- Skills
- Open science

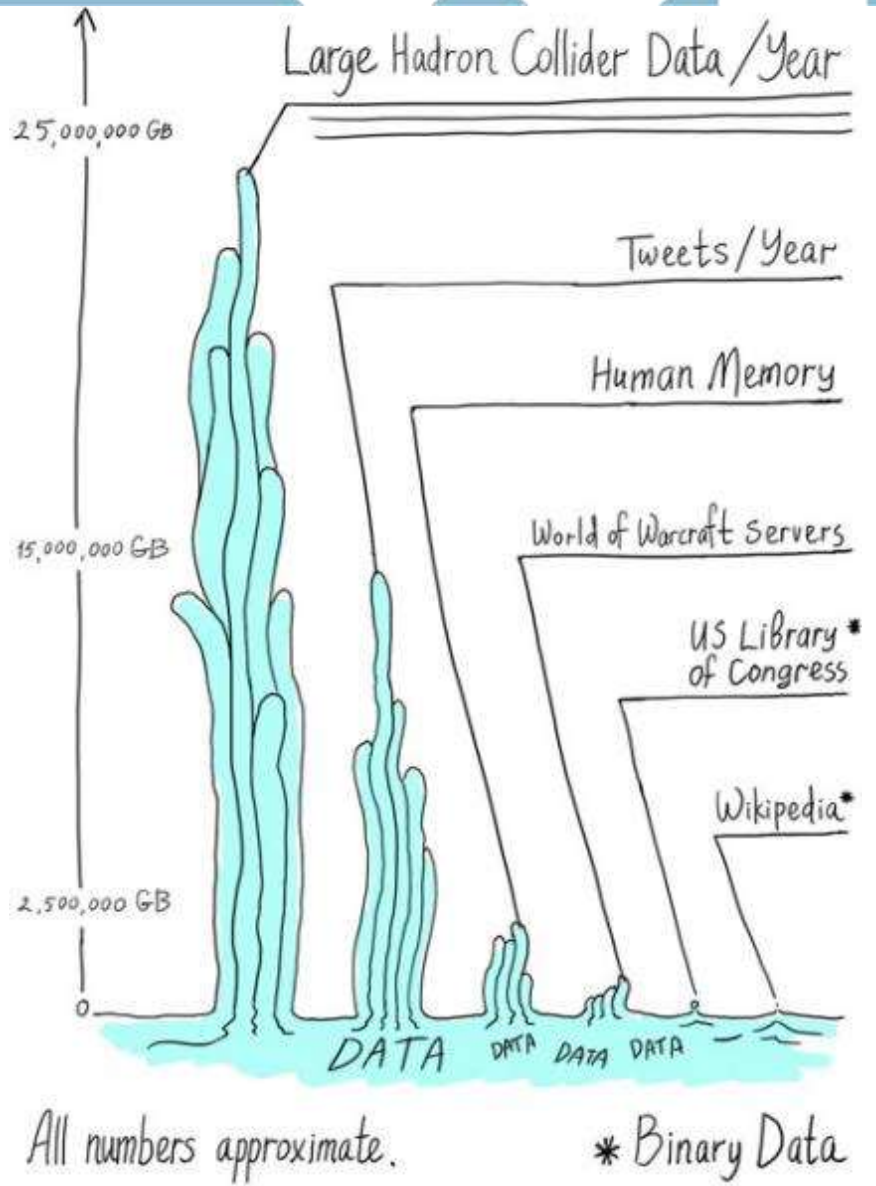
Challenges for the general public

- Access to research data
- Infrastructures
- Skills
- Open science

Where are we now?

Big data, analytics

- Are research data big data?
- Differences across disciplines
- What does this mean for [academic] librarians?
- How to describe, use and reuse research data?



http://www.symmetrymagazine.org/article/august-2012/particle-physics-tames-big-data

Methods of storage (Example: Trinidad and Tobago)

- Flash drive
- Email myself
- External hard drive
- Cloud storage
- Second computer

Renwick, S. et al. (2017) Managing research data at an academic library in a developing country. IFLA journal 43(1), 51-64.

Identified training needs

- Developing RDM plans
- Storing RD
- Documenting research
- Sharing research data
- Copyright and intellectual property

Cox, A., Williamson, L. (2015) The 2014 DAF survey at the University of Sheffield. IJDC 10(1), pp. 210-229.

Academic programmes

- In 2012, 16 out of 52 LIS schools in North America offered courses on data curation
- Data science curricula/modules in Europe – EDISON, EDSA

- What HE courses are more suitable? Complete programmes or specialized modules?
- Professional development?

Harris-Pierce, R., Liu, Y.Q. (2012) Is data curation education at LIS schools in North America adequate? NLW 113 (11/12), 598-613.

Data literacy

- International study is ongoing (coordinated by Prof. Gobinda Chowdhury, Northumbria University, UK, and Prof. Dr. Serap Kurbanoğlu, Hacettepe University, Turkey)

RDM in DH study in Qatar

Research questions:

- What are the current gaps in provision in RDM, especially related to the Humanities data?
- How to address the skills gap?

Methods:

- Online survey with academics
- Analysis of job adverts

Practical impact: revision of the academic programme

The research landscape in Qatar: People

Only 4,720 R&D personnel in Qatar (2015):

- Including private sector and including administrative roles
- 39% of which have PhD and 32% master level education
- Large majority are foreign nationals

UCL Qatar Graduation 2017 with the Father Emir Hamad bin Khalifa Al Thani

The research landscape in Qatar: Policies

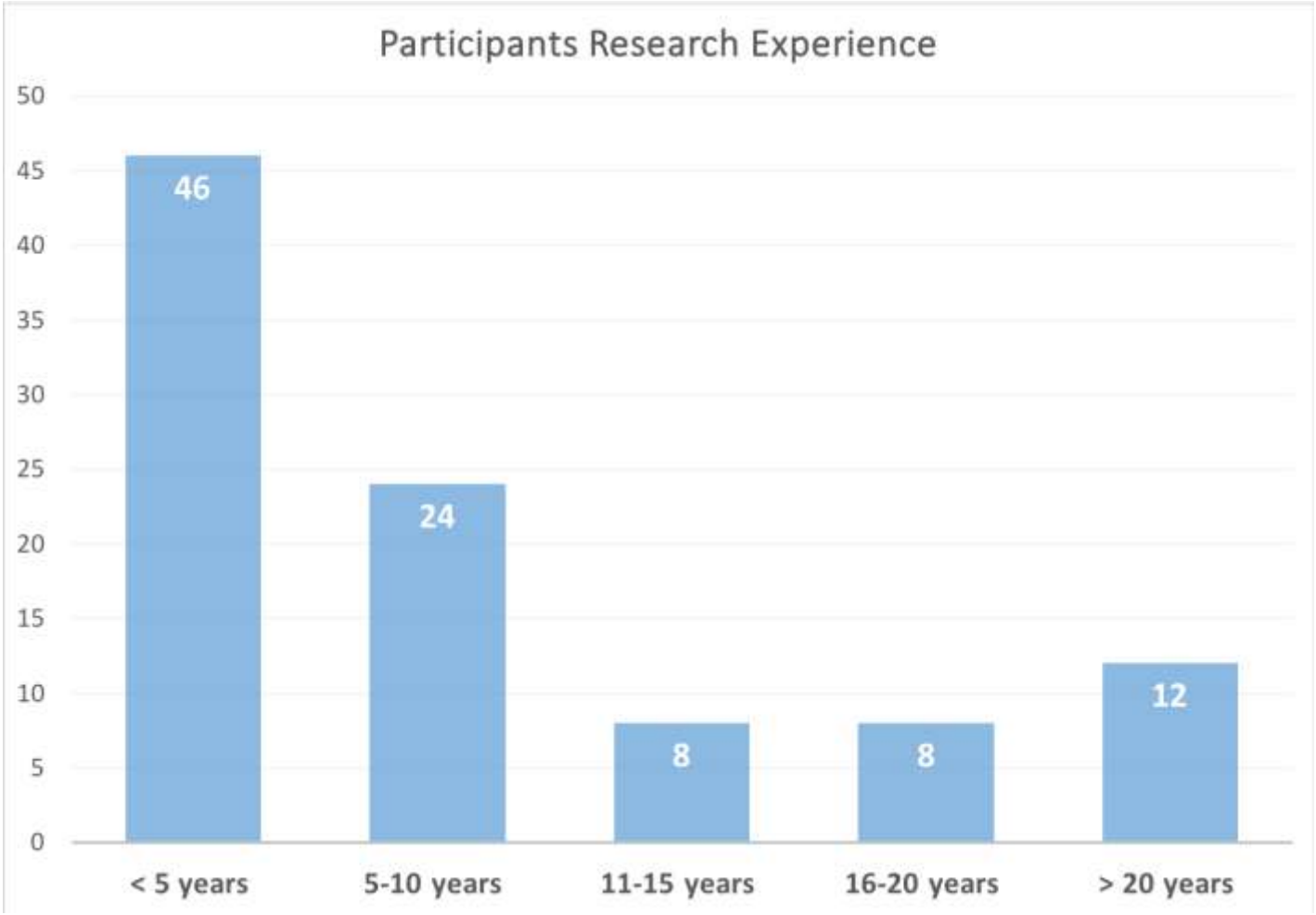
- 2006: Qatar National Research Fund
- 2008: Qatar National Vision 2030
- 2014: Qatar National Research Strategy with four Grand Challenges:
  - Water Security
  - Energy Security
  - Cyber Security
  - Health
- 2017: Cooperation between QNRF and QNL to establish national RDM services

Photo: © iStock Al Zubarah Fort

Survey overview

- Part of an ongoing international study coordinated by S. Kurbanoğlu (Hacettepe University, Turkey) and G. Chowdhury (Northumbria University, UK)
- Other participating countries include UK, France, Turkey, Poland, Pakistan, the Czech Republic and Croatia
- Set of 26 questions covering
  - Demographics,
  - Data types, sources, volume,
  - Storage, metadata,
  - DMPs, data sharing and
  - Training needs.

Key results: Demographics



101 completed surveys (of 218 started sessions)

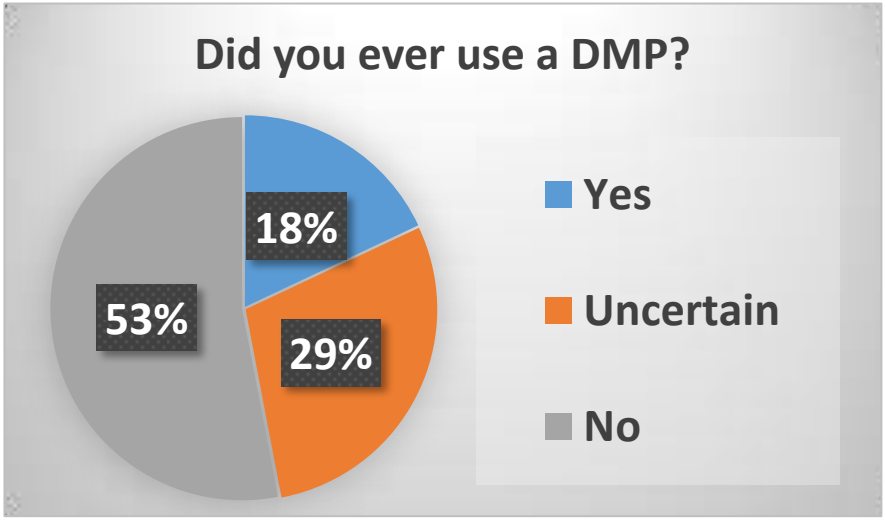
Key results: Storage, metadata and sharing

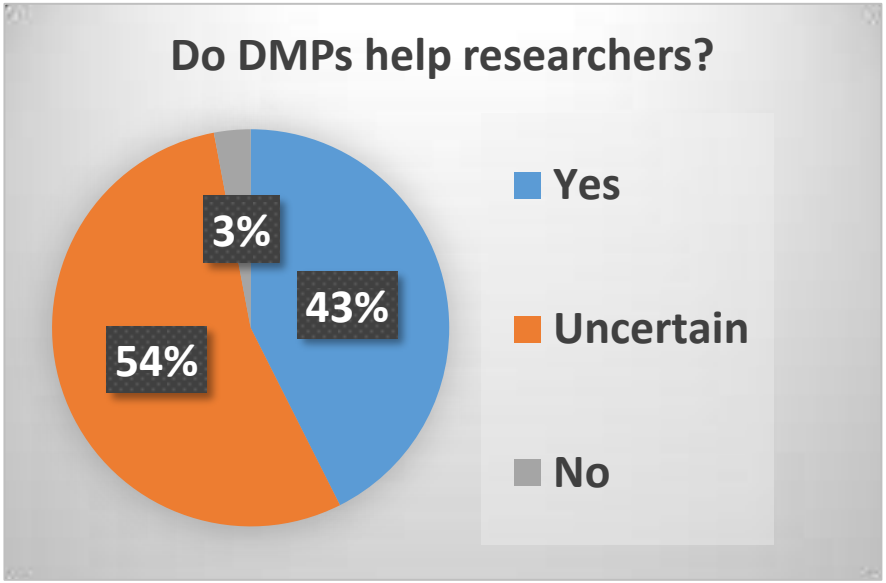
- Where is data stored?
  - own devices (87%)
  - cloud services (55%).
  - university servers (35%)
  - outside repositories (5%).
- Backups: 69% store their research data in more than one place
- 75% would like storage beyond their research projects. Only 7% of the respondents are clearly opposed to this.
- 60% are familiar with the term metadata
- Only 34% have reservations in principle about sharing (but there are lots of practical issues)

Familiarity with funding body's requirements in regard to data storage	
Yes	34%
Uncertain	40%
No	26%

	Use metadata standard	Use in-house metadata
Almost Always	9%	18%
Often	13%	17%
Sometimes	21%	25%
Rarely	14%	8%
Never	43%	32%

DMPs and training





	Did you had training on …?	Would you like training on…?
DMPs	11%	75%
Metadata	14%	64%
Consistent file naming	9%	47%
Version control of data sets	6%	47%
Data citation styles	45%	39%
No training	51%	15%
Other	NA	4%

Job adverts (data managers)

- Practically missing in Qatar for this year
- Checked adverts on jobs.ac.uk, ALA job adverts
  - Manual analysis to be followed by dataset analysis

	Medicine	Business	University
Roles	• Analyze, optimize medical data • Develop Algorithms • Routine Data check on clinical trials • Statistical tools and data mining • Train researchers on good clinical practice	• Produce KPI reports • Establish Data Capturing Systems • Create Evaluation Plans • Analyze, Optimize, present data	• Train Researchers on good research practice • Organization, description, preservation and discoverability of data • Advocate for RDM services • Develop RDM plans • Advise on version control, cleaning digital object metadata
Experience/ EDU	• Biostatistics/ computational medicine • Clinical trials. Research • Trial design, conduct, analysis • Data coding • PhD in quantitative discipline	• Quantitative reports • Database design • Statistical techniques • Models of service improvements • Computation modelling • Business planning/ strategic analysis	• Research lifecycle • Open access, data storage, data back ups, data formats • PhD in numerative disciplines
Softwares	• MedDra, WHODDE • Medidata rave, BOXI, Jreview • Data formats: CDASH, SDTM, ADaM	• SQL, VBA, Excel formats • Mapping softwares, QGIS • Statistical tools • Database and users • Application development • Desi	• Xerte, articulate,Html, CSS, PHP,Perl, XML • Statistical programming (Matlab, R) • SQL, coding language C++

Jobs differences

- **Medicine:** Data scientist in Bioinformatics,
  Data Manager in Biotechnology firm,
  Research data management officer, Data scientist

- **Business:** Data scientist, Data and information manager

- **University libraries**: Senior Research Data scientist,
  Research Data Manager, Research Data Librarian,
  Research Data services assistant,
  Research Information officer, Data librarian

Programme revision

Pathways	Leadership and Management in Libraries	Librarianship for the Education Sector	Middle Eastern Librarianship	Archives, Records and Data Management	Modules
Term 1 Workload: Three core and one optional modules from your pathway	**UCLQG409 Research Methods in Information and Library Science** **UCLQG414 Reference and Information Services** **UCLQG404 Knowledge Organisation and Access**				Core
	UCLQG420 **Cultural Institutions Management**	UCLQG420 **Cultural Institutions Management**	UCLQG402 **Archives and Records Management**	UCLQG402 **Archives and Records Management**	Core optional
	UCLQGnew **Cultural Heritage and Ethics** UCLQG315 **Digital Cultural Heritage**				Additional optional
Term 2 Workload: Two modules from your pathway and two from any other pathway and/or from the additional optional modules.	UCLQG406 **Library Collection Management** UCLQG012 **Collections Care and Management**	UCLQG434 **Services to Children and Young People** UCLQG432 **Information Literacy and Education**	UCLQG405 **Arabic Cataloguing** UCLQG122 **Islamic Manuscripts**	UCLQG407 **Data and Metadata Management** UCLQGnew **Data Environments**	Core optional
	UCLQG430 **Professional Awareness** UCLQGnew **Information Visualisation** UCLQG408 **Digital Resources in the Humanities** UCLQG412 **The Book in the World**				Additional optional
Term 3	UCLQG499 **Dissertation**				Core

RMD in DH Conference, 17-18 April 2018

Conclusions

Addressing Training Needs	Develop Policies	Develop Infrastructure
• Training on RDMP and on special subjects • Integration in Research Methods Training	• Institutional Policies • National Policy • Guidelines	• Technical Infrastructure • Support Infrastructure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Thank you!
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