Assessing the Value of Ebooks to Academic Libraries and Users

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Chemistry Librarian
University of Illinois at Urbana-Champaign
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• Two basic questions were posed by this research:

  – What is the value of ebooks to libraries?
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• Which led to a third question:
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• Two basic questions were posed by this research:
  – What is the value of ebooks to libraries?
  – What is the value of ebooks to users?

• Which led to a third question:
  – What is value?
What is Value?
(from dictionary.com)

val·ue

[val-yoo] noun, verb, -ued, -u·ing.

– to calculate or reckon the monetary value of; give a specified material or financial value to; assess; appraise: to value their assets.

– to consider with respect to worth, excellence, usefulness, or importance.

– to regard or esteem highly: He values his ebook.
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Data Sets Employed to Answer Research Questions

- Longitudinal ebook collection growth data from UIUC
- Longitudinal ebook use and cost data from UIUC
- Longitudinal ebook cost-per-use data from UIUC
- UIUC ebook user study conducted by Elsevier, Fall 2010
  - 129 UIUC participants used over 800 ebooks in 4 weeks;
  - Ebook study participants filled out logbooks and questionnaires
  - The “esteem” question was asked in multiple ways
# Overall Ebook Growth at UIUC 2008-2011

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>#Ebooks Added Per Year*</th>
<th>Cumulative Ebook Total</th>
<th>Percent Increase Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td></td>
<td>292,002</td>
<td>NA</td>
</tr>
<tr>
<td>2008</td>
<td>27,531</td>
<td>345,186</td>
<td>9%</td>
</tr>
<tr>
<td>2009</td>
<td>66,178</td>
<td>411,364</td>
<td>19%</td>
</tr>
<tr>
<td>2010</td>
<td>73,404</td>
<td>484,768</td>
<td>18%</td>
</tr>
<tr>
<td>2011</td>
<td>129,435</td>
<td>614,203</td>
<td>27%</td>
</tr>
</tbody>
</table>

*Counts are per volume, not per title
# UIUC Cost Per Ebook 2008-2011

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>$ Spent</th>
<th>#New Ebooks</th>
<th>$ per Ebook</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>$224,047</td>
<td>27,531</td>
<td>$8.13</td>
</tr>
<tr>
<td>2009</td>
<td>$204,678</td>
<td>66,178</td>
<td>$3.09</td>
</tr>
<tr>
<td>2010</td>
<td>$383,167</td>
<td>73,404</td>
<td>$5.22</td>
</tr>
<tr>
<td>2011</td>
<td>$732,725</td>
<td>129,435</td>
<td>$5.66</td>
</tr>
</tbody>
</table>
Definition of an Ebook “Use”

- For the purpose of this study, a "use" of an ebook is counted when a user successfully views or downloads a section (generally by chapter) of an ebook through the vendor's portal.

- This definition of use follows Counter Book Report 2 (Number of Successful Section Requests by Month and Title) for most vendors.

- Of the vendors for which we could get information, 75% used Counter-compliant statistics.

- 33 of 40 (82%) of ebook publishers were able to provide use data.
## Cost and Use Data for UIUC Ebooks 2008-2011

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>#Ebooks (Cumulative)</th>
<th>Amount Spent</th>
<th>#Ebooks Added from Previous Year</th>
<th>Avg. $ per new Ebook</th>
<th>Total Uses</th>
<th>Cost Per Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>292,002</td>
<td>$185,991</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>345,186</td>
<td>$224,047</td>
<td>27,531</td>
<td>$8.14</td>
<td>151,089</td>
<td>$1.48</td>
</tr>
<tr>
<td>2009</td>
<td>411,364</td>
<td>$204,678</td>
<td>66,178</td>
<td>$3.09</td>
<td>251,273</td>
<td>$0.81</td>
</tr>
<tr>
<td>2010</td>
<td>484,768</td>
<td>$383,167</td>
<td>73,404</td>
<td>$5.22</td>
<td>563,871</td>
<td>$0.68</td>
</tr>
<tr>
<td>2011</td>
<td>614,203</td>
<td>$732,725</td>
<td>129,435</td>
<td>$5.66</td>
<td>709,944</td>
<td>$1.05</td>
</tr>
</tbody>
</table>

* Use data available from 82% of ebook publishers
## Top 10 FY2011 Ebook Publishers by Number of Volumes Available at UIUC

<table>
<thead>
<tr>
<th>Publisher</th>
<th>#Ebooks in FY2011</th>
<th>FY2011 Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gale (includes Eighteenth Century Collections Online, Making of American Law, Making of Modern Mind)</td>
<td>332,609</td>
<td>69,769</td>
</tr>
<tr>
<td>Early English Books Online</td>
<td>106,853</td>
<td>94</td>
</tr>
<tr>
<td>Archives of Americana</td>
<td>66,892</td>
<td>Unknown</td>
</tr>
<tr>
<td>Springer</td>
<td>45,924</td>
<td>206,740</td>
</tr>
<tr>
<td>EBSCO</td>
<td>11,936</td>
<td>Unknown</td>
</tr>
<tr>
<td>Wiley</td>
<td>10,448</td>
<td>88,875</td>
</tr>
<tr>
<td>CRCNetBase</td>
<td>6,857</td>
<td>6,768</td>
</tr>
<tr>
<td>Organisation for Economic Co-operation and Development</td>
<td>6,615</td>
<td>545</td>
</tr>
<tr>
<td>Netlibrary</td>
<td>6,182</td>
<td>1,234</td>
</tr>
<tr>
<td>American Council of Learned Societies</td>
<td>3,368</td>
<td>33,123</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>597,684 (97%)</strong></td>
<td><strong>407,148 (57%)</strong></td>
</tr>
</tbody>
</table>
These four publishers' total downloads represent 49% of total uses for ebooks at UIUC in 2011 and 11% of total ebook holdings.
Use Frequency: Average uses per ebook
149 Uses in 2009 of “Molecular Biology and Biotechnology”

130 Uses in 2010 of “Handbook of Surface Plasmon Resonance”

317 Uses in 2011 of “Food Flavors and Chemistry”
Comparison of per-object cost of print versus electronic storage (relative to print cost).

<table>
<thead>
<tr>
<th>Cost Element</th>
<th>Print</th>
<th>Electronic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space</td>
<td>High</td>
<td>Much Less</td>
</tr>
<tr>
<td>Cleaning</td>
<td>Low</td>
<td>Much Less</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Medium</td>
<td>Much Less</td>
</tr>
<tr>
<td>Electricity / climate control</td>
<td>Low</td>
<td>Somewhat Less</td>
</tr>
<tr>
<td>Staffing</td>
<td>Low</td>
<td>Somewhat Less</td>
</tr>
<tr>
<td>Circulation / Access</td>
<td>Low</td>
<td>Much Less</td>
</tr>
</tbody>
</table>

From the perspective of library value, ebooks:

- Have a low cost-per-ebook purchase
- Have a low cost-per-use
- Are more cost effective to lend, store and preserve than print
- Offer greater accessibility to users (24/7 anywhere)
- Offer greater availability to users (higher uses per ebook than print)
- Can provide broader collection variety due to low cost, package purchases and lower facilities and staffing costs; also
- Often no need to purchase multiple copies
- But....
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- Often no need to purchase multiple copies
- But…. What do Users Think?
The Value of Ebooks to Users

• Users demonstrate their estimation of ebook “value” through use
• But also from the “esteem” point of view
• UIUC participated in a global Elsevier ebook study in fall, 2010
  – 129 UIUC participants used over 800 ebooks in 4 weeks
  – Ebook study participants filled out logbooks and questionnaires
  – The “esteem” question was asked in multiple ways
  – Open text boxes also allowed for user feedback on their estimation of ebook value.
Survey Methodology

- On October 1, 2010 a mass email invitation was sent to all UIUC faculty and graduate students requesting their voluntary participation in an Elsevier ebook study.

- Participants were given a start-up questionnaire to determine their present experience with ebooks and their current preferred format for reading books (pbooks or ebooks).

- Participants were asked to conduct one of their normal searches for information in their discipline on the Elsevier ebook platform.

- Following each search, and after reading some portion of an Elsevier ebook, a logbook diary entry was completed for each ebook interaction.

- The study asked researchers to fill out logbook diaries for up to four Elsevier ebooks and participants were given up to four weeks to complete the diaries.

- Questions concerning how and if users value ebooks were posed.
The Value of Ebooks to Users

In which field are you working? N=129

- Physical Sciences, 77
- Life Sciences, 21
- Engineering and Computer Science, 22
- Humanities, 4
- Interdisciplinary, 1
- Social Sciences, 3
- Not applicable, 1
The Value of Ebooks to Users

My position is best described as:

- **PhD student**
  - 114 (88%)

- **Professor/Researcher/Other**
  - 15 (12%)
What is your preferred form at this moment for a scholarly book?  
n = 114 (PhD students)
What is your preferred form at this moment for a scholarly book?

n = 15 (Professor/Researcher/Other)
The Value of Ebooks to Users

How often do you search for (electronic or printed) books?

n = 129

- (hardly) ever: 2.3%
- Occasionally (less than once a month): 21.7%
- On a monthly basis: 28.7%
- On a weekly basis: 34.9%
- On an (almost) daily basis: 12.4%
The Value of Ebooks to Users

My usage of (printed or electronic) books for research purposes is characterized by:
# The Value of Ebooks to Users

What are the main advantages of E-books from your perspective?

[PLEASE TICK A MAXIMUM OF 3 BOXES]

<table>
<thead>
<tr>
<th>Advantage</th>
<th># Responses</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 hours/7 days per week access</td>
<td>82</td>
<td>63.6%</td>
</tr>
<tr>
<td>online access</td>
<td>79</td>
<td>61.2%</td>
</tr>
<tr>
<td>easy to search and navigate</td>
<td>52</td>
<td>40.3%</td>
</tr>
<tr>
<td>downloading to laptop</td>
<td>39</td>
<td>30.2%</td>
</tr>
<tr>
<td>easy storage</td>
<td>36</td>
<td>27.9%</td>
</tr>
<tr>
<td>off campus access</td>
<td>33</td>
<td>25.6%</td>
</tr>
<tr>
<td>copying and pasting</td>
<td>16</td>
<td>12.4%</td>
</tr>
<tr>
<td>downloading to e-reader</td>
<td>9</td>
<td>7.0%</td>
</tr>
<tr>
<td>easy to share with colleagues</td>
<td>8</td>
<td>6.2%</td>
</tr>
<tr>
<td>easy to use in an electronic learning environment</td>
<td>6</td>
<td>4.7%</td>
</tr>
<tr>
<td>easy to use multiple documents at once</td>
<td>5</td>
<td>3.9%</td>
</tr>
<tr>
<td>use of multimedia in the E-book</td>
<td>4</td>
<td>3.1%</td>
</tr>
</tbody>
</table>
My online behavior includes the following characteristics:
How do you value the information from this Elsevier E-book?

Based on over 800 ebook uses.
How do you value the information from this Elsevier E-book?

When comparing the above-mentioned results with the retrieved Elsevier E-book(s) in this information search, I rate the value of the information in the Elsevier E-book(s) as: (n=516)

- Need to have: 12.6%
- Nice to have: 54.8%
- Could have done without it: 27.1%
- Not applicable: 5.4%

Based on over 800 ebook uses
## Comment Box Responses Following Value Questions

<table>
<thead>
<tr>
<th>Comment Description</th>
<th>Not Clear</th>
<th>Negative</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of relevant material</td>
<td>2</td>
<td>89</td>
<td>0</td>
</tr>
<tr>
<td>Did not have access to material</td>
<td>10</td>
<td>57</td>
<td>5</td>
</tr>
<tr>
<td>Did no better providing information than other resources (Google, journal articles)</td>
<td>5</td>
<td>27</td>
<td>0</td>
</tr>
<tr>
<td>Ebook was convenient and easy to access</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Not clear</td>
<td>55</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Obtained relevant/useful information</td>
<td>2</td>
<td>0</td>
<td>79</td>
</tr>
<tr>
<td>Liked ability to search within the ebooks</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Would serve as a nice additional resource</td>
<td>0</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Liked the ebook because it gave background information</td>
<td>4</td>
<td>1</td>
<td>39</td>
</tr>
<tr>
<td>Liked the ebook because it gave good detail</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Search is good</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Search results similar to other sources</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Did not like search</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Contained current information</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>E-book was not up-to-date enough</td>
<td>0</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Information in E-book was too general</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Liked platform search</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>E-book content was too specific</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>81</strong></td>
<td><strong>196</strong></td>
<td><strong>158</strong></td>
</tr>
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From the perspective of the user, ebooks:

- Offer impressive 24/7 accessibility from anywhere
- Are found using multiple search engines
- Are “Nice to Have” (12.6%) or “Need to Have” (54.8%)
- Are not likely to be shared with colleagues, printed out, or be used in “cut and paste”
- Are most likely to be read from the screen or briefly reviewed
- Need to have the ability to be downloaded in some format
- Are often difficult to access, despite strong interest in the title.
Conclusions

• Ebooks offer value to the library in both a monetary way and through documented “usefulness” to patrons (although YMMD).

• As noted by Courant and Neilsen, ebooks are less expensive to own, circulate, maintain and preserve than print books.

• Ebooks offer value to patrons, who “esteem” them due to
  – Accessibility and availability (24/7, literally anywhere in the world)
  – Portability
  – Search and navigation capabilities

• There is still plenty of room for improvement!
Conclusions

• Despite documented value to both users and libraries, some ebook issues remain to be solved, including:

  – Non-standard downloading policies
  – Non-standard cut and paste capabilities
  – Confusion about what ebooks are locally available
  – Inadequate and non-standard discovery tools
  – Digital rights management
  – Perpetual access “guarantees”
  – Sparse content in some disciplines

  – However… all predictions are for these issues, and others that have yet to arise, to be solved within the next 5-10 years.
Special thanks to UIUC Graduate Assistants Dan Tracy and William Weathers and to Wendy Shelburne, Michael Norman and Elsevier.

This research is a part of Values, Outcomes, and Return on Investment of Academic Libraries ("Lib-Value"), a three year study funded by the Institute of Museum and Library Services IMLS grant # LG-06-09-0152-09.