Scholarly Publishing in the Digital Age: Latest Developments, Current Trends & Future Outlook

Youngsuk “Y.S.” Chi
President, IPA
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Who I am

International Publishers Association

2014 IPA Congress MOU Signing Ceremony between International Publishers Association and Thailand
Who I am

My ‘day jobs’

Today:
• Chairman, Elsevier
• Director, Corporate Affairs, Reed Elsevier

Previously:
• Chairman of Random House Asia & President of Random House
• President & CEO positions with Ingram Distribution Holding and Ingram Book Group
• Co-founder of Lightning Source – first print-on-demand company in book industry
Who I am

Highly active in communities

Member of the Board of

- American Association of Publishers
- International Association of Scientific, Technical & Medical Publishers
- Princeton University Press
Where I have lived

My home today
Where I have worked and visited since 2011
Publishing industry over time
Publishing today

Sharing of publishing in the media and entertainment industries (2012)
Publishing today

Market share of publishing (all sectors, bn $US, 2012)

- **Magazines**: $107bn
- **Video games**: $63bn
- **Music**: $50bn
- **Movies & Entertainment**: $133bn
- Total: $151bn
E-reading is up

E-reading device ownership
% of Americans who own e-book readers, tablet computers, or at least one of those devices

E-reader adoption

E-reader penetration by country (2010 – 2012)

Sources: Bain survey “L’écrit et le Numérique”; Bain analysis
E-books are growing

E- and Print Book Sales in the U.S.

Source: AAP, Bookstats, 2012
Growth in e-books in the U.S.

Source: AAP, Bookstats, 2013
Growth in e-books in China

Source: 2010-2011 China eBook Development Trend Report
STM e-book market

STM E-Book Market, Size and Growth, 2011

Source: Outsell's Information Industry Database
Researchers in the digital age expect instant gratification

Information should be:

- Validated
- Interoperable
- Easy to find
- Backed up
• 2.4 billion users worldwide (34.3% of the total population)
• Usage growth 566.4% since 2000

Growing R&D inputs

- The world spent over US$1.5 trillion on R&D in 2012
- In 2012, South Korea spent $56B, France spent $50B (PPP USD)
- In 2011, India’s investments in R&D were roughly equivalent to the UK’s, at around $40B annually
- US R&D spending was up 1.5% over prior year to $419B. China’s spending rose 11.3% over the year.
Rising research output

Source: SciVal
R&D output growth

**Article Output and Growth (2008 – 2012)**

- **United States**:文章输出和增长
- **China**:文章输出和增长
- **United Kingdom**:文章输出和增长
- **Germany**:文章输出和增长
- **Japan**:文章输出和增长
- **France**:文章输出和增长
- **Canada**:文章输出和增长
- **Italy**:文章输出和增长
- **India**:文章输出和增长
- **Spain**:文章输出和增长
- **Australia**:文章输出和增长
- **Korea (Republic of)**:文章输出和增长
- **Brazil**:文章输出和增长

**Source:** SciVal
Total Citations (2005 – 2012)

Source: SciVal
Rise of emerging nations

Share of global publishing industry, by region

- 33% European Union
- 26% USA
- 18% BRIC countries
- 22% Rest of the World

Source: IPA research
Increased output from emerging nations

Proportion of global authorship by country (2008 - 2012)

1999 - 2003

2008 - 2012

Asia leads in R&D spending growth

Share of Total Global R&D Spending

Source: Batelle, R&D Magazine, 2012  *2013 numbers are forecasts
New role for publishers

Right information in the right context at the right time
Migration to e-journals

Growth in usage

Source: RIN report on “E-journals, their use value and impact”, Part I, April 2009, CIBER/University College London
Accessible anytime, anywhere
agreeably varied, while my manners would be none the worse for Herbert’s society. Mr. Pocket did not object to this arrangement, but urged that before any step could possibly be taken in it, it must be delicately plan would save Herbert’s expense, so I went off to Little Britain and imparted my wish to Mr. Jaggers.

“If I could buy the furniture now hired for me,” said I, “and one or two other little things, I should be quite at home there.”

“Go it!” said Mr. Jaggers, with a short laugh. “I

**im-part** /ɪmˈpɑːrt/ v. [trans.] make (information) known; communicate: teachers **had a duty to impart strong morals to their students.**

**SPECIAL USAGE** bestow (a quality): its main use has been to **impart a high**
“Technological competition will, over time, result in a diminished market share for the “closed” technology products that dominate the landscape today. A clear side-effect of this will be a move from device-based apps to web-based apps that buffer content and tools, but at the same time function cross-platform. This transition offers publishers a much stronger opportunity to invest in end-user satisfaction and successfully invest once to monetize content for numerous platforms.”
New formats: blogs
New formats: “mid-length” research

- Provides peer-reviewed, e-first HSS publications that fall between the lengths of a journal and a full-length monograph
- 58% of surveyed academics agreed that it was a good idea to have an in-between length title
- 84% said they were likely to consider publishing in such a mid-length publishing format
New authoring forms

Thumbs Race as Japan’s Best Sellers Go Cellular

By NORMITSU ONISHI
Published: January 29, 2008

TOKYO — Until recently, cellphone novels — composed on phone keypads by young women wielding dexterous thumbs and read by fans on their tiny screens — had been dismissed in Japan as a subgenre unworthy of the country that gave the world its first novel, “The Tale of Genji,” a millennium ago. Then last month, the year-end best-seller tally showed that cellphone novels, republished in book form, have not only infiltrated the mainstream but have come to dominate it.
Social networking

Join a growing community of 5,160,032 researchers
New communities

- WeChat
- Weibo.com
- QZone
- 51.com
- Renren.com
- Kaixin001.com
- Pengyou.com
Research is more interdisciplinary
E-landscape

Experiential
• Value of raw content will continue to decline with abundance

• People will pay for “content-based experience”

• The soccer match example
Exposed proteins of the Schistosoma japonicum tegument

Proteins exposed on the surface of parasitic worms are an important source of novel drug and vaccine targets.

These proteins are the most accessible to the host and likely to possess functions important for the survival of the worm.

Biostaining (labeling of tyrosine side-chain residues with biotin) of whole worms is a useful technique for separating exposed proteins from other protein constituents of the tegument.

Using this technique in combination with LC-MS/MS we identified 60 proteins as putatively host-exposed in Schistosoma japonicum.

Using confocal and electron microscopy, the internalization of biotinylated proteins was observed.
E-textbooks
E-landscape

Expansive
Journal publishing has endured for over 340 years with the fundamental roles of the publisher unchanged:

1. **Registration**
2. **Certification**
3. **Dissemination**
4. **Preservation**

First scientific journals published in 1665

Elzevirianas circa 1629
Quality
New security risks

- System/Application Downtime
- Piracy (Theft of Proprietary Content)
- User Information Breach
Digital preservation
Publishers more relevant than ever

[Logos of Apple, Google, Microsoft, AT&T, Intel, Huawei, China Telecom, Baidu, Samsung, and Amazon]
Internet’s impact on research

Research is more...

— International
— Data intensive
— Measurable
Increase in global collaboration

Source: SciVal
Benefits of collaboration

Citations per article versus number of collaborating countries

Source: Scopus; The Royal Society – Knowledge, Networks and Nations, 2011
2,392 collaboration institutions, 39,742 co-authored publications

Source: SciVal
Rise of the developing world
Percent spend global R&D

Source: Battelle, R&D Magazine, International Monetary Fund, World Bank, CIA World Factbook
Output quality in emerging nations

Citations per article (2005 – 2012)

Source: SciVal
Data intensive

Very high importance, very high satisfaction

High importance, low satisfaction

Source: Publisher Research Council – Global Access vs. Importance Study (3,823 researcher respondents)
Big data

Diagram created by Anja Jentzsch
Your E-Book Is Reading You

By ALEXANDRA ALTER
Updated July 19, 2012 3:24 p.m. ET

It takes the average reader just seven hours to read the final book in Suzanne Collins’s “Hunger Games” trilogy on the Kobo e-reader—about 57 pages an hour. Nearly 18,000 Kindle readers have highlighted the same line from the second book in the series:

“Because sometimes things happen to people and they’re not equipped to deal with them.”
And on Barnes & Noble’s Nook, the first thing that most readers do upon finishing the first “Hunger Games” book is to download the next one.

In the past, publishers and authors had no way of knowing what happens when a reader sits down with a book. Does the reader quit after three pages, or finish it in a single sitting? Do most readers skip over the introduction, or read it closely, underlining passages and scrawling notes in the margins? Now, e-books are providing a glimpse into the story behind the sales figures, revealing not only how many people buy particular books, but how intensely they read them.

For centuries, reading has largely been a solitary and private act, an intimate exchange between the reader and the words on the page. But the rise of digital books has prompted a profound shift in the way we read, transforming the activity into something measurable and quasi-public. Eben Shapiro explains on Lunch Break. Photo: AP.

We Know What You Read

William Duke
Data on how we research

- Keep track of your institution’s publication output and impact
- Monitor usage of journal content at your institution to optimize subscriptions
- Identify your current and future star researchers
Research performance evaluation

- Choose chart type
- Customize date range
- Choose performance metrics
- Compare individuals, institutions, countries
Spotlight on CAS

- Computer Science
- Math & Physics
- Social Sciences
- Chemistry
- Humanities
- Brain Research
- Engineering
- Health Sciences
- Earth Science
- Biology
- Biotechnology
- Medical specialties
- Infectious Diseases

Source: SciVal
“You can achieve amazing progress if you set a clear goal and find a measure that will drive that progress toward that goal ...”

- Bill Gates
Research performance evaluation

Welcome to Project Snowball
Working together to benchmark research performance in the UK

What is Project Snowball?

Project Snowball is a public service project that aims to help universities benchmark their performance across a broad range of research activities. The project, developed among eight UK institutions and scientific publisher Elsevier, aims to determine a standard set of common metrics for external benchmarking and to share the methodology behind those metrics publically.

Here are the key results interesting. Or you can view all of the report...
Research performance evaluation

Standard tools + New tools

- Publications
- Citations
- Patents
- Competencies
- Usage
- Brain circulation
- Collaboration networks

Interdisciplinary, new areas
Different perspective; Social Sciences & Humanities more visible
Researcher mobility and attraction
Looking ahead
• **Vision**: “an endless innovation that connects author with reader”

• **Function**: quickly get right information to the right person in the right context

• **Title**: “market maker”
Researchers’ new needs

- Content Management
- Reuse of Content
- S(olutions)-content
Content management

Capture citations from external databases with a single click

Import, store and organize sources in library
Reuse of content

A Farming Allegory

**Originally...**
Farmed high-quality content

**Then...**
Created a super-market for content acquisition

**Now**
Prepare fine meals to meet the tastes of groups of or individual researchers
Fig. 2. Bathymetric image of the Storegga Slide. The Ormen Lange gas field is located close to the upper headwall. Index map: SS, Storegga Slide; TS, Tjøtta Slide.
No current offering delivers on all three components doctors need in a medical information product.

**Comprehensive**
Integrated Medline and link resolver for access to third-party, full-text journal content.

**Trusted**
Authoritative medical and surgical content from Elsevier.

**Speed to Answer**
Smart content enables fast discoverability of the most relevant answers and more intuitive searching.
Semantic search

Content today with structured XML

Supported by taxonomy

Source: Outsell; Gilbane.com
Comprehensive: Integrated Medline and link-resolver for 3rd party full text journal content

Speed to Answer: SMART-content enabled discoverability and specialty-smart navigation means more intuitive searching and browse paths

Trusted: All Medical and Surgical Elsevier HS Content*

Plus: Functionality designed to address core physician clinical workflows: Diagnosis, Surgical Procedure and Care Plan prep, Staying current and Patient Education
The e-revolution or e-volution?
One more “e”: empathy
Thank you!

International Publishers Association