STM Report 2015: A Taster

Michael A Mabe
CEO, STM
Journal@350
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The STM Report
An overview of scientific and scholarly journal publishing
Celebrating the 350th anniversary of journal publishing

Mark Ware
(Mark Ware Consulting & Outsell, Inc.)

Michael Mabe
(International Association of Scientific, Technical and Medical Publishers)

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STM Market Characteristics

- Annual STM English language journal revenues about **US$10 billion** in 2013
  - CAGR 4.5% (2008 US$8 billion)
- Broader STM market (including books and datasets) about **US$25.2 billion** in 2013
  - STM Books worth ~US$5 billion; e books 17% and growing fast
- By geography
  - 55% US; 28% EMEA; 14% APAC; 4% RoW
- By employment: 110,000 globally
  - 20-30,000 in Europe
STM Journal Market

- 28,100 active scholarly peer reviewed journals exist late 2014
  - Growing at about 3.5%pa
- 2.5 m articles published per year
  - Growing at 3-4%pa
- USA dominates paper output still (23%) but China now in second place (17%)
  - US leads citations (36%), China 11th (6%)
- UK (7%), Germany (6%), Japan (6%) and France (4%)
Journal Growth 1665-2014

Journal growth
[Original Source: M A Mabe The number and growth of journals Serials 16(2).191-7, 2003]

Total number of active refereed learned journals in 2014: 28,100

Data from Ulrich’s International Periodicals Directory

R² = 0.9877

CAGR 3.46%
Relationship of Journals & Researchers

More researchers ⇒ more journals
Global Article Authorship

1999-2003
5.49M

2004-2008
7.33M

Fig a

Fig b

Key
- United States
- Japan
- United Kingdom
- Germany
- France
- China
- Italy
- Canada
- Russia
- Spain
- Other

Knowledge, networks, nations: Global scientific collaboration in the 21st century.
RS policy document, March 2011 – data from Scopus
Researchers

- Researcher core motivations for publishing unchanged
- Reading patterns are changing
  - Reading more (270 articles pa)
  - Reading times down (just over 30 min)
  - Search dominates over browse (discipline variation)
  - Very little time spent on publisher web sites
- Peer review viewed as fundamental
  - Much experimentation but little support for post publication review
Technology

• Virtually all STM journals are online
• Social networks have yet to make same impact in STM space as consumer media
• Except for healthcare professionals mobile devices have yet to significantly change how researchers interact with content
  – Less than 10% of STM platform traffic from mobiles
• Data, data, data!
  – Policies for deposit and sharing (RDA)
  – Data citation (DataCite)
  – Data journals
• TDM
  – CrossRef TDM tools, CCC and Infotrieve services
Business Models

• Aggregation the norm; licensing still dominant
  – Supply side: the Big Deal
  – Demand side: Consortia

• Access to STM content at an historic high
  – Annual fta downloads greater than 2.5 billion

• National site licences and public library access

• Research4Life provides free or very low cost access for 7,700 institutions in 109 developing nations to nearly 20,000 journals
Open Access

• Degree of penetration of various OA models is complex (not least because OA models are not all well defined)

• DOAJ lists 10,090 (7,245 in English) OA journals

• Overall OA article penetration about 27-29% pace EC 50%!
  – 12% (Gold or articles in OA journals)
  – 5% (Delayed access on publisher websites
  – 10-12% (self-archived copies)
OA Variability by subject

Source: Björk et al. 2010
Trends Since 2012 Report

• Web is now dominant

• Social networks yet to take off
  – Those that do exist are used mainly for reference or article sharing rather than social interaction

• Smart phone adoption – limited impact
  – except tablets with healthcare professionals (curiously appropriate one feels!)

• Access levels are high and continue to grow
  – 2.5+ billion downloads at very low cost ($1 per paper)

• Big deal licensing remains majority model
  – Some criticisms but likely to evolve rather than die out
  – Still business model for 70+% of articles
Trends Since 2012 Report

• Globalisation continues apace
  – China moving to lead in article output
  – India and Brazil expanding research base

• In 2012 clear policy shift to Gold OA identified but in 2015 more Green tinted
  – Virtually all funders will pay for Gold APC but policies lean heavily to Green
  – Green = “nobody pays” model attractive for policy makers
  – Publisher unpopularity and lack of trust a major issue here
Future Prospects?

• Some constants in fast changing world
  – Oldenburgian functions remain fixed (registration, dissemination, certification and archive)
  – Author motivations remarkably constant
  – BUT mega journals seem to run counter to this

• Growth in volume and complexity

• Increased focus on data

• Open access transition will continue
  – Momentum for uptake remains but may stall at a mixed market position
  – Will apc rates rise or fall or stratify?
  – Top (high rejection rate) journals remain subscription-based?
  – Embargo periods remain of much debate but not change much?
  – OA in books and educational resources

• Accelerating pace of market and technology innovation
  – Set in part by leading consumer brands
"There will never be a mass market for motor cars — about 1,000 in Europe — because that is the limit on the number of chauffeurs available!" — Gottlieb Daimler, inventor of the gasoline-powered automobile, 1889