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Web Traffic and Campus Trends: A Multi-Institution Analysis

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Web traffic and campus trends: a multi-institution analysis

Jon Jablonski, University of Oregon Libraries
Robin Paynter, Portland State University Library
Laura Zeigen, Oregon Health & Science Univ. Library
Why we did this project

- Orbis Cascade Alliance Research Interest Group
- Were there differences in web use attributable to institution type?
- We knew we all had some transaction log data
- What the literature shows/did not show
Web Log Analysis Methodologies

**Conceptual Framework / Inquiry**
- Discourse Analysis
- Historical Method
- Ethnography
- Content Analysis
- Case Study
- Phenomenology / Ethnomethodology

**Conceptual Framework definition**
“These studies usually introduce a set of concepts related to an existing (or future systems), or to a set of objects, or to behavior aspects of participants. Concepts are then used to construct conceptual frameworks, which provide the plan, purpose and direction for the study. Depending on the goals, data, and technology the conceptual frameworks offer a choice of methodologies: surveys, data analysis, literature review or many others.”

Conceptual Framework/Inquiry

Transaction Log Analysis

Search Log Analysis

Complementary Methods

Key Performance Indicators

Definitions*

Transaction log analysis: “analysis of Web system logs”

Blog analysis: “analysis of Web blogs”

Search log analysis: “analysis of search engine logs”

* Jansen, Spink & Taksai, p. 508
Transaction Log Analysis

- Hit *
- Unique visitors
- New/Return visitors
- Page views
- Page views per visitor
- Visit duration
- IP address
- Visitor location
- Visitor language
- Referring pages/sites (URLs)
- Keywords
- Browser type
- Operating system version
- Screen resolution
- Java or Flash-enabled
- Connection speed
- Errors
- Visitor paths/navigation
- Bounce rate

Behavioral vs. intentional
Server vs. client side
Cache vs. cache busting
Proxy servers | Fixed/Dynamic IPs
Flash cookies vs. cookies
Page tagging
Web 2.0 (blogs, RSS, social networking)
Analysis packages (AWStats vs. Php my visits)
Public computers with default library homepage
Website links to other servers
Campus portals, other access venues
Server not reporting data

Key Performance Indicators

What are key metrics for academic library websites?
Same as commercial websites?
High page views?
Visit duration? (Shorter or longer better?)
Is benchmarking possible, useful and/or desirable?
Return visitors or unique visitors?
(or looking for seasonal changes, i.e. fall more new and spring more returning visitors?)
Trends in data? (e.g., fewer error messages=improved user experience)

Different KPIs for administrators and designers*

OHSU Unique Visitors

![Graph showing the number of unique visitors for each year from 2005 to 2008. The graph includes line graphs for each year, with 2005 in blue, 2006 in teal, 2007 in purple, and 2008 in orange. The x-axis represents months from January to December, and the y-axis represents the number of visitors from 0 to 40,000.]
OHSU Number of Visits

![Line chart showing the number of visits from 2005 to 2008.]

- **2005** (blue diamonds)
- **2006** (green squares)
- **2007** (purple triangles)
- **2008** (orange crosses)

The chart indicates a decrease in visits from 2005 to 2008. The number of visits peaked in 2006 and then declined steadily until 2008.
OHSU Page Views

The graph shows the page views for OHSU from 2005 to 2008. The x-axis represents the years from 2005 to 2012, while the y-axis represents the page views from 0 to 5,000,000. Each year is represented by a different line color:
- Orange: 2008
- Purple: 2007
- Green: 2006
- Blue: 2005

The page views for 2008 peaked in the middle of the year, with a significant drop towards the end. In contrast, 2007 had a steady increase followed by a sharp decline. The page views for 2006 remained relatively stable throughout the year, and 2005 showed a gradual increase.
OHSU Hits
What we looked at

- Only basic web traffic
- No OPAC
- No digital collections
- No institutional repositories
- No databases or other electronic resources
42 (or 47) links overall on homepage.
6 to non-www library servers.
2 to non-library pages
Leaving 39 links that get counted.*

*not counting Facebook, Twitter and H1N1.
Leaving 31 links that get counted
18 links counted

Shaded areas link to catalog or other pages where links go to resources not on the OHSU web server.

A-Z journals and databases go to another web server page. All links from those pages are routed through the catalog or our EZProxy server.
**Portland State**  
Doctoral/Research Universities-Intensive university  

Until recently been primarily a teaching university  

Student body largely composed of later life adult students, who are employed (full or part-time) and have families. ~39% attend part-time.  

Graduate student population largely in professional schools (social work, education, urban planning, etc).

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**University of Oregon**  
Doctoral/Research Universities-Extensive university  

Student body largely composed of young adults going to school full time.  

Many work part time while going to school.

---

**OHSU**  
Medical Schools and Medical Centers  

Largely graduate, professional programs of later life adult students, many of whom have families, some of whom are employed part or full time while they are going to school full time.
Comparison across institutions

• We looked at basic pieces of the web logs to see if comparing across institutions was a valuable exercise.
• What did we find that was different and what did we find that was the same?
• Just looking at page views per month shows us differences in our institutional calendars.
Traffic follows the academic terms...

...except for OHSU, which doesn’t have a strong term system. ...and PSU doesn’t appear to take spring break.
Re-graphing fixes scale problem.

*But PSU still doesn’t seem to have a spring break.*
But what about the scale difference?

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<tbody>
<tr>
<td>Jan</td>
<td>1,626,357</td>
<td>264,529</td>
<td>572,178</td>
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<tr>
<td>Feb</td>
<td>1,890,241</td>
<td>299,180</td>
<td>604,895</td>
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<tr>
<td>Mar</td>
<td>1,697,888</td>
<td>324,171</td>
<td>607,958</td>
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<tr>
<td>Apr</td>
<td>1,913,613</td>
<td>345,586</td>
<td>862,900</td>
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<tr>
<td>May</td>
<td>1,817,830</td>
<td>324,230</td>
<td>883,564</td>
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<tr>
<td>Jun</td>
<td>1,402,282</td>
<td>246,388</td>
<td>783,779</td>
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<table>
<thead>
<tr>
<th></th>
<th>UO</th>
<th>PSU</th>
<th>OHSU</th>
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</thead>
<tbody>
<tr>
<td>Apr-08</td>
<td>104,352</td>
<td>10,110</td>
<td>9,682</td>
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<tr>
<td>May-08</td>
<td>105,337</td>
<td>12,466</td>
<td>8,584</td>
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<tr>
<td>Jun-08</td>
<td>110,773</td>
<td>18,350</td>
<td>11,755</td>
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</table>

Unique visitors

<table>
<thead>
<tr>
<th></th>
<th>UO</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Apr-08</td>
<td>16,681</td>
<td>21,674</td>
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<tr>
<td>May-08</td>
<td>3,695</td>
<td>6,298</td>
<td></td>
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<tr>
<td>Jun-08</td>
<td>20,376</td>
<td>27,972</td>
<td></td>
</tr>
</tbody>
</table>

- undergrads
- grads
- faculty
- degrees

~11,000 FTE
Can these results be true?

Our study analyzed web server transaction logs, and the Nicholas et al. study analyzed journal database usage across four institution types….still the resemblance in page view data by institution type is interesting.

Visits per day of week

Spring term, 2008
Visits per day of week: aggregate

Spring term, 2008
Normalized
Visits per day of week: average

Spring term, 2008
Normalized
Compare *types* of pages

- **Top level pages**
  - The homepage and other basic pages that are mostly gateways to pages with actual content and information. These are generally accessible directly from the homepage and include things like a site index, an ‘about the library’ page, and a getting started guide.

- **Library 'how to' pages**
  - Pages whose primary purpose is to inform users how to use the library. These include instructions for accessing collections and services.

- **Administrative/operations pages**
  - Pages that describe in detail how the library is structured as an organization. These pages include staff directories, lists of subject specialists, phone lists, and maps of the library.

- **Tools**
  - URLs associated with home-made databases, web forms, other applications.

- **Department homepages**
  - Unit homepages that reflect the organization of the library. Top level pages for branches and divisions.

- **Content**
  - Individual research guides, documents, lists of resources, digitized materials (although most of these are elsewhere.)
Comparision: Most viewed pages

PSU
79% of total traffic

UO
57%

OHSU
14%

- Homepage
- Other top-level pages
- Content
- Department homepages
- Tools
- Administrative/operations
- ‘How to’ pages
Top viewed?

• Homepage as percent of traffic:
  ▫ PSU: 38%
  ▫ UO: 32%
  ▫ OHSU: 4%

• # of pages viewed:
  ▫ PSU: 2,009
  ▫ UO: 10,059
  ▫ OHSU: >2000
Visits per day: by week of term.
Visits per day: by week of term.
Now what?

- Implications for design
- Where should we put our web efforts?
- Services: what are our hidden gems?
- Analysis of all of the library’s web traffic (OPAC, resources on other servers)
- Possible benchmarking?
Challenges in process/points to ponder

- Using different software can make comparisons challenging.
- Get your data in raw text format (or .csv or at least .htm) for ease in importing into spreadsheets.
- Web log analysis is inherently fuzzy around the edges – proceed with caution!
Resources

• Handout/bibliography Slides
  ▫ www.ohsu.edu/library/staff/zeigenl
  ▫ http://nwlibresearch.pbwiki.com
  ▫ SlideShare

• Orbis-Cascade Alliance Research Interest Group
  ▫ http://www.orbiscascade.org/index/research-interest-group
  ▫ http://nwlibresearch.pbwiki.com
  ▫ Next in-person meeting in June or July 2010
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