



STM Report 2018: A Taster

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The global voice of scholarly publishing

The STM Report

An overview of scientific and scholarly publishing



1968-2018

Celebrating the 50th Anniversary of STM

Rob Johnson
Research Consulting

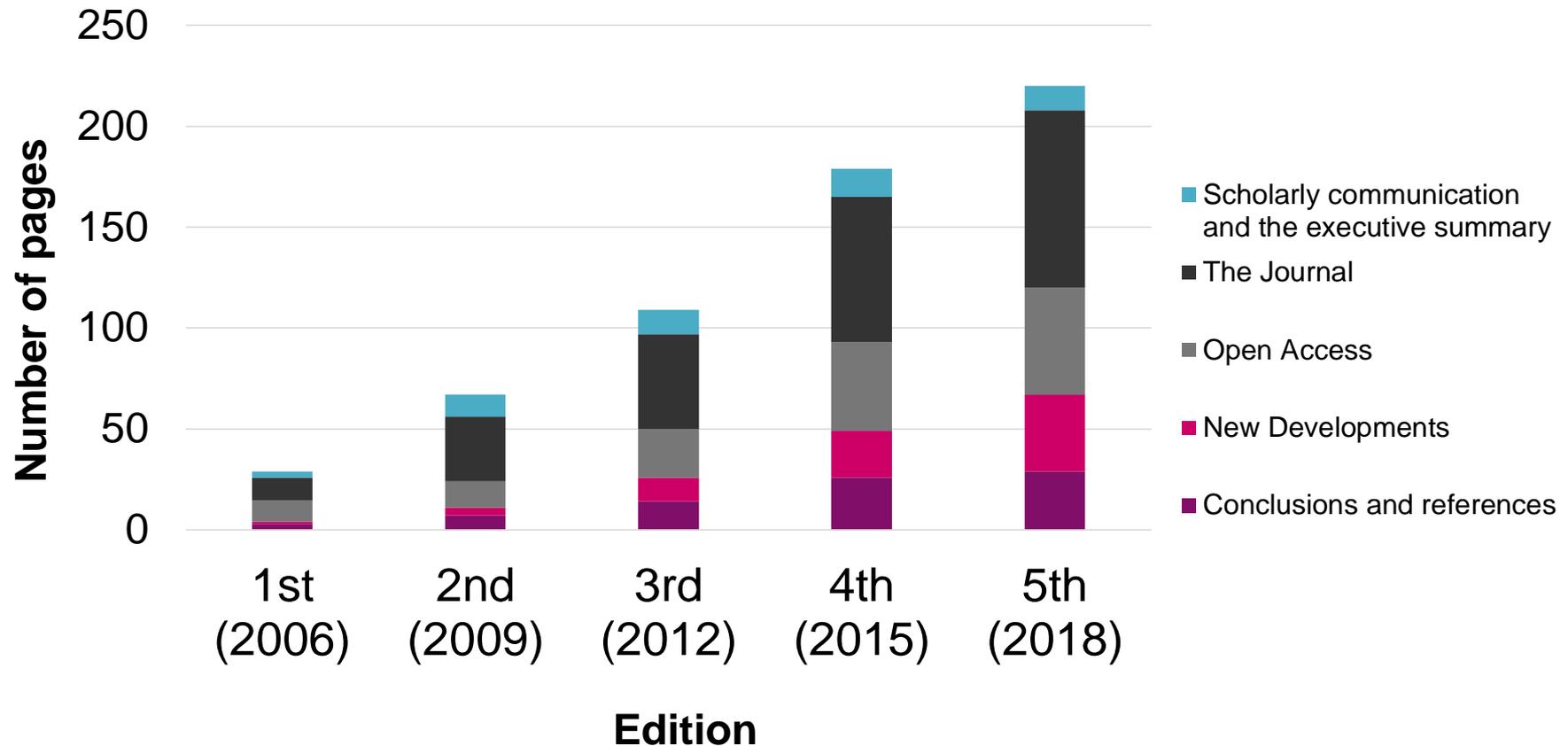
Anthony Watkinson
CIBER Research

Michael Mabe
The International Association of Scientific,
Technical and Medical Publishers

Fifth edition, October 2018



The development of the STM Report



STM Market Characteristics

Annual STM English-language journal revenues about **US\$10 billion** (2017)

- CAGR 2.1% (2013 US\$9.1 billion)

Broader STM market about **US\$25.7 billion** (2018)

- STM Books worth **~US\$3.3 billion** annually; e books **~1/3rd** (2016) and growing at a faster rate than the market as a whole

STM revenues by geography:

- **41%** US; **27%** Europe/Middle East; **26%** Asia/Pacific; **6%** Rest of World

STM workforce:

- Estimated at **110,000** globally, **40%** employed in the EU

STM Journal Market

33,100 active scholarly peer reviewed English–language journals
(mid-2018)

- Growing at around 5% pa

3 million articles published per year

- Growing at 4%pa

The number of researchers is currently ~ **7/8 million**

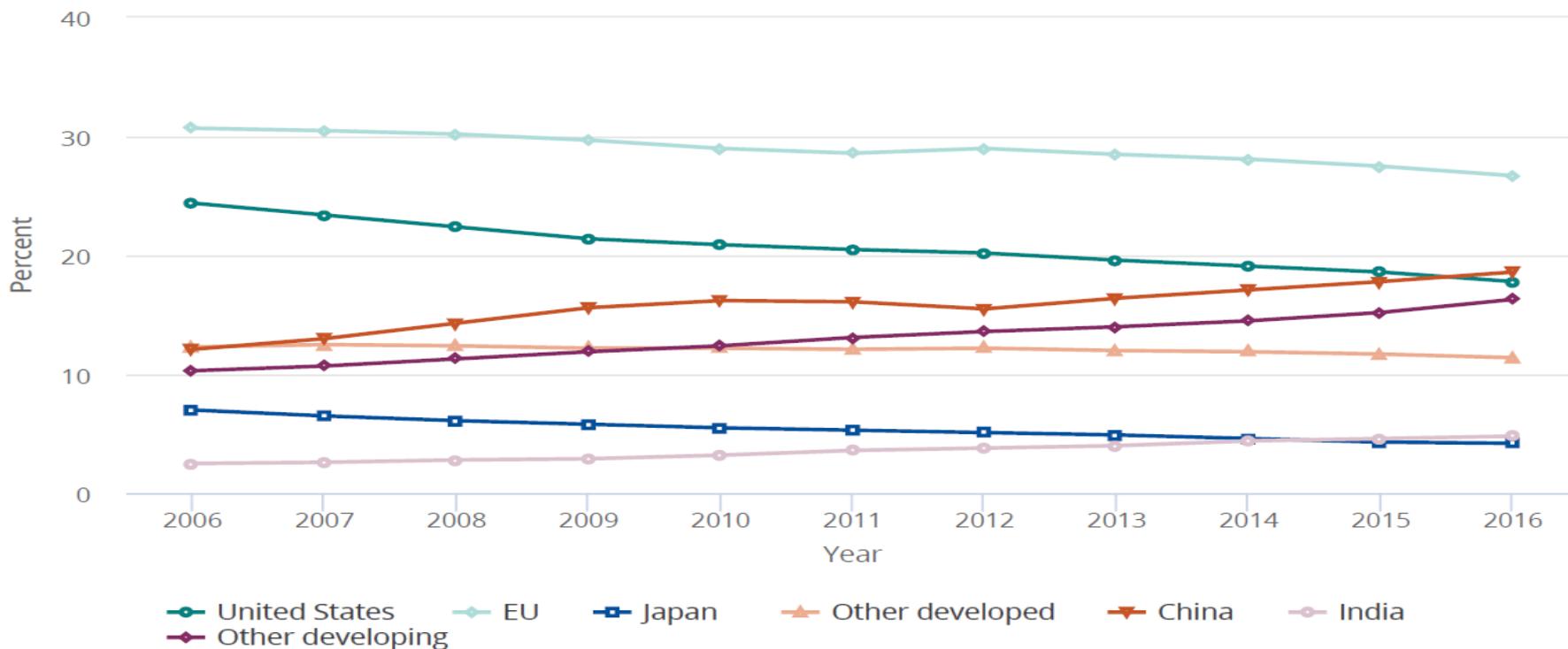
- Researcher numbers are rising, but only about 20% are repeat authors

A shifting global landscape

Rank	Country	% of global outputs (2016)	Ranking change since 2006
1	China	18.6	↑1
2	US	17.8	↓1
3	India	4.8	↑7
4	Germany	4.5	—
5	UK	4.3	↓1
6	Japan	4.2	↓3

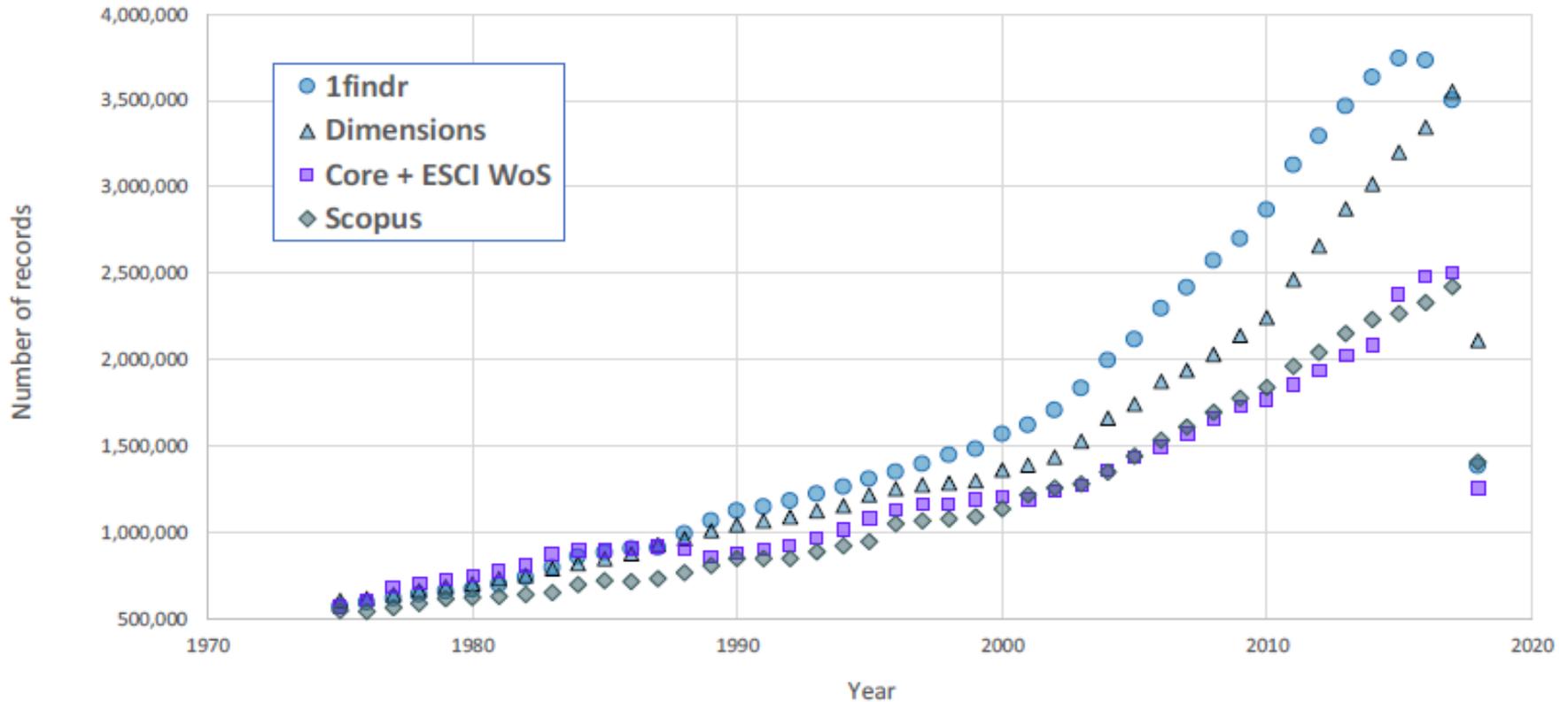
National Science Board (2018). *Science and Engineering Indicators 2018*. NSB-2018-1. Alexandria, VA: National Science Foundation

Global shares of article outputs 2006-16



National Science Board (2018). *Science and Engineering Indicators 2018*. NSB-2018-1. Alexandria, VA: National Science Foundation

Articles indexed from academic & scientific journals 1975-2018



Courtesy of Eric Archambault (Science-Metrix)



Researchers

- Researcher core motivations for publishing unchanged
- Reading patterns appear to have stabilised
 - Reading 250 articles p.a. (disciplinary variation)
 - Search dominates over browse (disciplinary variation)
 - Very little time spent on publisher web sites
- Continuing innovation in peer review
 - Much experimentation but still limited support for post publication review



Technology

- **Data, data, data!**
 - Policies for deposit and sharing (RDA)
 - Data citation (DataCite & Scholix)
- **Growth in web-scale discovery tools**
 - Offer new perspectives on content and relationships
- **AI is now a viable tool with real applications**
 - Largely helped by the large amount of data available, the low price of software and improvements in self-learning algorithms
- **Growing use of preprint servers**
 - 20% of preprints on arXiv never published in journals, growing development of preprint culture in other disciplines



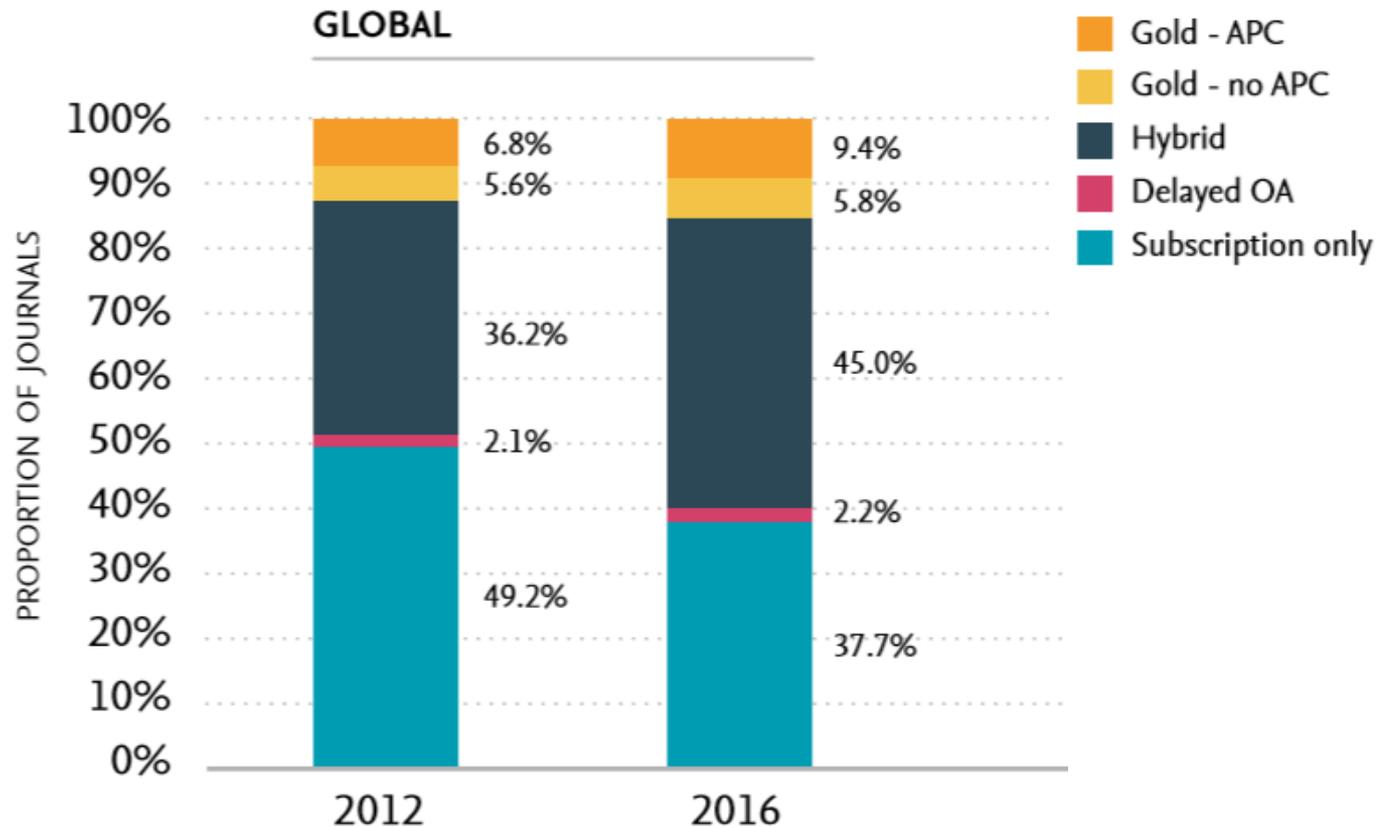
Business Models

- Aggregation remains the norm
 - The bundle model under pressure from librarians
 - “Big Deal” remains important, but increasingly tied to OA
- Access to STM content at an historic high
 - Annual downloads greater than 2.5 billion
- The most commonly cited barriers to access are cost and pricing related
- *Research4Life* provides free or very low cost access for 8,500 institutions in 118 developing nations to nearly 20,000 journals

Open Access

- Degree of penetration of various OA models is complex
- DOAJ lists 11,811 (9,172 in English) OA journals
- Overall OA article penetration is approximately 1/3rd
 - 15-20% (Gold or articles in OA journals)
 - 10-15% (Delayed access on publisher websites or self-archived copies)
- OA only c.5% of total market revenues

Changes in publishing models



Universities UK (2017). Monitoring the Transition to Open Access. Universities UK, December.



Trends Since 2015 Report

The megajournal is established but by no means the dominant form

- Increase in number of megajournals linked to increase in research output, rather than displacing existing journals

From open access to open science

- Increasing tendency for (some) funders to intervene in the scholarly communications process

Impact of social networks is growing

- However it continues to lag well behind trends in consumer media

Publishers as workflow and analytics businesses

- Serving other parts of the research workflow via acquisition and new product development

Future Prospects?

- **Some constants** in fast changing world
 - Oldenburgian functions remain fixed (registration, dissemination, certification and archive)
 - Author motivations remarkably constant
- Continued focus on **trust and transparency**
- **Shifting centre of gravity** towards the East - peer-reviewers, editors, publishers
- Increased emphasis on **data and open science**
- **Open access transition** will continue
 - Further downward pressure on per article costs is inevitable
 - Momentum for uptake growing, especially in Europe, but may lead to fragmentation
 - Top (high rejection rate) journals remain subscription-based?
 - OA in books and educational resources
- Accelerating pace of **market and technology innovation**
 - Set in part by leading consumer brands

Predicting the future...

"Everyone's always asking me when Apple will come out with a cell phone. My answer is, 'Probably never.'" — David Pogue, Tech writer at The New York Times, 2006.

