

Disruptive Innovation – a closer look at networks launched by researchers

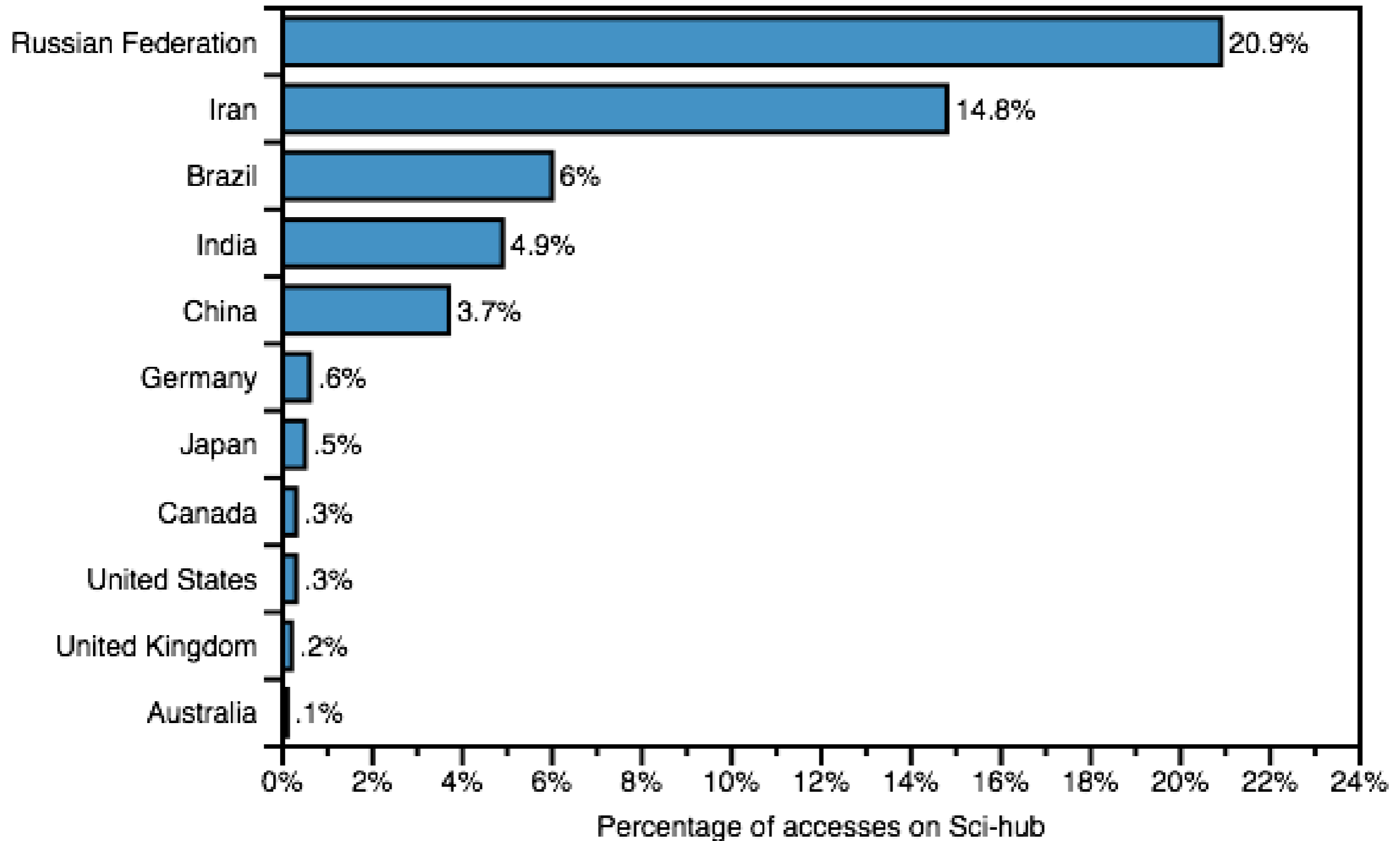
Mark Ware
@mrkwr

STM Innovations Seminar
London, 7 December 2016

Sci-Hub

- Search engine plus repository (LibGen)
- ca. 50 million articles available
 - many obtained illegally or unethically
- Top three downloading countries: India, China, Iran, but 25% from OECD countries
- estimated usage ~47 million downloads annually
 - cf. >2 billion total downloads, JSTOR 70 million, UC usage 33 million

Sci-Hub usage appears to correlate with availability of institutional resources



Private analysis by one publisher

Plum Analytics Peeks into the Sci-Hub Top 100 Downloads (Sept 2015 – Feb 2016)

- Sci-Hub users are downloading the most recently published papers
 - Most of the Sci-Hub Top 100 downloaded papers were published in 2015
 - The oldest downloaded paper is from March 1958
- It's not always about paid access
 - The second most downloaded item in Sci-Hub is freely available online
 - 16 papers out of the top 100 are freely available on the publisher's website
- Physical Sciences & Engineering, Life Sciences and Medicine Lead
- Summing the cost per download for the Sci-Hub Top 100, the total [theoretical] cost could be as much as \$2.7 million

Scholarly collaboration networks

Profiles & networking

R^G

11+ million users (academic email required). Follow interests & individuals. RG Score. Gamification

A

46 million users. Follow individuals. Stats on individuals & PaperRank



5 millions users. Workgroup focus. ALMs integrating Scopus, ScienceDirect, newsflo

Content / Discovery

R^G

100+ “publications”

A

16.6 million “papers”; 1,967,644 research interests



Private group content sharing

Collaboration

R^G

Open Review. Projects (>100k). Q&As

A

Sessions; “Editors”



“Groups” to share materials and ideas etc.

Other features

R^G

Job listings; RG Format

A

Job listings



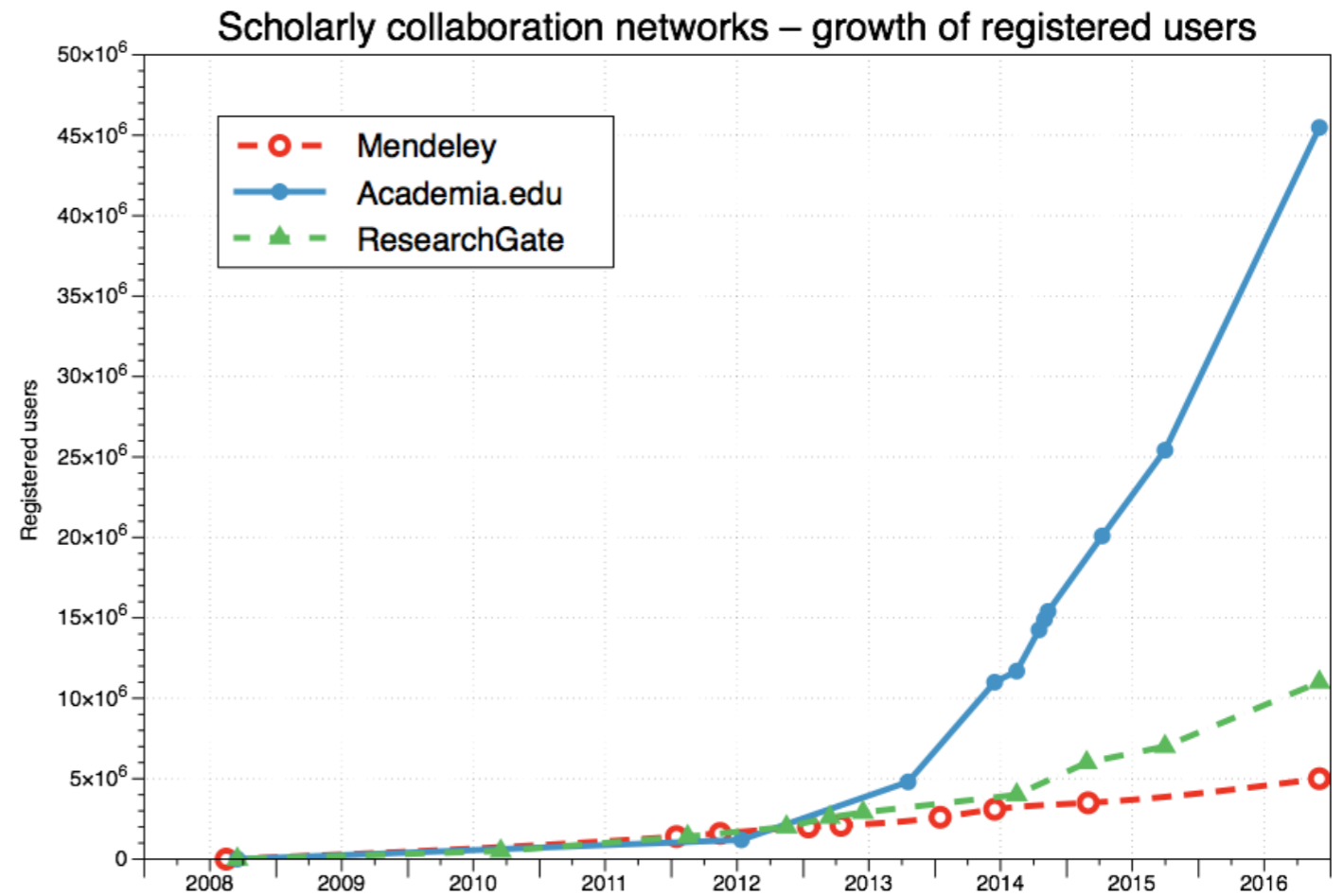
Mendeley Desktop (etc.): app for PDF and reference management

The main networks have overtaken, or are in process of overtaking, the largest publisher platforms

Metric (est. SimilarWeb)	Academia	ResearchGate	ScienceDirect	Springer
Rank	1062	674	1023	1450
Rank (Alexa)	702	486	450	631
Monthly visits	50.4	67.7	47.4	36.2
Monthly visits (claimed by site)	36			
Ave. visit duration	02:08	02:35	03:44	02:44
Pages/visit	2.0	2.6	2.6	2.6
Bounce rate	62%	55%	55%	55%

Strong and continuing growth of registered user numbers

Network	Registered users
Academia	46
ResearchGate	11
Mendeley	5
SSRN	2.2
MyScienceWork	0.5
Loop	0.3
Collexis	~0.3?



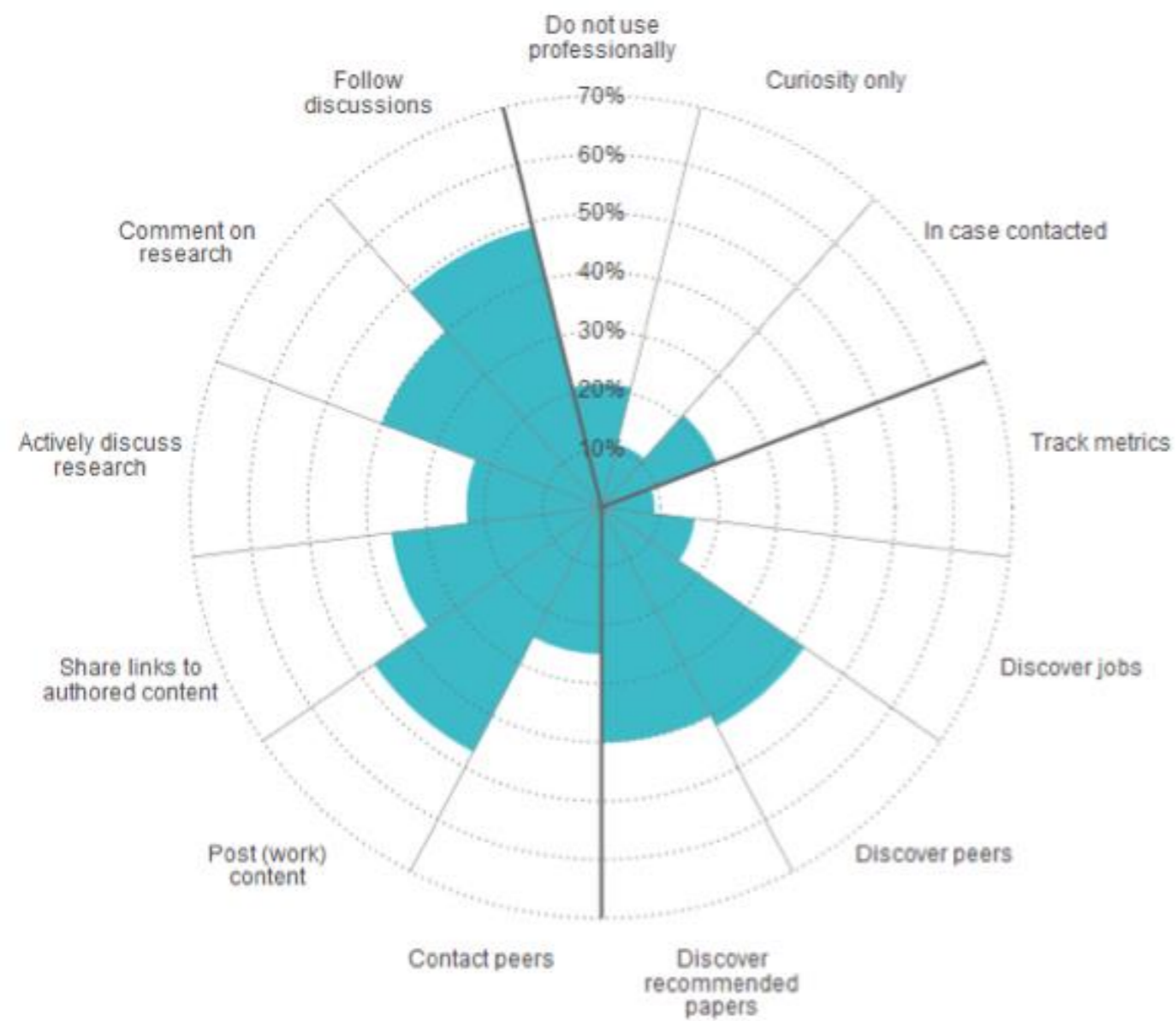
Main uses

Current uses

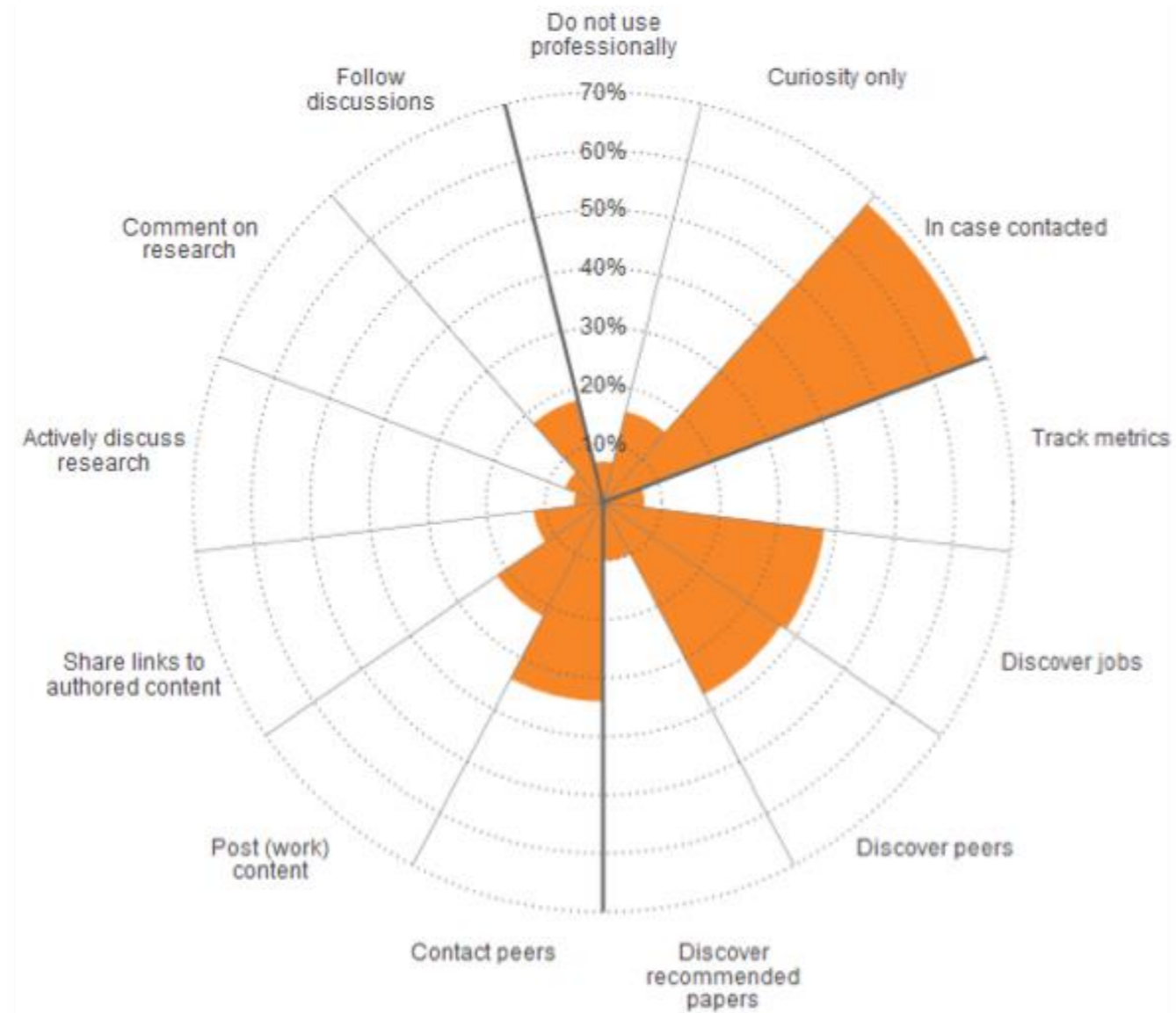
- Hosting an online profile
- Discovering research
- Sharing research
- Obtaining PDFs
- Outreach

Developing use / features

- Discussing papers
- Shared annotation
- Project organisation / sharing / home page
- Post-publication peer review



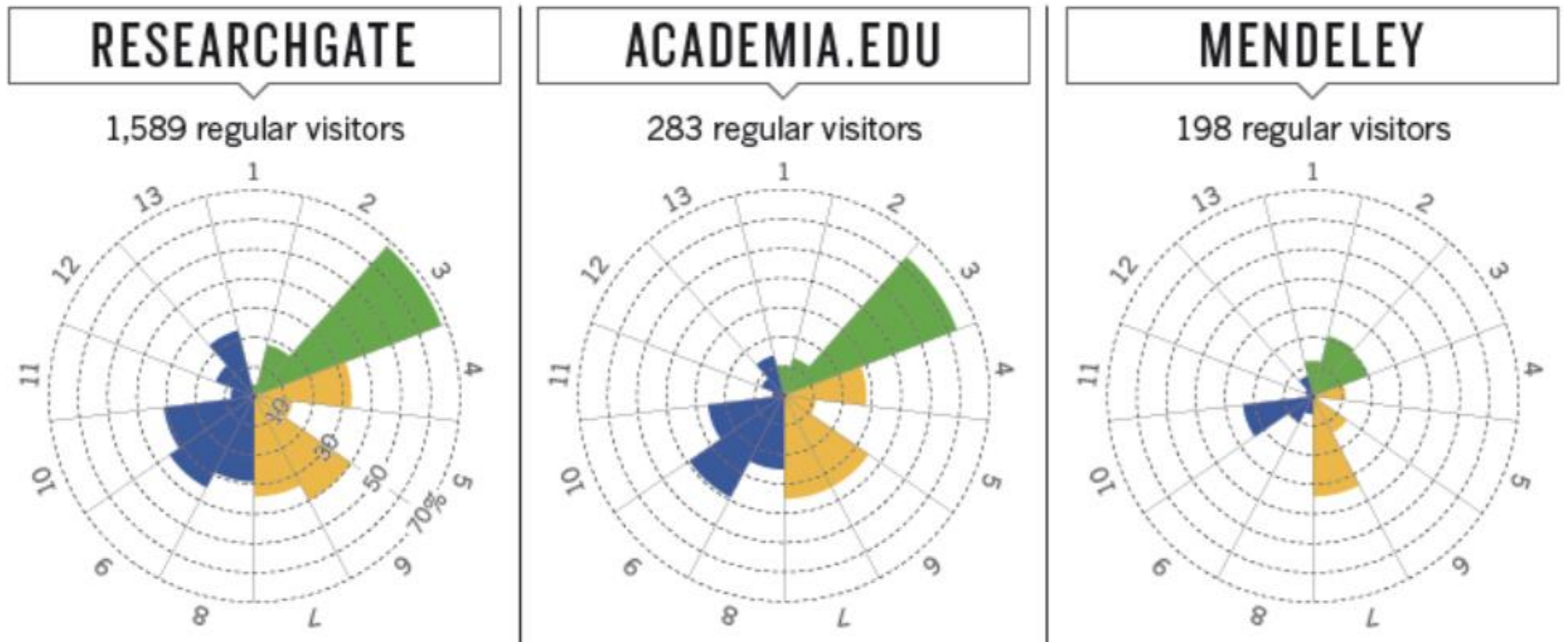
Twitter – discussion, discover peers & content



LinkedIn – profile

<http://www.nature.com/news/online-collaboration-scientists-and-the-social-network-1.15711>

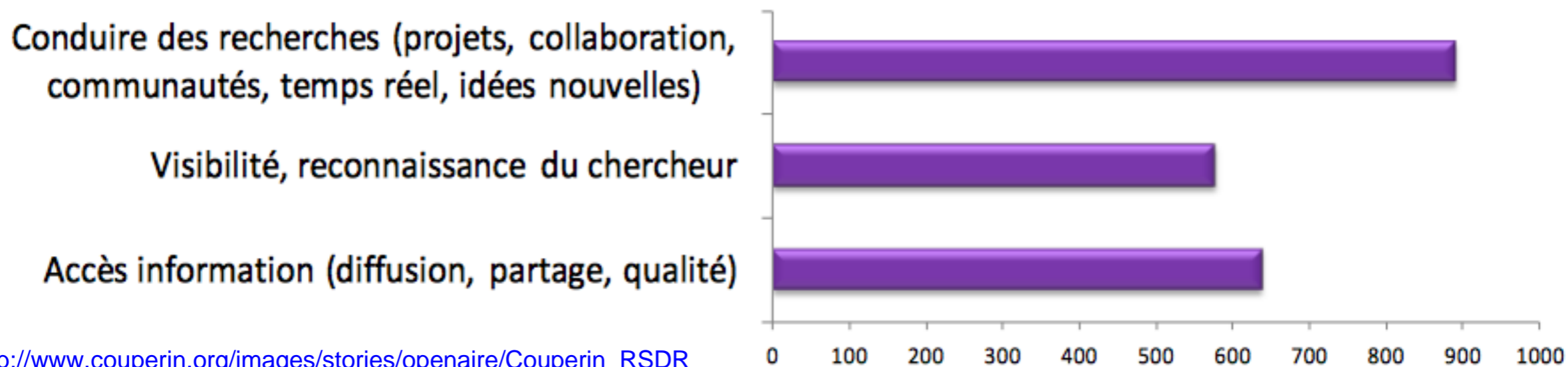
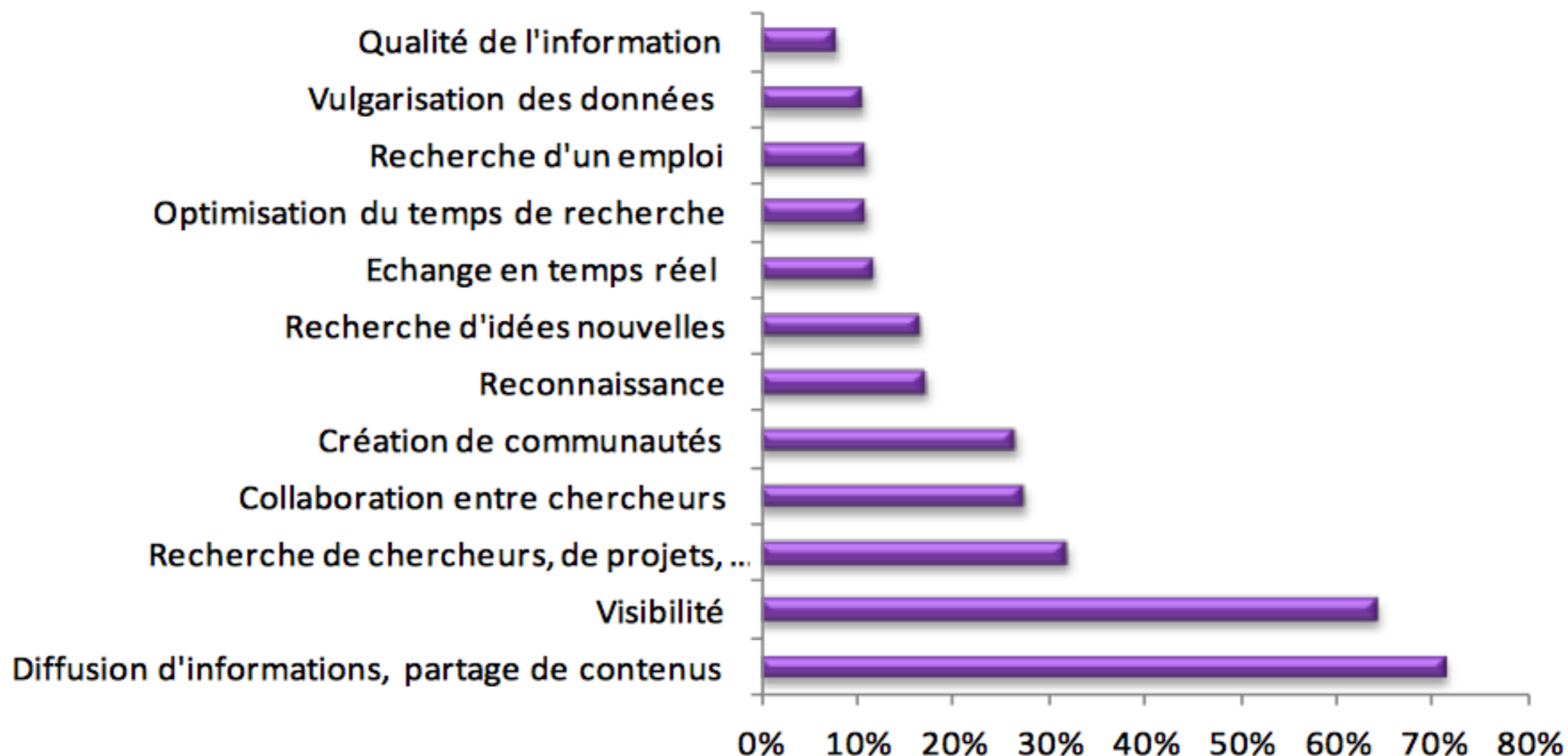
Getting a profile and discovery are a key reason for creating an account



COUPERIN (2014): Réseaux sociaux de la recherche et Open Access – Perception des chercheurs

- Francophone survey & interviews; 87% respondents from France
- 71% of researchers used “public” social media
- 60% were aware of scientific social networks
 - of which, 70% used them, hence 42% of total sample
- Most popular networks cited were:
 - ResearchGate – 64.6%
 - Academia – 23.6%
 - MyScienceWork – 0.9%
 - plus 28 others!

Fig. 14 Apports des RSDR en % de répondants
 (705 répondants / plusieurs réponses possibles, 2187 réponses)



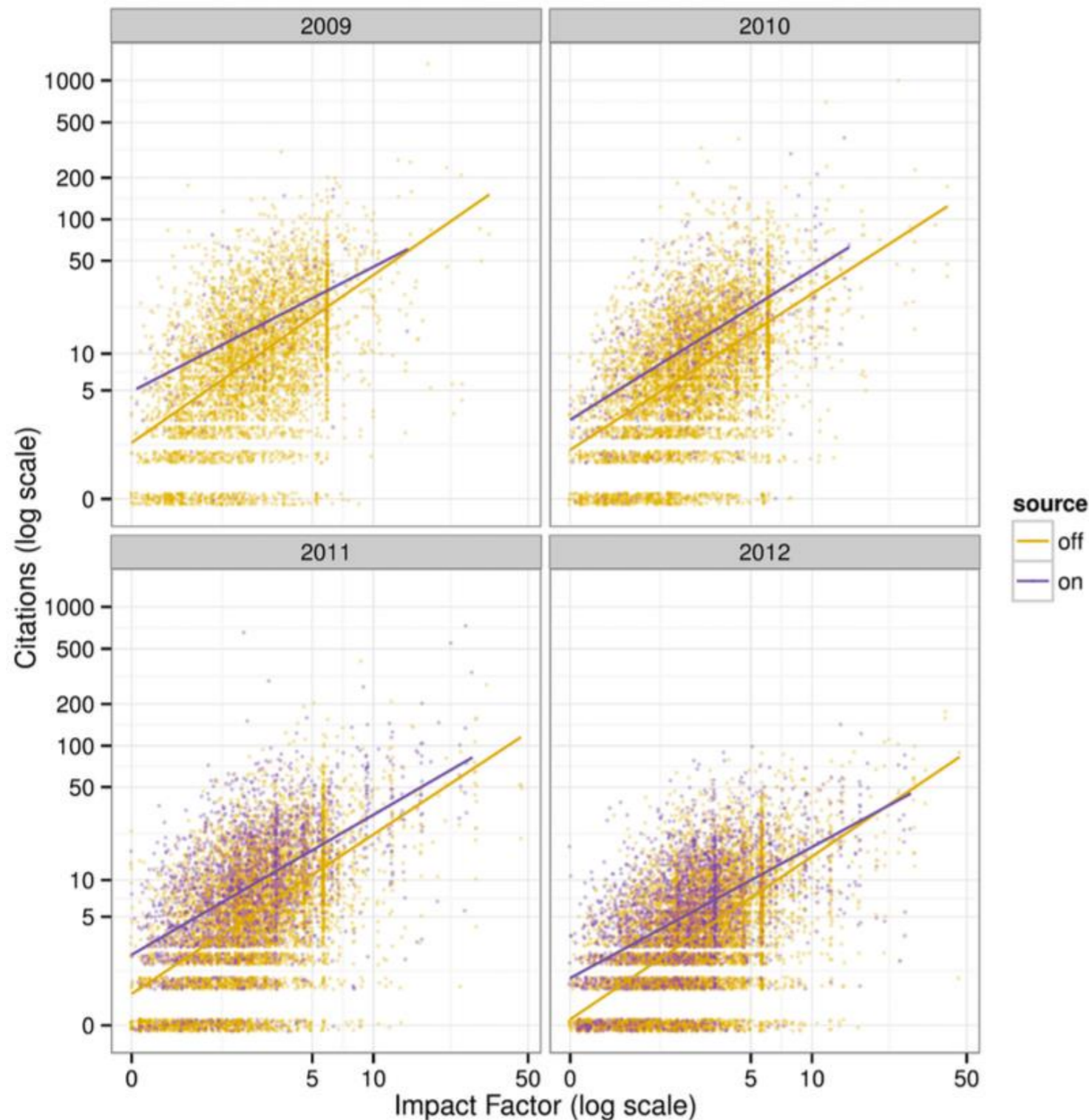
Early Career Researchers: The Harbingers Of Change? (CIBER) /1

- Year 1 of Longitudinal 3-year study, 100 ECRs in 7 countries (CH, F, ML, PL, E, UK, US), in-depth interviews (60+ questions, 60–90 mins)
- ECRs use social media passively, mostly ResearchGate
 - Many talked about sharing and most knew about and are at least registered on ResearchGate, but few used its sharing or collaborative mechanisms
 - ResearchGate (possibly the fastest grower in the field), LinkedIn and Twitter are the tools of choice
 - Main uses: finding information, communicating information, sharing, building a digital profile/presence, obtaining PDFs and engaging in outreach activities
 - The sharing of ideas and interim results using social media is little undertaken
 - Sharing research outputs ‘after publication’ via ResearchGate in particular is a different matter and is a popular activity, especially among UK researchers

Early Career Researchers: The Harbingers Of Change? (CIBER) /2

- Among those using social media in order to inform others about their research outputs in the UK, 58% use Twitter and 52% use ResearchGate. In the USA, 48% use ResearchGate and only 8% Twitter
- International collaboration through academic social networking sites, such as ResearchGate, Mendeley and Academia.edu, is thought by Malaysian ECRs to be a feasible and effective means to address important research challenges
- For the seeds of change in France we need to look at: a) ResearchGate and Google Scholar, which are becoming the major sources of information (discovering articles and obtaining PDFs)

Does posting an article to Academia increase the chance of its getting cited? It appears so



- sample of 31,216 papers
- a substantial increase in citations associated with posting an article to Academia.edu
- 16% more citations after 1 year than a similar article not [freely] available online, 51% more citations after 3 years, 69% after 5 years
- 49% more citations than one that is only [freely] available elsewhere online through a non-Academia.edu venue

The Case Of The Dormant User *or, the problem with algorithms*

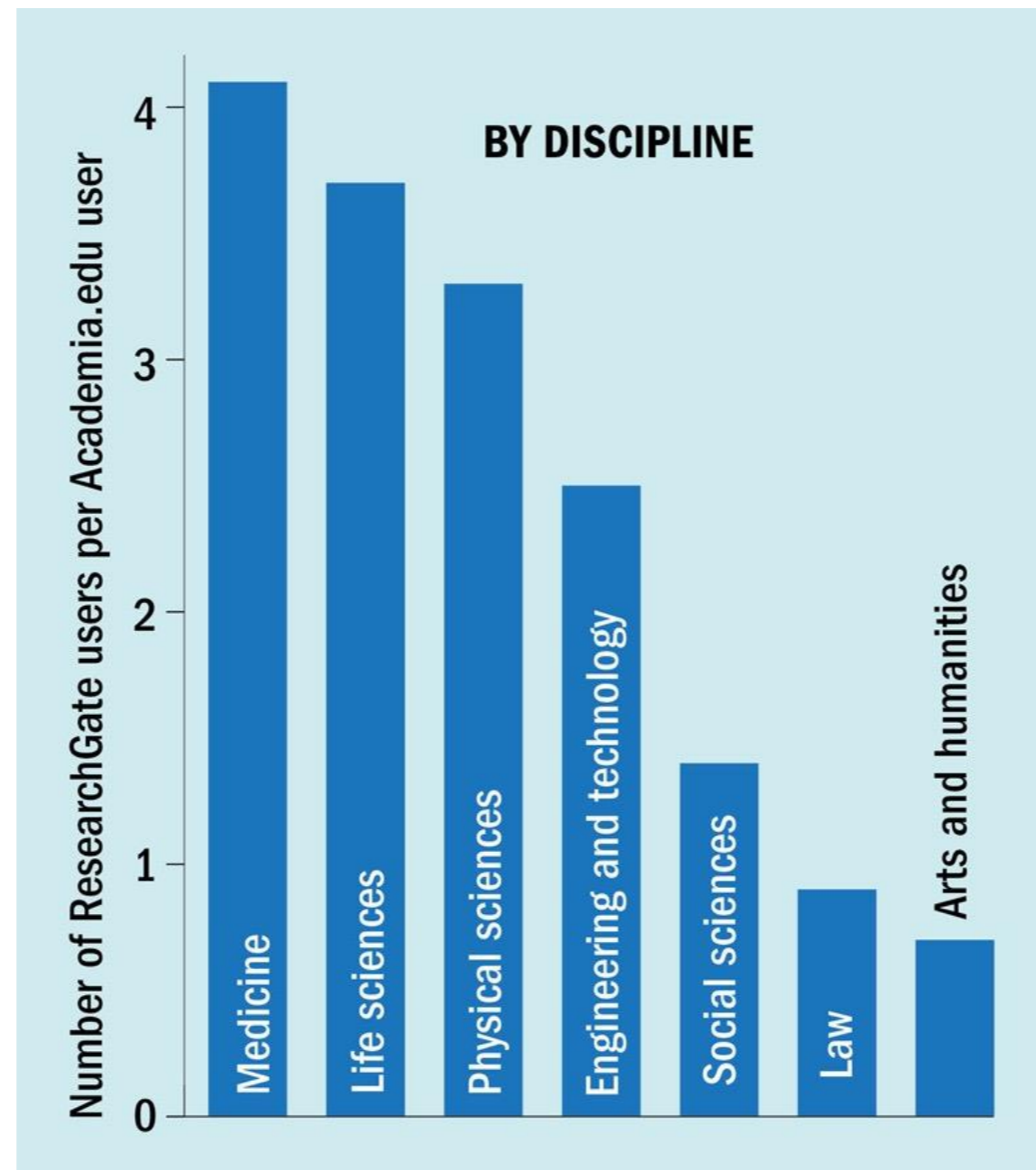
- ResearchGate account created and left untouched
- 980 emails received in 12 months (57 default notifications)
- 431 publications attributed – true no. was 6
- RG Score in top 97th percentile

Summary Data Related to Publications	
Authored publications	431
Views by other users	25,555
Full-text downloads by other users	4244
Full-text requests by other users	27
Citations made by other users	3815
Summary Data for User Profile Views	
Views by other Users	830
Actions related to Other Users	
Co-authors	258
Followers	478
Following	476
Invitations sent to others to join ResearchGate	38 (297 invitations sent to 38 different individuals)
Overall ResearchGate Scientific Reputation Score – 45.7 (97th percentile)	

ResearchGate statistics

- 11+ million registered users
- 10,000 sign-ups per day
- 100+ million publications
- 2.5 million research items shared per month
- 1 million answers to research questions
- 100k+ Projects
- ... & (a lot) more web traffic and faster usage growth than publisher platforms

“ResearchGate is more than twice as popular as Academia” – *THE*



The tool of choice...

Problem	1st ranked	2nd ranked
Access to literature	Institutional access	ResearchGate
Alerts / recommendations	Google Scholar	ResearchGate
Archive/share publications	ResearchGate	Institutional repository
Researcher profile	ResearchGate	Google Scholar Citations



Publisher content available on ResearchGate

- Two large publishers estimate fraction of their content on ResearchGate at 5% and 12%. For Publisher A:
 - 80% of entries on RG were from author-provided uploads of manuscripts or full text articles
 - 20% of entries on RG were scraped from another site: publisher's platform, PMC, arXiv, etc.
 - all articles scraped from publisher site were freely available at time of access, & all these only available on RG as a "Preview" (i.e. view only, no PDF download)

Business numbers & plans

- \$35 million in funding (2013)
 - Bill Gates, Tenaya Capital, Benchmark (Matt Cohler – ex-Facebook), etc.
- 300 staff (Nov) – up from 200 in April 2016, 120 in March 2014
 - burn rate?
- reported loss of €5.4 million in 2014
- Madisch talks of IPO rather than selling:
 - When? “There are still no specific plans”
 - Next year [2017]? “No comment”

ResearchGate

Startup Business Models

Business Models

+2



What is ResearchGate's business model?

Request ▾

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14

Comment

Share

Downvote



Can you answer this question?

Answer

A: Advertising

- 100 sales staff, out of total 300 (Nov 2016)
- To date: job ads (\$499 for 30d; subscriptions) & lab equipment classifieds
- Now: aggressive launch of targeted specialist advertising
 - conversion rates 5x industry norms in tests
 - CPM €32
- Ad market targeted
 - specialist scientific equipment & materials
 - €51bn global, €10bn in US [a.t. Madisch]
 - only 30% online/ecommerce
 - efficiency gains, e.g. cf. scientific exhibitions
 - “democratising”, i.e. giving access to smaller companies

Any questions?

Mark Ware Consulting

www.markwareconsulting.com

@mrkwr

