Beyond Topical Relevance: How Scholars Choose Articles to Read

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by

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Director of Research and
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When faced with numerous articles on their topic, how do scholars make the decision of which articles to read?

A study funded by:

[PRC logo]
What we already know about scholars and their reading patterns...
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

(Faculty in U.S., n=880)

- Inspired new thinking/ideas (55%)
- Improved results (40%)
- Changed focus (27%)
- Resolved technical problems (12%)
- Saved time (12%)
- Faster completion (7%)
- Collaboration (6%)
- Wasted my time (<1%)
The table and graph show changes in the average number of article readings per year and the average minutes per reading by university faculty in the US. The data includes changes from 1977 to 2006, with a rise in readings and a decrease in minutes per reading over time.
More sources for readings

- In 1977 researchers read on average at least one article from 13 journals
- In 1995 that number increased to 18
- By 2003 it was 23
- By 2005 it was 33
Faculty Use Many Ways to Locate Articles, U.S. (1977-2005)

1977, n=2,350; 1984, n=865; 1993, n=70; 2000-03, n=397; 2005, n=884

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

Other
- Electronic: 70%
- Print: 30%

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

n=923
Source of Reading by Faculty in U.S. and Australia (2004-2006)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Print</th>
<th>Electronic</th>
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</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>
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<tr>
<td>51-60</td>
<td>46%</td>
<td>54%</td>
</tr>
<tr>
<td>Over 60</td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>

n=1251
We also know...

• Articles are read for many different purposes

• *Readers* have different patterns depending on the purpose of *reading*

• Reading patterns are influenced by age, subject discipline, and other factors

• Electronic sources and formats are popular, but have not yet replaced print

• No one solution works for all readers or all readings
Comments tell us that E-Collections improve (2008)…

• **Efficiency and productivity**
  “[e-access] saves me a lot of time which can be used for more extensive reading.”

• **Writing and proposals**
  “[E-access] is essential for scientific writing.”

• **Research and teaching**
  “I could not do the kind of research or teaching I do without these resources.”
Methodology

• International online survey of scholars

• Ranking and conjoint analysis provide relative importance of various article characteristics

• Additional questions to help identify differences: amount of reading, subject discipline, age, and location
The survey yielded 442 responses from 12 countries
Ranking Article Characteristics

Respondents were asked to rank the importance of seven article characteristics from 1-7 where 1 is “most important” and 7 “least important.”
Number 1 Ranked Characteristic:

Topic
Next most important were:

Online accessibility
Source of article
Journal Title
Author(s)
Online Accessibility (Score 3.27)
Source of Article (Score 3.46)
Journal Title: (Score 3.58)
Author(s): (Score 4.07)
The least important:

Type of Publisher
Author’s Institution
Type of Publisher: (Score 5.21)
Author(s)' Institution: (Score 5.82)

![Bar chart showing the distribution of institutions by rank. The chart indicates that the highest rank has the highest score, followed by ranks 5 and 6. The scores are not explicitly shown on the chart.]
Conjoint Analysis Methodology

• Respondents considered 16 article profiles with each consisting of a different permutation of article characteristics.

• They rated how likely they were to read an article with that profile on a scale of 1-10 (1 is “absolutely would not read” and 10 is “absolutely would read.”)

• For conjoint analysis, the 16 profiles explored three characteristics: Author, Journal Type, and Accessibility.
Profile 1

How likely are you (on a scale of 1 to 10) to read an article with these characteristics?

Written by an author I recognize as a good (but not top) scholar, in a peer-reviewed journal outside the top tier, and available online at no cost.

Absolutely would not read→ 1...2...3...4...5...6...7...8...9...10←Absolutely would read

Profile 13

How likely are you (on a scale of 1 to 10) to read an article with these characteristics?

Written by an author I recognize as a good (but not top) scholar, from a source other than a journal, and available online at no cost.

Absolutely would not read→ 1...2...3...4...5...6...7...8...9...10←Absolutely would read
Author Utility Estimate

<table>
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<tr>
<th>Tier</th>
<th>Estimate</th>
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<tbody>
<tr>
<td>Top Tier</td>
<td>1.412</td>
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<tr>
<td>Good</td>
<td>.386</td>
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<tr>
<td>Weak</td>
<td>-1.193</td>
</tr>
<tr>
<td>Unknown</td>
<td>-.605</td>
</tr>
</tbody>
</table>
Journal Utility Estimate

Top Peer  1.113
Other Peer  .376
Not Peer  -.971
Not Journal  -.519
Access Utility Estimate

Online Free  1.604
Online Cost  -1.107
Print Only   -.497
# Optimal – top choices

<table>
<thead>
<tr>
<th>Author</th>
<th>1.412</th>
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<tbody>
<tr>
<td>Journal</td>
<td>1.113</td>
</tr>
<tr>
<td>Access</td>
<td>1.604</td>
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<tr>
<td>(Constant)</td>
<td>4.763</td>
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<tr>
<td><strong>Total</strong></td>
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## Option #1

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<tr>
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<td><strong>Total</strong></td>
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## Option #2

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<tr>
<td><strong>Total</strong></td>
<td>5.028</td>
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Importance Values

Access  36.631
Author  35.198
Journal  28.171
Academic Disciplines

- Humanities: 11%
- Sciences: 16%
- Medical/Health: 19%
- Social Sciences: 28%
- Engineering: 17%
- Professional: 9%

n=412
# Ranking of Article Characteristics by Discipline

<table>
<thead>
<tr>
<th></th>
<th>Humanities</th>
<th>Sciences</th>
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<th>Social Sciences</th>
<th>Engineering</th>
<th>Professional</th>
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<tr>
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<td>Institution</td>
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<tr>
<td>Source (journal)</td>
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<td>4</td>
<td>3</td>
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<tr>
<td>Type of Publisher</td>
<td>6</td>
<td>6</td>
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<tr>
<td>Journal Title</td>
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<td>3</td>
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</tbody>
</table>
Team Members:

Carol Tenopir
Suzie Allard
Kenneth J. Levine
Donald W. King
Ben Bates,
Ben Birch
Chris Caldwell
Thank You!

Questions or comments?

Suzie Allard: sallard@utk.edu
A pilot study, conducted in two phases, was undertaken at the request of the Publishing Research Consortium.

Phase 1: Invitations were sent to 43 faculty members at the University of Tennessee and other researchers: 25 to faculty members in the natural sciences and 18 to social scientists. There was a return rate of 44 percent. Follow-up interviews were conducted to uncover any issues or problems with the survey instrument.

Phase 2: Undertaken to increase the sample size, to address participants’ concerns uncovered in interviews, and to increase the value of the information obtained.
Conjoint Analysis of Profile Responses

<table>
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<tr>
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<th>Utility Estimate</th>
<th>Std. Error</th>
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