The Easy Button: Integrating OA Buttons into ILL Workflows

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The Easy Button
Integrating OA Buttons into ILL Workflows

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Jill Emery, Portland State University
Isaac Gilman, Pacific University
Early articles (Corhouts 2011, Koyama et al. 2011) showed concerns that rise of OA would negatively impact ILL.

Later articles were more positive (Hu and Jiang 2014, Schöpfel 2014), suggesting that OA could provide valuable source of scholarly content for ILL.

Baich conducted two studies of ILL requests in 2012 and 2015, and a third with Mak in 2016, all showing a general upward trend in requests for OA material through ILL.

Jisc has been studying the feasibility of integrating the OA Button into interlibrary loan workflows, using three different use cases for potential services (work is ongoing).
(Anecdotal) Assumptions

- There are costs to traditional ILL borrowing activities for articles
- The integration of open access (OA) versions of articles will alleviate direct costs and *may* alleviate indirect costs
- The proportion of ILL article borrowing requests that may be filled by using OA sources is significant enough to provide a substantial benefit
Testing an Assumption: Projecting Impact

Assumption:
The proportion of ILL article borrowing requests that may be filled by using OA Button or Unpaywall is significant enough to provide a substantial benefit.

Test:
- Compile multi-institutional borrowing data (filled requests)
- Determine % of requests that could be filled via OA Button/Unpaywall
- Estimate the cost savings* that would have been achieved
A Note on Costs

Direct costs

- Simple to calculate average direct cost of filled requests

Indirect costs: two considerations

- Integration of OA Button/Unpaywall prior to initiating ILL workflow
- Integration of OA Button/Unpaywall into ILL staff workflow
Finding What’s Open: The Tools

**Sources**

**Open Access Button**
Unpaywall, Share, Core, OpenAIRE, Dissem.in, Europe PMC, BASE

**Unpaywall**
Crossref, DOAJ, Gold OA & Hybrid Journals, Institutional Repositories, Disciplinary Repositories

**Query By**

**Open Access Button**
DOI, URL, PubMed ID, PubMed Central ID, Title

**Unpaywall**
DOI
Finding What’s Open: The Tools

Services

Open Access Button
Chrome and Firefox Browser Extensions, CSV Upload, Open API

Unpaywall
Chrome & Firefox Extensions, OpenAPI, Database Download, Data Feed (fee based)

Integrations

Open Access Button
ILLiad, Clio, Alma, and Embeddable Code for LibGuides & ILL Webpages

Unpaywall
SFX, 360, and Primo Link Resolvers, Scopus, Dimensions, Web of Science
Our Methodology

1. Raw Data Collected
Each institution pulled FY16 fulfilled borrowing & lending transactions

<table>
<thead>
<tr>
<th>Institution</th>
<th>Borrowing</th>
<th>Lending</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSU</td>
<td>7,655</td>
<td>2,216</td>
</tr>
<tr>
<td>Pacific</td>
<td>2,999</td>
<td>9,557</td>
</tr>
<tr>
<td>U of Portland</td>
<td>4,152</td>
<td>1,345</td>
</tr>
<tr>
<td>OHSU</td>
<td>2,282</td>
<td>*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17,078</strong></td>
<td><strong>13,118</strong></td>
</tr>
</tbody>
</table>

2. Sample Size Computed
Calculated to produce two-sided 95% confidence level with a precision of 0.05

<table>
<thead>
<tr>
<th>Institution</th>
<th>Borrowing</th>
<th>Lending</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSU</td>
<td>278</td>
<td>255</td>
</tr>
<tr>
<td>Pacific</td>
<td>263</td>
<td>280</td>
</tr>
<tr>
<td>U of Portland</td>
<td>270</td>
<td>238</td>
</tr>
<tr>
<td>OHSU</td>
<td>256</td>
<td>*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1067</strong></td>
<td><strong>773</strong></td>
</tr>
</tbody>
</table>
Our Methodology

3. Samples Generated & DOIs Collected

Google Sheets RANDBETWEEN function used to assign random identifiers & create samples

DOIs manually collected for document in the samples

4. Queried OA Button & Unpaywall APIs

OA Button
If DOI not available, looked for title match

Unpaywall
Queries limited to DOIs

Find our code on Github:
Results

An Open Access version was found for **23.2%** of the requests in our samples.

<table>
<thead>
<tr>
<th>Tool</th>
<th>OA Found</th>
<th>OA Not Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>OA Button</td>
<td>397</td>
<td>1,442</td>
</tr>
<tr>
<td>Unpaywall</td>
<td>233</td>
<td>1,137</td>
</tr>
</tbody>
</table>
Results

Overall, no significant difference between borrowing & lending transactions
## Results

<table>
<thead>
<tr>
<th>Institution</th>
<th>OA Button Not Found</th>
<th>Unpaywall Not Found</th>
<th>OA Button Found</th>
<th>Unpaywall Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific</td>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U of Portland</td>
<td>0.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSU</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSU</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![Graph showing the percentage of total ILL requests](image_url)
Impact

The projected mean direct cost value of OA materials is **$37,782**

Estimated average transaction cost = $18.40
Projection is limited to Pacific, PSU, and U of Portland data
Testing Our Assumptions: What We’re Closer to Answering

Assumption:
Proportion of ILL requests that may be filled by using OA Button or Unpaywall is significant enough to provide a substantial benefit

23.2% OA Version Found
16.5% - 24.6% Institutional Range
Testing Our Assumptions: Further Work & Questions

What’s Next:
- What integration will have the most impact?
- What variables matter?
- What versions are at play?
- What are our shared definitions of cost (and savings)?
Our Contributing Colleagues:

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THANK YOU!

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