Insights and Trends in the Global STM Market

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About Outsell

We help the world’s publishers, information providers, and enterprise marketers, **grow revenue, deliver superior solutions, optimize their clients’ performance, and thrive** in a fast-changing global digital market. And we do it with wow.
Overview

• Trends and challenges in the STM marketplace
• How changes in user information needs and behavior affect the STM marketplace
• New product strategies being pursued by major STM publishers
STM Market Trends
- Overall Growth Reduced

Source: Outsell Research
STM Market Trends
- Growth By Sub-segment Variable

<table>
<thead>
<tr>
<th>Sector</th>
<th>Revenue 2010P (USD, Millions)</th>
<th>Share of Segment (%)</th>
<th>Growth 2010P (%)</th>
<th>Growth 2011F (%)</th>
<th>Growth 2012F (%)</th>
<th>Growth 2013F (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Technical</td>
<td>11,270</td>
<td>44.9%</td>
<td>2.0%</td>
<td>3.0%</td>
<td>3.0%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Medical</td>
<td>10,401</td>
<td>41.5%</td>
<td>7.0%</td>
<td>8.0%</td>
<td>9.0%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Geophysical</td>
<td>3,407</td>
<td>13.6%</td>
<td>-8.2%</td>
<td>0.0%</td>
<td>10.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Total</td>
<td>25,078</td>
<td>100.0%</td>
<td>2.5%</td>
<td>4.8%</td>
<td>5.1%</td>
<td>5.1%</td>
</tr>
</tbody>
</table>

Source: Outsell Research
## STM Market Trends - Big Three Growth
### By Product Type and Market

<table>
<thead>
<tr>
<th>Science &amp; Technology</th>
<th>Size</th>
<th>Growth</th>
<th>USD millions 2010</th>
<th>USD millions 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journals</td>
<td>25%</td>
<td>1%</td>
<td>1180</td>
<td>1170</td>
</tr>
<tr>
<td>Reference &amp; education</td>
<td>3%</td>
<td>12%</td>
<td>165</td>
<td>148</td>
</tr>
<tr>
<td>Databases &amp; tools</td>
<td>9%</td>
<td>11%</td>
<td>418</td>
<td>376</td>
</tr>
</tbody>
</table>

### Healthcare

<table>
<thead>
<tr>
<th></th>
<th>Size</th>
<th>Growth</th>
<th>USD millions 2010</th>
<th>USD millions 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journals</td>
<td>13%</td>
<td>3%</td>
<td>646</td>
<td>630</td>
</tr>
<tr>
<td>Reference &amp; education</td>
<td>17%</td>
<td>3%</td>
<td>807</td>
<td>785</td>
</tr>
<tr>
<td>Pharma marketing</td>
<td>9%</td>
<td>0%</td>
<td>430</td>
<td>430</td>
</tr>
<tr>
<td>Pharma intelligence</td>
<td>5%</td>
<td>4%</td>
<td>256</td>
<td>246</td>
</tr>
<tr>
<td>Decision support tools</td>
<td>12%</td>
<td>13%</td>
<td>572</td>
<td>508</td>
</tr>
<tr>
<td>Medical analytics</td>
<td>7%</td>
<td>9%</td>
<td>341</td>
<td>313</td>
</tr>
</tbody>
</table>

Source: Outsell Research
## STM Market Trends
### WKHealth Acquire And Infill Strategy

<table>
<thead>
<tr>
<th>Parent</th>
<th>Company/Product</th>
<th>Workflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wolters Kluwer</td>
<td>Pharmacy OneSource</td>
<td>Analytics</td>
</tr>
<tr>
<td></td>
<td>Sentri7</td>
<td></td>
</tr>
<tr>
<td>Wolters Kluwer</td>
<td>UpToDate</td>
<td>CDS</td>
</tr>
<tr>
<td>Wolters Kluwer</td>
<td>Medi-Span</td>
<td>CDS</td>
</tr>
<tr>
<td>Wolters Kluwer</td>
<td>Facts &amp; Comparisons</td>
<td>CDS</td>
</tr>
<tr>
<td>Wolters Kluwer</td>
<td>Medicom</td>
<td>CDS (China)</td>
</tr>
<tr>
<td>Wolters Kluwer</td>
<td>Provation Medical</td>
<td>Content integration</td>
</tr>
<tr>
<td>Wolters Kluwer</td>
<td>Provation Order Sets</td>
<td>CDS</td>
</tr>
</tbody>
</table>

Source: Outsell Research
STM Market Trends
- Changes In End User Behaviour

• Academic, medical and industrial (R&D, engineering, manufacturing): 1780 respondents, 2006 – present

• Barriers to content access, not enough time, too much information. Cost as an issue now ranked 2nd or 3rd.

• Then and now: conference proceedings have become much less important over time

• Info needs: access to more journals, competitor information, integration of related content types

• Demand for printed products still high

Source: Outsell STM User Survey 2011
stm market trends - end user behaviour

• Penetration of handheld devices high: MDs 91%, others ca 75%
• Main reason for mobile use: saves time
• Demand for apps: current awareness, education, healthcare professional needs
• Social networking for work: LinkedIn, industry>>academe

Source: Outsell STM User Survey 2011
Traditional STM Markets Stagnate

Source: PCG annual reports
Perceptions of Value Are Changing

- Since 1989, prices for US society journals have increased 7.4% on average annually. (Allen Press)

- The influence of faculty is relatively unimportant when making purchasing decisions regarding “big deals”. (ALPSP survey)

- The primary factor impacting publisher pricing over the next several years will be how the “big deal” fares when challenged by prolonged budget weakness and the rise of usage-based tools to assist in determining the value of serial subscriptions at the title or collection level. (EBSCO)
Value Will Increasingly Be Metric Based

- Impact Factor
  - Well-established, easily understood, and accepted
  - Endorsed by funding agencies and researchers
- COUNTER Usage Factor
  - Journal/book usage-based alternative perspective
  - Reflects value of journals to all categories of user
  - Easy to understand
- PIRUS (Publisher and Institutional Repository Usage Statistics)
  - COUNTER-compliant usage reports at the article level
  - Will enable the usage of individual research outputs to be measured
- ORCID (Open Researcher and Contributor ID)
  - Central registry of identifiers from individual researchers
  - Will enable aggregation of multiple forms of research output
In a Metrics World, Will Volume Be Enough?
Figure 4. OA availability by discipline.
doi:10.1371/journal.pone.0011273.g004

Source ?
Global Growth 2011 and Beyond

• Business diversification – education, workflow solutions: decision support and analytics

• Large publishers will grow by partnering with or acquiring small publishers – “Platform Wars”

• New Open Access business models may create disruptive structural changes within specific disciplines

• Let’s look at some examples…
A new kind of scientific information company

The digital age has created new opportunities for the way we do scientific research - from how we manage our labs and analyse data, to how we link information and make funding decisions. We’re here to help you make the most of those possibilities.

Source ?
Transforming research. Accelerating science.

SciVerse offers unprecedented access to a constantly expanding universe of content and solutions resulting in more discovery with less searching. Integrating ScienceDirect, Scopus, SciTopics and targeted Web content, with community developed applications SciVerse is a groundbreaking platform that provides our data. your way.

Researchers.
Accelerate your discovery

- Access full text articles, abstracts, citations and web content
- Single search across SciVerse ScienceDirect, Scopus, SciVerse SciTopics and targeted web content
- Find applications built for your workflows and interests
- Collaborate with developers to create new applications

Librarians.
Raise content value

- Deliver fast, easy access to the most relevant data
- Increase use and value of trusted Elsevier content
- Collaborate on applications that accelerate science
- Gain revenue and recognition through developing applications

Developers.
Build applications

- Access SciVerse ScienceDirect and SciVerse Scopus APIs
- Collaborate with researchers on applications
- Gain revenue and recognition from 15 million users
- Track usage and reviews of your applications

For more information on how SciVerse
Articles are automatically annotated to identify all chemical structures mentioned in the text. N2S conversion enables InChI look-up.
Are Social Media Part Of This? – AIP, Sage
Workflow Tools – Just a Value Pyramid

Workbench
Decision Support
Integrated Content Solutions
Mapping and Visualization
Abstracting and Indexing
Secondary Content - review articles, encyclopaedias, textbooks, monographs, conference proceedings
Primary Research - journal articles, report, published correspondence, market research, statistical reporting, ’grey’ literature

Source: Outsell Analysis
Workflow - Chemistry

“How do we know this lead molecule is novel?”

“SciFinder—of course.”

Source ?
Workflows - Medicine, from Ads to EHRs

Epocrates now offers continuing medical education online. Get free access to over 100 CME activities.

Epocrates Products
Select your platform to learn about available products:
- iPhone
- iPod touch
- BlackBerry
- Palm
- Android
- Windows Mobile
- Online

For Your Mobile Device
- **FREE Epocrates Rx**
  - Free comprehensive handheld drug guide for Palm, Windows Mobile, iPhone, and BlackBerry
  - Download Now ➔

- **PREMIUM Epocrates Essentials**
  - Looking for more than drugs?
  - Get disease and lab info with our complete mobile clinical suite
  - Learn More ➔

On the Web
- **FREE Epocrates Online**
  - Free drug and disease information on the Web
  - Search Now ➔

Get more features with
- Epocrates Online Premium ➔
Workflows - Industrial Content Integration

Top 20 Information Types Relied upon by Aerospace and Defence Respondents

- Technical research reports
- Scientific, technical & medical journals
- Employee directory & phone list
- Organization charts
- Industry trade journals & Publications
- News
- Course packs, sourcebooks, & custom publishing
- Government directories
- Supplemental instructional materials
- Instructional support materials
- Company profile
- Conference proceedings & papers
- Academic journals
- Reference books
- Textbooks
- Manufacturer's parts data & specs
- Technical papers
- Standards & specifications
- Engineering drawings
- Training programs

Source: Outsell Research
Human Attention, Not Content, Has Become the Main Limiting Factor for Knowledge-Based Economies

Source: IDC 2009

+50% per year
Trends in US R&D Expenditure Indicate Fundamental Changes in Research Spending

Source: NSF S&E Indicators, 2010
## Workflows – Content Integration

Innography (innovation + visualisation) is a small company that is at the cutting edge of content integration. It uses semantic fingerprinting to identify related documents: patents, standards, litigation, etc, and intuitive visual interfaces to enable the user to investigate the intellectual property landscape.

### Licensing & Sourcing
- Sourcing valuable patent licensing opportunities
- Outsourcing core patents to alternative markets
- Determining licensing channels for non-core patents
- Asserting segments of your patent portfolio

Learn More

### IP Research
- Trend analysis
- Patent disclosure and prior art research
- Emerging business evaluation
- Competitive intelligence
- M&A due diligence
- Infringement / Invalidation discovery

Learn More

### Legal Counsel
- Patent invalidations
- Expert witness searches
- Freedom to operate analyses
- M&A transactions
- Patent filings

Learn More

### Business Strategy
- Facilitate team collaboration
- Enhance organizational decision making
- Improve productivity and workflow
- Comply with financial and legal policies
- Drive measurable ROI and profitability

Learn More

### ABOUT INNOGRAPHY
By automatically correlating patent and trademark data with financial, litigation and other key business information, Innography immediately generates a variety of unique visualizations that display insightful and intuitive query results.

More

### ISOLATE IDEAL TARGETS
Visualize the Landscape of Initial Technology Targets By Assignee

Click image to view more

### PINPOINT IP AGRESSIONS
Determine Who is Most Litigious in Which Technology Arenas

Click image to view more

### GAIN VALUABLE INSIGHTS
Discover Which Companies Have Technology Similar to Yours

Click image to view more

Source ?
Trends and Challenges in the STM Marketplace – I

• Scientific content will continue to increase in volume and complexity
• Proportion of research funding from/for industry will increase
• Traditional academic budgets will grow much more slowly
• Buyers will manage their collections on an ROI basis
Trends and Challenges in the STM Marketplace – II

• Open access will become a prominent, but not the dominant business model

• Large publishers will look for ways to diversify, specifically into “workflow tools” and new revenue sources

• Mid-sized publishers will seek to grow organically, by acquisition and by partnership

• Small publishers will struggle
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