Beyond Usage: Measuring Library Outcomes and Value

Carol Tenopir
University of Tennessee
ctenopir@utk.edu

QQML
May 2011
In the information context economist Machlup described 2 types of value:

1. **purchase or exchange value**: what one is willing to pay for information in money and/or time, and

2. **use value**: the favorable consequences derived from reading and using the information.
Value (exchange or use) can be measured in many ways:

1) Implicit value (i.e., usage, downloads)
2) Explicit value (i.e., interviews)
3) Derived values (i.e., ROI)
University of Tennessee-Knoxville Downloads

UTK Article Downloads

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Downloads</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY04-05</td>
<td>1,338,639</td>
</tr>
<tr>
<td>FY05-06</td>
<td>1,481,040</td>
</tr>
<tr>
<td>FY06-07</td>
<td>1,969,350</td>
</tr>
<tr>
<td>FY07-08</td>
<td>1,946,883</td>
</tr>
<tr>
<td>FY08-09</td>
<td>2,558,722</td>
</tr>
<tr>
<td>FY09-10</td>
<td>4,496,516</td>
</tr>
</tbody>
</table>
Going beyond implied value to show…

• Purpose
• Outcomes
• Return on Investment (ROI)
Methods for measuring value

Usage

Citations

Focus groups

Return on Investment

Perceptions

Experiments

Critical incident

Contingent valuation

Observations

Conjoint measurement

Interviews
Surveys by Tenopir & King

- 1977-Present
- Surveys of academic faculty in US and Australia (2004-6) and UK (2011)
- Measure purpose, outcome, and value
- Include all reading (from library and not)
- Exchange and use value
Surveys by Tenopir & King, 1977-Present

Critical incident of last reading

“The following questions in this section refer to the SCHOLARLY ARTICLE YOU READ MOST RECENTLY, even if you had read the article previously. Note that this last reading may not be typical, but will help us establish the range of patterns in reading.”
Principal purpose of reading
(Faculty in U.S. and Australia, 2004-2006, n=1433)

- Research: 51%
- Teaching: 9%
- Current Awareness: 11%
- Proposals: 9%
- Other: 20%
Source of reading by purpose of reading by faculty  (Faculty in U.S. and Australia, 2004-2005, n=1412)
Readings for research or writing

• More likely to be rated “absolutely essential”

• More likely to be found by searching

• More likely to be from e-sources

• More likely to be after the first year of publication

• More likely to be from the library
Outcomes of Journal Article Reading (2004-6, 2011)

1st inspire new thinking or ideas (55%) (54%)
2nd improve results (40%) (38%)
3rd narrow/broaden/change the focus (27%) (28%)
4th resolve technical problems (12%) (10%)
5th save time or other resources (12%) (9%)
6th aid in faster completion (7%) (5%)
7th assist or result in collaboration/joint research (6%) (4%)
Last Information Source Used for Work (2011)

- Journal article: 79.0%
- Conference proceeding: 1.6%
- Web site: 2.2%
- Magazine article: 0.5%
- Book or book chapter: 13.2%
- Personal contact: 3.5%

n=984
Source of Article (2011)

- Library subscription: 66.1%
- Personal subscription: 5.1%
- Department subscription: 4.5%
- Institutional repository: 2.3%
- Free Web journal: 9.4%
- Colleague, author, etc.: 5.9%
- Interlibrary loan: 2.2%
- Web site: 4.6%

n=1067
Source of Book

- Bought it: 38.6%
- Library collection: 25.6%
- Interlibrary loan: 1.8%
- Department or school: 2.4%
- Colleague, author, etc.: 10.7%
- Free or advance: 14.4%
- Other: 6.6%
Did you obtain your article from a print or electronic source?

**All sources**
- Electronic, 85.6%
- Print, 14.4%

**Library subscription**
- Electronic, 93%
- Print, 7%
E-Collections improve efficiency, writing, and research

“E-access is essential for scientific writing”

“I could not do the kind of research or teaching I do without these resources.”

“[e-access] saves me a lot of time which can be used for more extensive reading.”
Derived measures

Return on Investment (ROI) is a quantitative measure expressed as a ratio of the value returned to the institution for each monetary unit invested in the library.

For every $/€/£ spent on the library, the university received ‘X’ $/€/£ in return.

Demonstrate that library collections contribute to income-generating activities
9 Institutions in 8 Countries
ROI Findings

- **Research STM**
  - 13.2:1 to 15.5:1

- **Research & Teaching STM/Hum/SS**
  - 1.3:1 to 5.6:1

- **Teaching & Research Hum/SS**
  - Under 1:1
Value and ROI goes beyond direct monetary return: Libraries help…

• …attract & retain outstanding faculty
  • Faculty who publish more read more
  • Faculty who receive awards read more
  • Library is main source of article readings

• …foster innovative research & reputation
  • For every article cited, 27-40 more are read
  • A doubling in article downloads, from 1 to 2 million, is statistically associated with dramatic increases in research productivity**

Lib-Value: Multiple institutions using multiple methods to measure multiple values for multiple stakeholders
Current Projects

- Ebooks
- Special Collections
- Information Commons
- Journal Collections
- Value and ROI
- Teaching and Learning
- Reading and Scholarship
- Tools
- Website and Value Bibliography
Comprehensive Library Value Study

• Economic (private)
  – What is the value to an individual to use the library resources?

• Social (public)
  – What is the value to the institution of the library?

• Environmental (externality)
  – What is the value of the environmental savings of library provision of electronic resources?
  – Have libraries gone green without knowing it?
## Preliminary Faculty Survey Results

<table>
<thead>
<tr>
<th>Activity</th>
<th>Average last 30 days</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Visits</td>
<td>2.9 visits</td>
<td>73%</td>
</tr>
<tr>
<td>Remote Visits</td>
<td>14.2 visits</td>
<td>88%</td>
</tr>
<tr>
<td>Average Total Resources Used:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>in-person visit to the library</td>
<td>7.3 uses</td>
<td>80%</td>
</tr>
<tr>
<td>remotely online</td>
<td>14.9 uses</td>
<td>89%</td>
</tr>
</tbody>
</table>
# Average Time of Use

<table>
<thead>
<tr>
<th>In person</th>
<th>Remote online</th>
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<tr>
<td>64 minutes</td>
<td>60 minutes</td>
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Anticipate change..

New Scholarly Endeavors
That Cut Across the Library’s Functional Areas

Scholarly Endeavors
- E-science
- Collaborative Scholarship
- Institutional Repositories

Functional Areas
- Teaching / Learning
- Research
- Social / Professional
What we can show so far...

- Academic library e-collections help faculty be productive and successful
- Libraries help generate grants income
- E-collections (books, journals, etc.) are valued by faculty and students
Some final thoughts on measuring value
For further information:
ctenopir@utk.edu

http://libvalue.cci.utk.edu