Measuring Value and Journal Article
Reading Patterns: Changes Over Time

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Why should libraries study use and reading?

- To help make collection decisions
- To measure growth and changes
- To improve products and services
- To help determine the value of our collections and services to our users
- To measure return on investment of the library
Methods to learn about users and usage work together…

Focus groups and opinion surveys:
- to examine changes;
- to improve

Usage logs: what people do on library, e-systems, collection decisions & growth

Use surveys & data:
- value & outcomes
Today I will focus on 4 things that show implicit and explicit value and changes over time…

- Surveys of reading, focusing on critical incident of last article reading
- 1977 to the present
- Supplemented by focus groups, usage log data, observations of online interactions, and budget data
Faculty members…

1) … read more articles. Amount of reading is an implicit value of reading.
Average number of article readings per year per university science faculty member in the US

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*311 with outliers, 2005, n=932; 2000-03, n=397; 1993, n=70; 1984, n=865; 1977, n=2350
Average time (in minutes) spent per article reading by science faculty member in the US

- 1977: 48 minutes
- 1993: 47 minutes
- 2000-2003: 36 minutes
- 2005: 31 minutes

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Article Downloads 2004 - 2008

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>UTK Article Downloads</th>
<th>ARL Supplementary Statistics</th>
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<tbody>
<tr>
<td>FY 04-05</td>
<td>1,338,639</td>
<td></td>
</tr>
<tr>
<td>FY 05-06</td>
<td>1,481,040</td>
<td></td>
</tr>
<tr>
<td>FY 06-07</td>
<td>1,969,350</td>
<td></td>
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<tr>
<td>FY 07-08</td>
<td>2,037,663</td>
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Implicit Value of Reading Articles

• Users are “willing to pay” with their time
  - Faculty spend on average ~143-159 hours per year just reading
  - Medical faculty spend on average ~168 hours per year just reading

• Award winners and productive authors read more than others
Faculty members…

2) …read from a wider variety of sources and use many ways to get articles. Increase is both an implicit and explicit value of libraries.
More sources for readings

- In 1977 researchers read on average at least one article from 13 journals
- In 1995 that number had increased to 18
- By 2003 it was 23
- By 2005 it was 33
Readings from the library have greatly increased over time

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Value of E-Resources (Faculty comments)

“The task of finding the most pertinent articles on a new topic used to take a full afternoon. The same work can now be completed in 15 to 30 minutes.” U.S. University

“You have access to many more articles and although you do not read them completely, you are more aware of what is going on in the field.” EU research institute

“It has helped me open or discard lines of research at the very beginning by knowing what other researchers have published or are soon going to publish.” EU research institute

“Access has made collecting research resources infinitely more efficient; and facilitated interdisciplinary research.” U.S. University
Faculty members...

3) …still read from both print and electronic sources. E-readings more often from libraries and reported as valuable.
Print or Electronic for scholarly articles

- **All faculty 2000-2006**
  - Electronic: 60%
  - Print: 40%

- **Humanities**
  - Electronic: 71%
  - Print: 29%

- **Sciences**
  - Electronic: 74%
  - Print: 26%

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Print or Electronic for scholarly articles

- **Library-Provided**
  - Electronic: 76%
  - Print: 24%

- **Other**
  - Electronic: 30%
  - Print: 70%

- **Personal Subscriptions**
  - Electronic: 15%
  - Print: 85%

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Younger readers prefer electronic
(faculty in U.S. and Australia, 2004-2006, n=1251)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Print</th>
<th>Electronic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 30</td>
<td>13%</td>
<td>87%</td>
</tr>
<tr>
<td>31-40</td>
<td>31%</td>
<td>69%</td>
</tr>
<tr>
<td>41-50</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>51-60</td>
<td>46%</td>
<td>54%</td>
</tr>
<tr>
<td>Over 60</td>
<td>50%</td>
<td>50%</td>
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</tbody>
</table>
Readings of older materials may be increasing
Decay of Article Readings by U.S. University Faculty
Older articles are judged more valuable, are more likely for research & to come from libraries (Faculty in U.S. 2005, n=913)

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Faculty members

4) …report many purposes and explicit values of reading e-journal articles.
Principal Purpose of Reading (Faculty in U.S. and Australia, 2004-2006, n=1433)

- Research: 51%
- Teaching: 20%
- Current Awareness: 11%
- Proposals: 9%
- Other: 9%
Value of Reading in Order of Frequency of Responses

- Inspired new thinking
- Improved results
- Changed focus
- Resolved technical problems
- Saved time
- Collaboration
- Faster completion
- Wasted my time (<2% of readings)
Libraries need to measure what shows their value...

- “I have dropped some personal subscriptions as they have become available on-line. I rarely visit the library in person anymore… which, compared with the ease and convenience of doing literature searches, downloading and printing from my office/computer, takes too much time.”
Conclusions

• Usage logs and patterns over time can help with collection decisions and show implicit value of e-collections

• Surveys with critical incident can show implicit and explicit value of print and electronic collections

• Importance of the library is increasing and we need to show that with accurate measurements of value
For more information

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