Meeting users in their spaces
Connaway, Lynn Silipigni; Cyr, Chris; Gallagher, Peggy; Hood, Erin M.; Brannon, Brittany
2019
Dostupný z http://www.nusl.cz/ntk/nusl-403518

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Meeting Users in Their Spaces: Key Findings on Discovery to Delivery

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Delivery Services
Discovery and Access Project: How do academic library users navigate the path from discovery through to access?

• What do academic users do when searches don't result in fulfillment?
• What differentiates searches that lead to access from searches that don’t?
• What demographic characteristics influence the access of users?
• How does access correlate with success?
Methodology

• We want to understand aggregate user behavior to inform impact and roadmap prioritization
• However, we also want to understand the ‘why’

How do we get the best of both quantitative and qualitative research methods? **Combine them!**

Tandem use of log analysis and user interviews. Librarian Resource Sharing interviews, too.
HIGH LEVEL DISCOVERY AND ACCESS FINDINGS
INTUITIVE

Convenience is king, queen, the whole court
SMART
Context and situation matter

• Context dictates behavior
• Library discovery must anticipate context
• Systems need to do the heavy lifting

SMART
Context and situation matter
PERSONAL
Delight users
UNIVERSAL
Share and share alike
INTUITIVE
Convenience is king, queen, the whole court

SMART
Context and situation matter

PERSONAL
Delight users

UNIVERSAL
Share and share alike
Library on-demand
"Log analysis is everything that a lab study is not."

(Jansen 2017, 349)
1. Did a keyword search but mistyped it - Had 0 results
2. Redid keyword search with correct spelling - Had 759,902 results
3. Began typing in additional keyword
4. Selected one of the autosuggested keyword phrases - Had 1,761 results
### Ways of evolving a search

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected search</td>
<td>Shows greater than 90% similarity with the previous search string</td>
</tr>
<tr>
<td>Refined search</td>
<td>Shows 80–90% similarity with the previous search string, with the first string contained in the second, or an index change</td>
</tr>
<tr>
<td>New search</td>
<td>Shows less than 80% similarity with the previous search string</td>
</tr>
</tbody>
</table>
Summary of results

- Average of **5 minutes** per session
- Average of **2.2 searches** per session
- Average of **5.1 words** per search
- **12%** of sessions had search refinements
- **33%** of sessions had multiple searches

n=282,307 sessions
<table>
<thead>
<tr>
<th>Types of Requests</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search results</td>
<td>The user made a request for search results. This could include a new search, refinement of an existing search, or the addition of limiters.</td>
</tr>
<tr>
<td>Physical access options</td>
<td>Some users left the system after looking at a holding, where they were able to identify the physical item call number and/or location. These users were categorized as having the option to physically access the item.</td>
</tr>
<tr>
<td>Online access attempt</td>
<td>The user clicked an item or made a request to digitally access the full text of the item.</td>
</tr>
<tr>
<td>Attempt to save</td>
<td>The user attempted to export or otherwise save the citation.</td>
</tr>
<tr>
<td>Physical access attempt</td>
<td>The user clicked an item or made a request to place a hold on a physical copy of the item.</td>
</tr>
</tbody>
</table>
While search results account for over half (54%) of all click events, they account for just over a third (39%) of last requests.

### All click events vs. Last requests by type of request

<table>
<thead>
<tr>
<th>Type of Request</th>
<th>All click events (n=1,961,168 events)</th>
<th>Last requests (n=274,346 requests)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search results</td>
<td>54%</td>
<td>39%</td>
</tr>
<tr>
<td>Physical access option</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td>Online access attempt</td>
<td>16%</td>
<td>30%</td>
</tr>
<tr>
<td>Other</td>
<td>6%</td>
<td>5%</td>
</tr>
</tbody>
</table>

*Note: The remaining 2% for both categories may include other types of requests or errors.*
### Probability of fulfillment

<table>
<thead>
<tr>
<th>Number of searches</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of search refinements</td>
<td>0</td>
</tr>
<tr>
<td>Words per search</td>
<td>2</td>
</tr>
<tr>
<td>Results per search</td>
<td>1000</td>
</tr>
<tr>
<td>Keyword limiter (1 if yes, 0 if no)</td>
<td>1</td>
</tr>
<tr>
<td>Author limiter (1 if yes, 0 if no)</td>
<td>0</td>
</tr>
<tr>
<td>Title limiter (1 if yes, 0 if no)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Chance of Fulfillment</strong></td>
<td><strong>69.09%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of searches</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of search refinements</td>
<td>0</td>
</tr>
<tr>
<td>Words per search</td>
<td>7</td>
</tr>
<tr>
<td>Results per search</td>
<td>1000</td>
</tr>
<tr>
<td>Keyword limiter (1 if yes, 0 if no)</td>
<td>1</td>
</tr>
<tr>
<td>Author limiter (1 if yes, 0 if no)</td>
<td>1</td>
</tr>
<tr>
<td>Title limiter (1 if yes, 0 if no)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Chance of Fulfillment</strong></td>
<td><strong>84.76%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of searches</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of search refinements</td>
<td>0</td>
</tr>
<tr>
<td>Words per search</td>
<td>2</td>
</tr>
<tr>
<td>Results per search</td>
<td>1000</td>
</tr>
<tr>
<td>Keyword limiter (1 if yes, 0 if no)</td>
<td>1</td>
</tr>
<tr>
<td>Author limiter (1 if yes, 0 if no)</td>
<td>1</td>
</tr>
<tr>
<td>Title limiter (1 if yes, 0 if no)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Chance of Fulfillment</strong></td>
<td><strong>70.32%</strong></td>
</tr>
</tbody>
</table>
“User interviews can help capture search and discovery behavior as the user understands it, rather than as a computer system understands it.”

(Connaway, Cyr, Brannon, Gallagher, and Hood 2019)
Example questions

• “Please tell us what you were looking for and why you decided to do an online search.”

• “Did the item you were searching for come up in your search results? In other words, did you find it?”

• “I’d like to understand how you felt about your search experience overall. Would you say you were delighted with your search experience?”
What 'just the logs' told us:
• Began keyword search but mistyped it
  o Had 0 results
• Redid keyword search with correct spelling
  o Had 759,902 results
• Began typing in additional keyword
• Selected one of the autosuggested phrases
  o Had 1,761 results

What logs and interviews told us:
• Just starting work on a paper on a broad topic; didn’t yet have a direction for the paper
• Was overwhelmed with number of search results
• Abandoned “library search” to do “Google searching” to better determine a direction for the paper
• Later came back to the library search and found it useful
• Also received help from student workers in the library
• Felt “prepared” to use the library search due to 1st-year library instruction
“The methodology used for this study also could be extended beyond discovery systems. Other computerized activities that leave digital traces could be studied using interview protocols based on log analysis.”

(Connaway, Cyr, Brannon, Gallagher, and Hood 2019)
Challenges of methodology
(Tandem use of log data and user interviews)

• Resource intensive
  Time consuming
  Multiple team members
  Multiple IRBs

• High level of expertise required
Benefits of methodology
(Tandem use of log data and user interviews)

• Provide context for quantitative data
• Clarify qualitative data
• Most effective when digital traces are present
Impact of Study

• Collaborate internally in new ways
• Identify why and what users did during the search and when acquiring resources
• Develop a new methodology for studying user behaviors
• Influence product and system development
Thank you!

Jay Holloway

Because what is known must be shared.