DIGITAL SCHOLARSHIP INNOVATION AND DIGITAL LIBRARIES: A SURVEY IN ITALY

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IRCDL, Firenze 4-5 febbraio 2016

Digital scholarship outline

- As scholars use new digital tools and resources to expand their scope of research and teaching, digital (hybrid) libraries are evolving to support them.

- These different needs have led digital libraries to develop a wide range of service models to support curricular and research needs at their institutions.

Digital scholarship

- Digital scholarship is the use of digital evidence, methods of inquiry, research, publication and preservation to achieve scholarly and research goals (Abbey 2011)

- Digital scholarship: this is a trend that cascades across all academic disciplines, from the humanities to the sciences, with often varying needs from different researchers.

Methodology

■ **Etnographic study**

■ Based on the research by Bianca Kramer and Jeroen Bosman

– *Knowledge base of scholarly communication tools*

– *Questionnaire (Deadline Feb 10):*

– *https://innoscholcomm.typeform.com/to/Csvr7b?source=5p2c6L*

Activities of scholars: minimum functional requirements

Hull; Pettifer; Kell Defrostring the Digital Library in McIntosh 2011, p. 24

Database: scholarly communication tools

400+ Tools and innovations in scholarly communication

web based tools a researcher can use

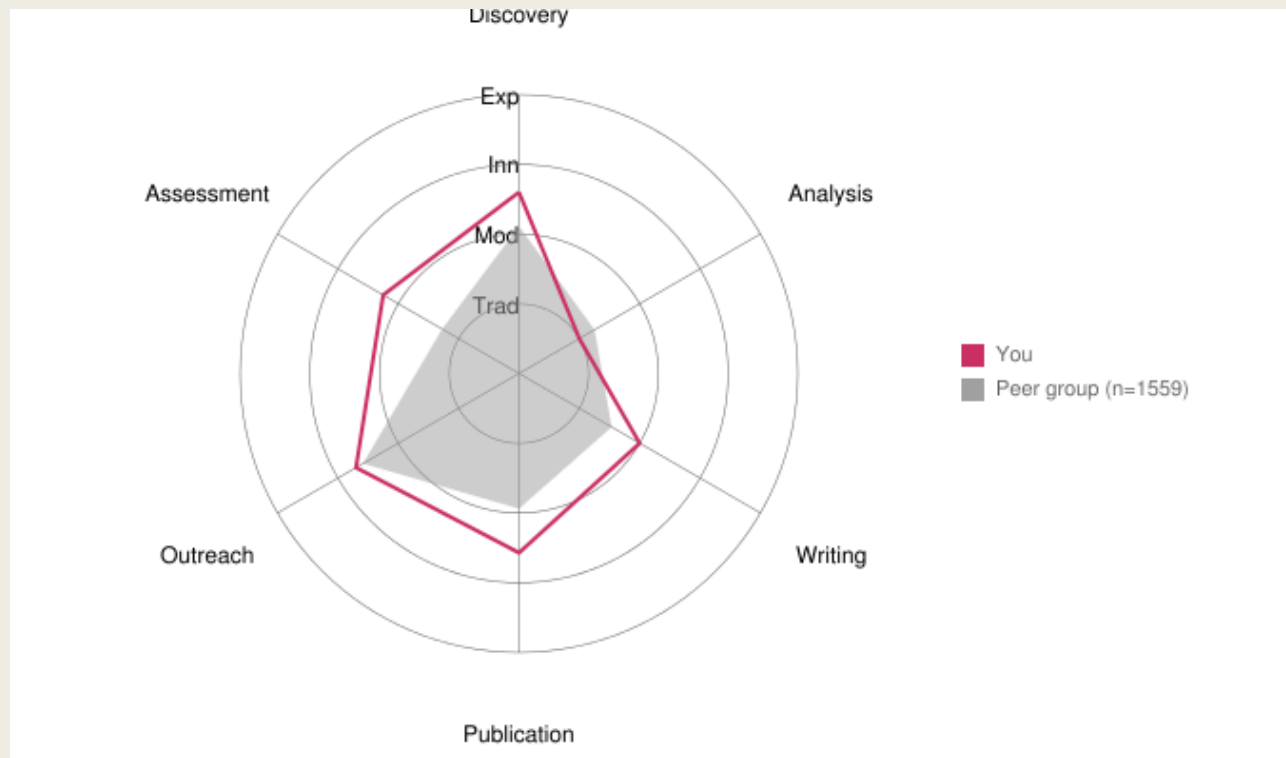|	
authors:	Bianca Kramer & Jeroen Bosman (and you?)
contact:	@MsPhelps & @JeroenBosman, both at Utrecht University Library
url:	https://docs.google.com/spreadsheets/d/1KUMSeq_Pzp4KveZ7pb5rddcssk1XBTiLHniD0d3nDqo
friendly url:	http://bit.ly/innoscholcomm-list
related to poster:	http://dx.doi.org/10.6084/m9.figshare.1286826
related to website:	https://innoscholcomm.silk.co/
accompanying survey:	https://101innovations.wordpress.com/
background:	This is a shared database that grew out of the "101 innovations in scholarly communication" project. When we published the 101 list of selected innovations our database already contained some 200 innovations/tools. The 101 selection was strictly on innovativeness and thus did not contain recent tools if they where not innovative compared to older ones with the same functionality, even if the more recent ones were more popular or well-known. The database shared here has dropped that strict innovativeness criterion and thus contains multiple tools offering basically the same functionality. The masterfile that this database is derived from is still being worked on. Additional fields may become available here in a later stage.

http://bit.ly/innoscholcomm-list

#	Task	Category
1	crowdsource/define research priorities/ideas/collaborations	preparation
2	fund / get contract	
3	search (lit/data/patents/code)	discovery
4	get access	
5	get alerts/recommendations	
6	reference management	
7	read	
8	annotate/tag (during/after reading)	
9	experiment & collect/mine/extract data	analysis
10	share notebooks / protocols / workflows	
11	analyze	
12	visualize	writing
13	write (+ code)	
14	cite	
15	translate	
16	archive/share code	publication
17	archive/share data	
18	archive/share publication	
19	archive/share posters	
20	archive/share presentation	
21	present research findings	
22	peer review and commenting/recommending (pre-pub)	
23	select journal to submit to	
24	publish	
25	outreach/valorization	outreach
26	researcher profiling (& social network)	
27	comment	assessment
28	peer review (post-pub)	
29	measure impact (of output, e.g. article)	
30	assessment (of researcher/research group)	

	NAME	URL	WEBLAUNCHYEAR	PRIMEPHASEALPHA	IEPHASENUM	FUNCTIONFREE	UI_FUNCTIONFREE	FUNCTIONCONTROLLLED
3	name (blue ones were added last month)	link	year of weblaunch / introduction / founding	primary phase of workflow targeted	phase order	what is/does it? (free text)	user input for "what is/does it?"	what is/does it? (controlled)
509	Frontiers for Young Minds	http://www.kids.frontiersin.o	2013	outreach/valorization	25	web-based scientific journal with an editorial board of children (8-15yr)		citizen review, by children
510	I Am Scientist	http://imascientist.ie/	2008	outreach/valorization	25	outreach to students through chat contest		debating/discussing
511	Open Science Showoff	http://www.scienceshowoff.	2011	outreach/valorization	25	Open mic night for science lovers		debating/discussing
512	Pint of Science	http://pintofscience.co.uk/	2012	outreach/valorization	25	Discussing science in a local pub		debating/discussing
513	Sense about Science	http://www.senseaboutscier	2002	outreach/valorization	25	activities and publications to change public discussions about science and evidence		debating/discussing
514	Voice of Young Science (part of Se	http://www.senseaboutscier	2004	outreach/valorization	25	encourages early career researchers to play an active role in public debates about science		debating/discussing
515	redditscience AMA (a.o. PLOS Sci	https://www.reddit.com/r/sc	2012	outreach/valorization	25	Discuss your science with broader community		discussion
516	AskforEvidence	http://askforevidence.org/in	2014	outreach/valorization	25	Tool to ask for evidence, or to share experience asking for evidence NB this is part of Sense About Science (ID1047)		fact-checking
517	Fact Check Central	http://factcheckcentral.org/	2015	outreach/valorization	25	aggregated list of blogs from a selection of fact checking organisations		fact-checking
518	SciCheck	http://www.factcheck.org/sc	2015	outreach/valorization	25	fact checking scientific claims made by US politicians to influence public policy		fact-checking
519	Draw Science	http://drawscience.blogspot	2014	outreach/valorization	25	converts research papers into easy-to-read infographics		infographics
520	JSTOR daily	http://daily.jstor.org/	2014	outreach/valorization	25	linking news stories to scholarly research, with free access to JSTOR articles		innovative journal
521	Limn	limn.it	2011	outreach/valorization	25	free journal for communicating exciting research in the social and human sciences		innovative journal

My results

Example research workflows: traditional to experimental

Discovery → Analysis → Writing → Publication → Outreach → Assessment

Traditional
Add no functionality compared to print era, except online accessibility

Modern
Use scale and linking possibilities of the internet to increase speed and efficiency

Innovative
Actually change 'the way it's always been done' – e.g. user-driven, different business models, changes in the sequence of research activities, shifting stakeholder roles
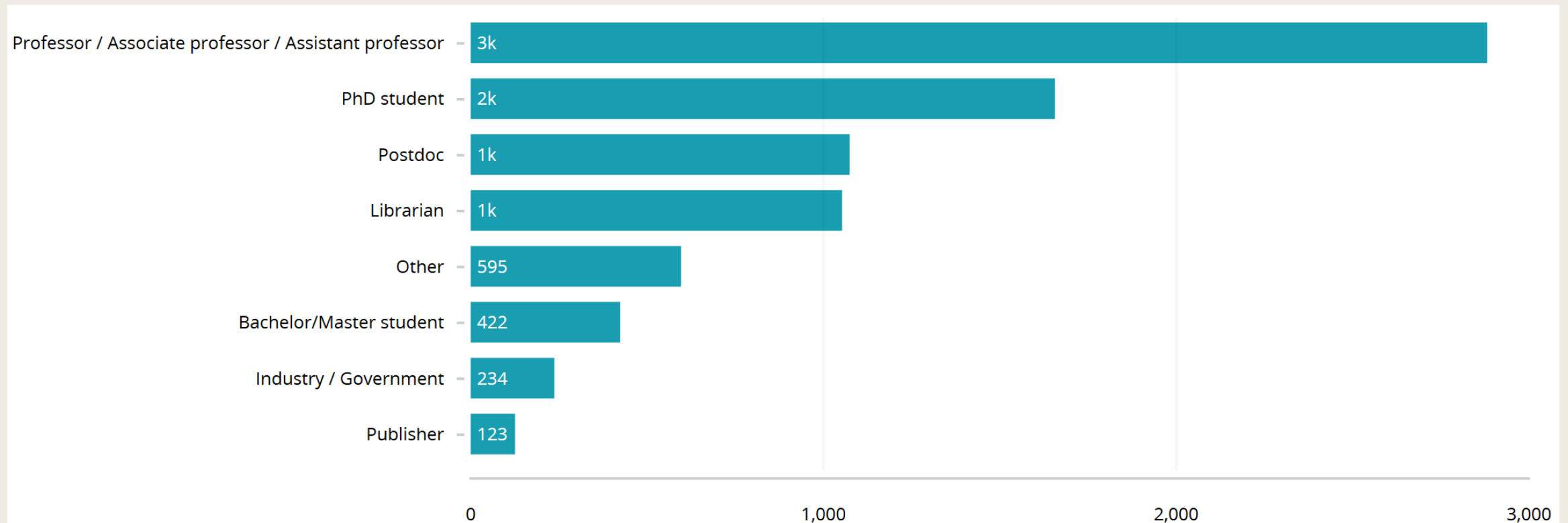
Experimental
Represent radical change, with sometimes uncertain technologies and outcomes; still under development

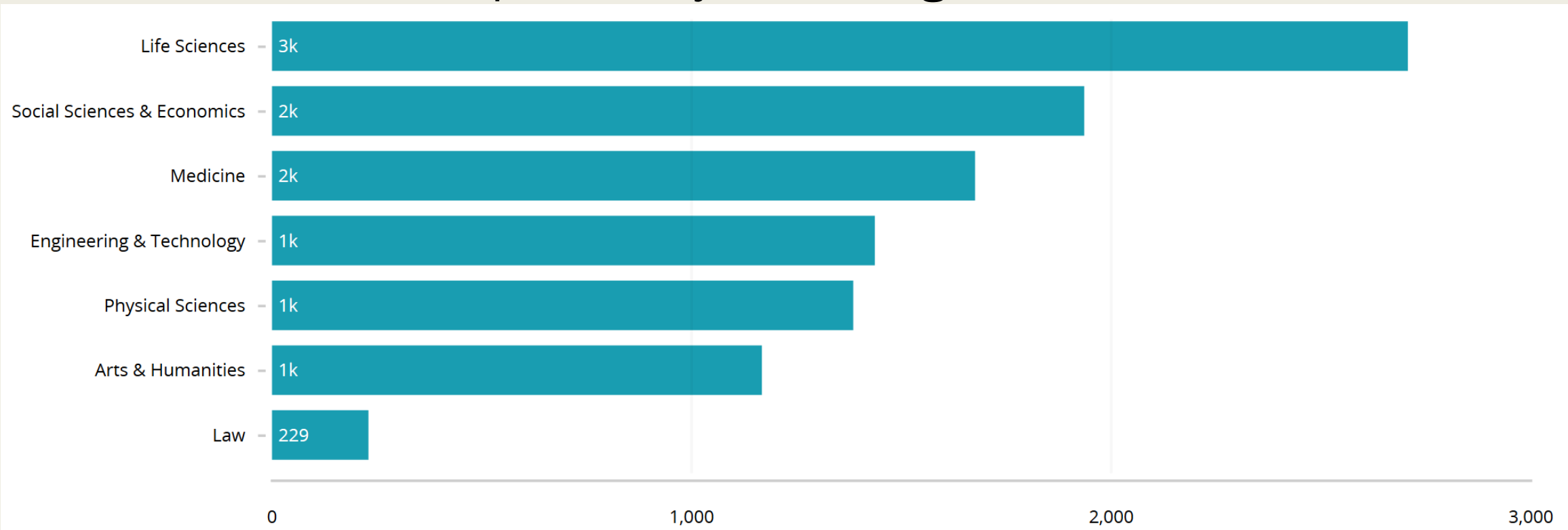# Example research workflows: traditional to experimental
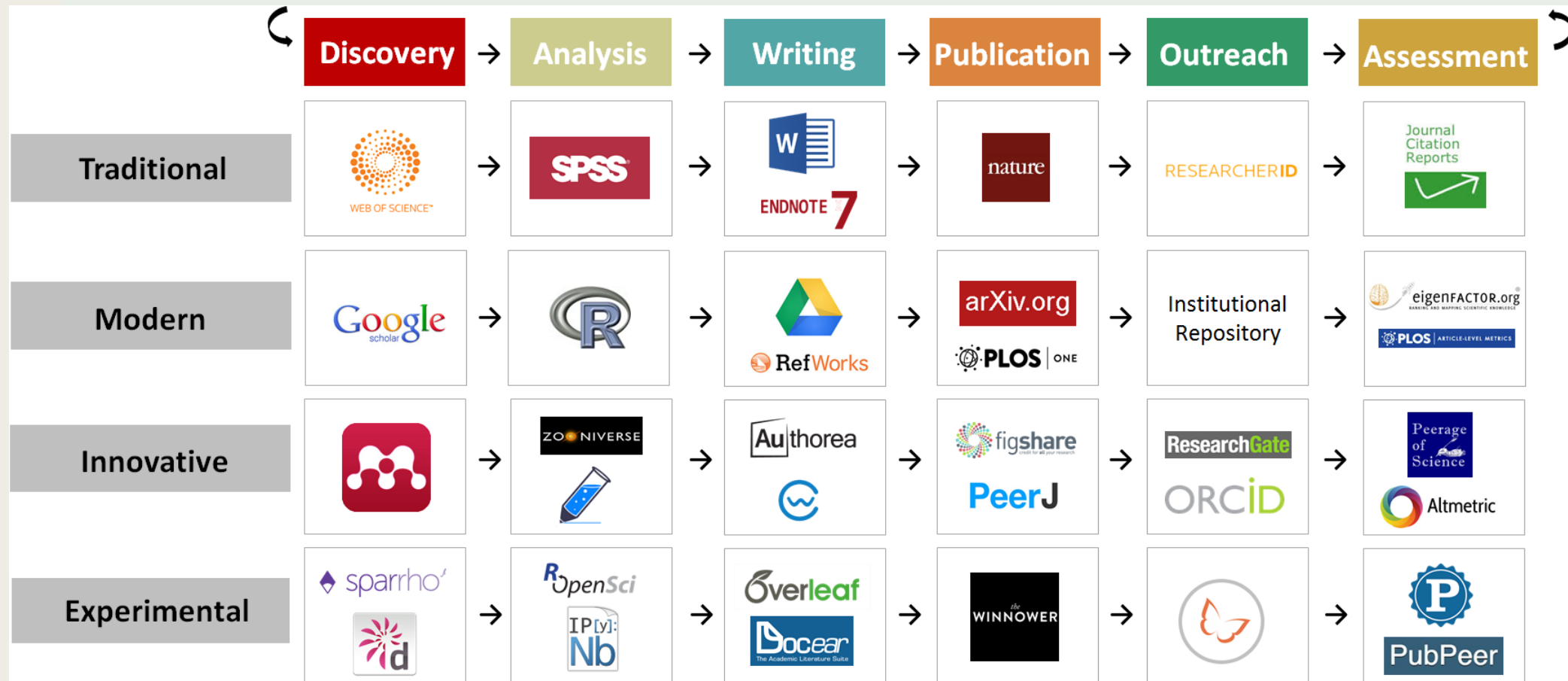
Survey: demographics (at end 2015, 8028 records)

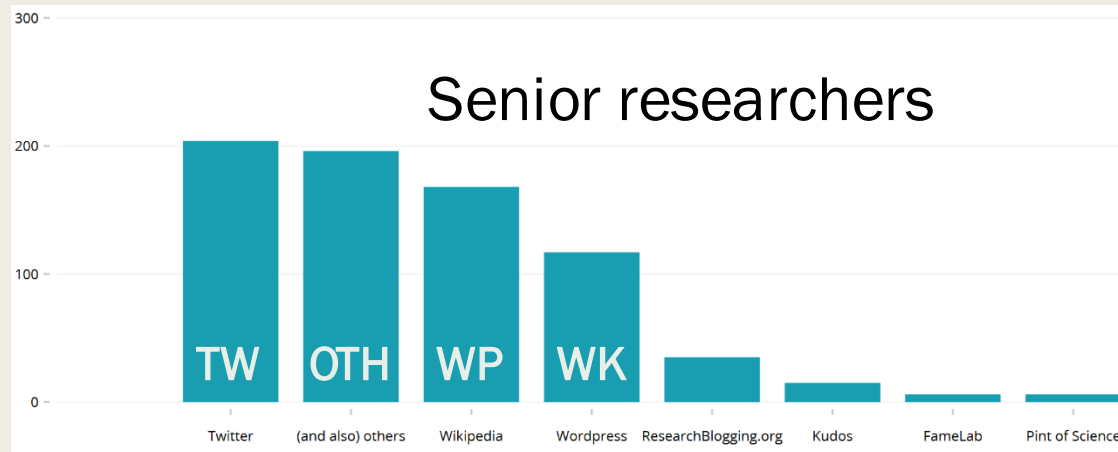## What is your research role?

Survey: demographics (at end 2015, 8028 records)

What discipline are you working in?

Discipline	Value
Life Sciences	3k
Social Sciences & Economics	2k
Medicine	2k
Engineering & Technology	1k
Physical Sciences	1k
Arts & Humanities	1k
Law	229

Early career vs. senior researchers: the example of outreach

Open Science

- The Open Science initiative aims to make research and data accessible to and reusable by the broadest possible audience.

- It encompasses such practices as open publication, open peer review, and open access;

- and, encourages the "open notebook" approach, in which the process of scientific research is openly shared, often in advance of a project's completion.

Example research workflows: company silos / open science

Reference management tools – global
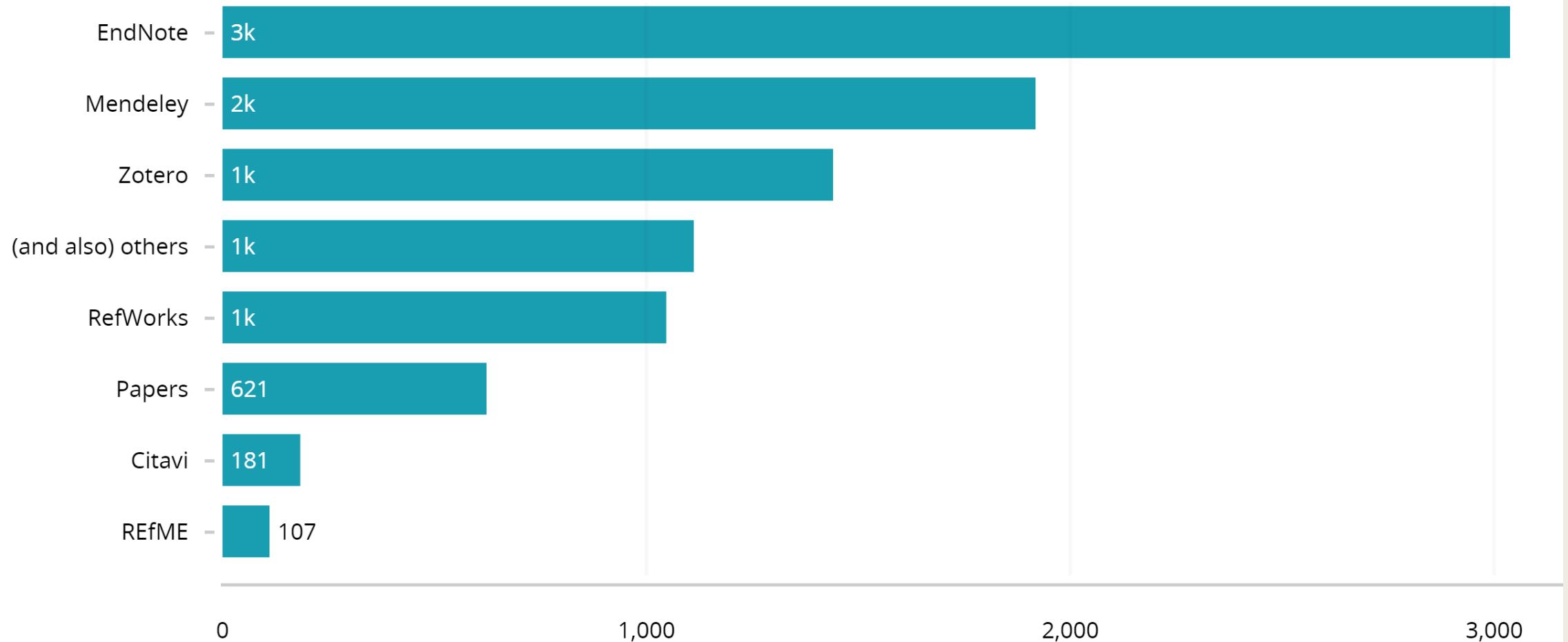
# Two service models: inside or outside the digital library

Outside-in

- Many scholars now manage their bibliographic information electronically, organizing their publication and citation from digital libraries:
  - *IEEE Xplore, ACM Digital Library, ISIS Web of Knowledge, Scopus*
  - *Citeseer, Google Scolar*

Inside-out

- Personalization
  - *Zotero, Mendeley, Citeulike, Connotea*
- Socialization

Library services across the full workflow
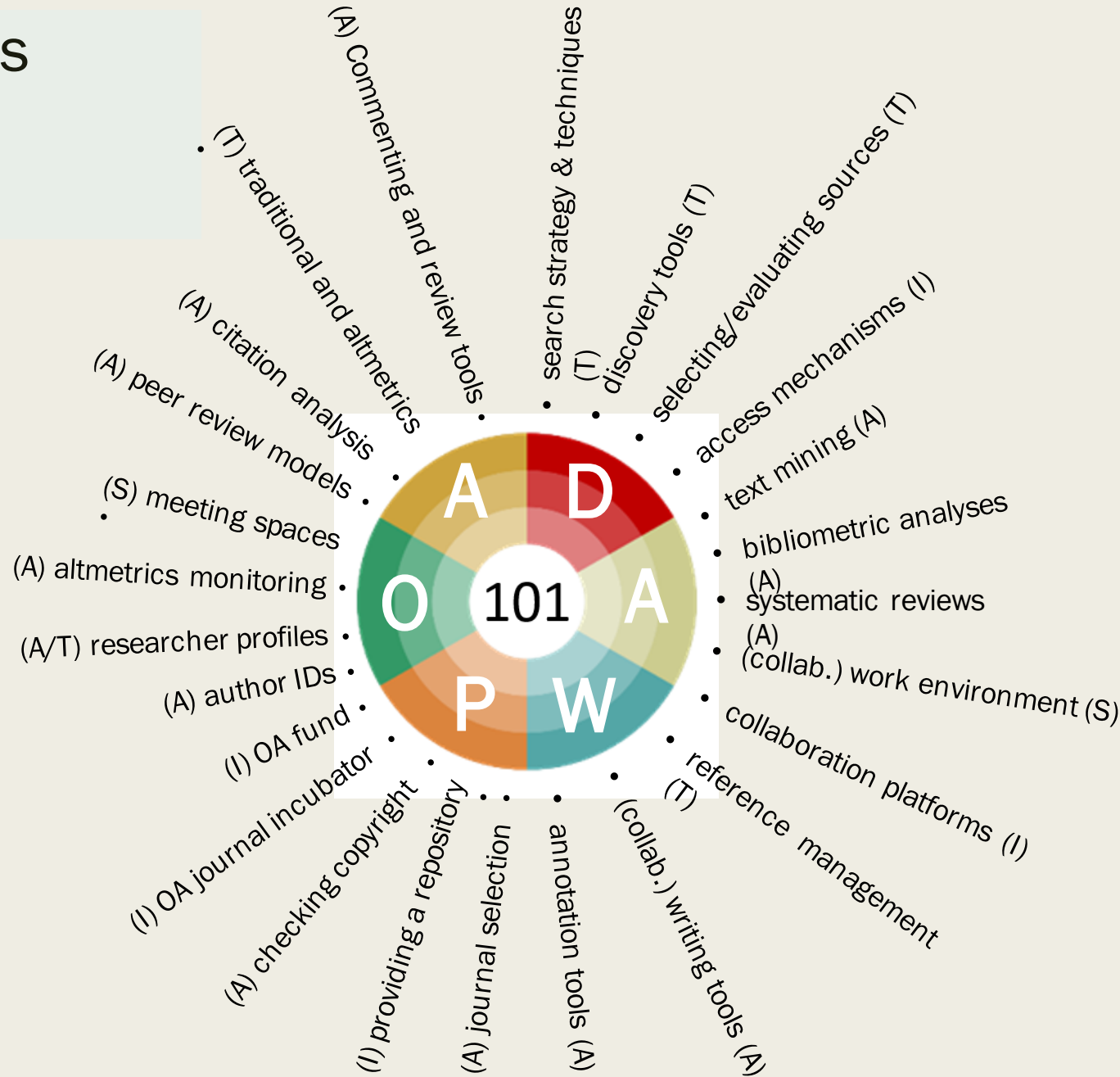
Service types:
A = advice
I = infrastructure
S = spaces
T = training

And in the research preparation phase:
- advice on OA funding
- advice on data requirements
- access to funding search engines

Research Data Repositories

- An external data archive or repository

- An institutional research data repository

- Zenodo OpenAire (CERN)

- Thematic/community repositories

Digital library services: first conclusions

- Current activities and trends inside and outside of digital libraries are connected to the roles librarians/libraries can play in helping to make these processes more readily available and adopted.

- Specific examples of how librarians/libraries are helping the transition to a more **open** exchange of scientific information can be evidenced.