E-Metrics

E-metrics may be loosely defined as any effort to measure electronic and networked resources.

- E-metrics data can come from:
  - Vendor supplied statistics
  - Web server logs
  - Scripts in OPAC links
  - Proxy server logs
  - EJMS providers

Issues Affecting E-Metrics Data

- Federated searching
- Different time-out settings
- Double-clicks
- Duplicate searches by the same user
- Automatic full-text display
- Zero-hit searches
- Multiple full-text formats
- OpenURL link resolver results
- Search strings from other sources
- Vendor or local technical problems
- Public PCs with multiple users

E-Metrics Standards Efforts

- COUNTER Code of Practice for Journals and Databases (2002 to date)
  - Release 1 (December 2002)
  - Release 2 (April 2005)
- COUNTER Code of Practice for Books and Reference Works (2005 to date)
  - Draft Release 1 (published for comments January 2005)
- ICOLC (1998, revised 2001)
- ARL E-Metrics Project (2000 to date)
COUNTER Usage Elements

- **Sessions** (a successful request of an online service)
- **Searches** (a specific intellectual query, typically equated to submitting the search form of an online service to the server)
- **Turnaways** (an unsuccessful log-in to an electronic service due to exceeding the simultaneous user limit allowed by the license)
- **Full-Text Articles** (the complete text of an article, including all references, figures and tables, plus links to any supplementary material published with it)

E-metrics will only give us a general indicator of use, not actual usage.


COUNTER Reports

**COUNTER Level 1 Reports**

- **JR1** Successful full-text article requests by journal
- **JR2** Turnaways by journal
- **DB1** Total searches and sessions by database
- **DB2** Turnaways by database
- **DB3** Total searches and sessions by service

**COUNTER Level 2 Reports**

- **JR3** Successful item requests and turnaways by journal and page type
- **JR4** Total searches by month and service

NOTE: All COUNTER reports show data by month and cumulative total for the calendar year. Per Release 2 of the Code, only Level 1 reports are required for compliance.
COUNTER-Compliant Vendors

- As of August 2005, there were 45 certified COUNTER-compliant vendors/publishers, with several major vendors becoming compliant in 2004.
  - Most have JR1, only 9 have JR 2.
  - Only 3 have all Level 1 Reports.
  - About one-third have at least one DB report, but few have all DB reports.

A 2001 study at North Carolina State University comparing internally collected statistics with vendor statistics for 28 products found some differences but similar patterns.

ERM Standards

- Most current ERM (Electronic Resource Management) products do not provide adequate management of usage statistics.
- The Digital Library Federation’s Electronic Resource Management Initiative (ERMI) report of August 2004 makes some reference to usage statistics in the workflow and functional requirements but does not include capture of usage statistics in the system data structure.
Longwood E-Metrics Efforts

- 170+ active electronic resource products from 68 different vendors
- Over one-third are purchased by Longwood
- Two-thirds (45) of vendors offer some kind of statistics for over three-fourths of products
- 42% (19) of vendors with statistics are COUNTER-compliant, including CSA, Gale, Project Muse, Proquest and WilsonWeb

Longwood Database Layout

A Microsoft Access database was developed in fall 2003 to track basic database information and record product-level usage statistics for the 4 basic COUNTER usage elements.

<table>
<thead>
<tr>
<th>Publisher</th>
<th>Product</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Login, password and URL to admin and statistics interfaces</td>
<td>Link to publisher code</td>
<td>Link to product code</td>
</tr>
<tr>
<td>COUNTER-compliant status</td>
<td>Type of product</td>
<td>Date</td>
</tr>
<tr>
<td>Cheat sheet report of logins and notes</td>
<td>Source (Longwood/VIVA)</td>
<td>Searches</td>
</tr>
<tr>
<td></td>
<td>Price (if purchased)</td>
<td>Sessions</td>
</tr>
<tr>
<td></td>
<td>Max users</td>
<td>Turnaways</td>
</tr>
<tr>
<td></td>
<td>Fund code assigned to all products</td>
<td>Articles</td>
</tr>
<tr>
<td></td>
<td>Assorted order information</td>
<td></td>
</tr>
</tbody>
</table>
Longwood Usage Data Entry Form

Longwood Data Entry Workflow

- It takes about 8 hours once a month to check all vendor sites and record the 4 elements.
- No effort has been made to import COUNTER-compliant CSV files directly.
- Developing meaningful reports is the most time-consuming.
Results  Overview

- Longwood data reported here:
  - Includes 41 vendors with a total of 97 products.
  - Includes COUNTER-compliant statistics for over half of the products from one-third of the vendors for part or all of the time period.
  - Does not account for journal-specific data.
  - Includes searches for almost all products with statistics.
  - Includes only databases with data for all semesters in academic year comparisons.

Results  Trend Analysis

Look for changes over time that may correlate with other major events or changes in the library.

- Significant increases in academic year 04/05 compared to 03/04 correlate with Fall 2004 opening of 48-PC Information Center and redesigned library website
- What will be the impact of implementing a link resolver in Fall 2005?
Results  Trend Analysis

Look for changes over time that may correlate with other major events or changes in the library.

- 15 of 78 databases had greater than 30% decrease (at least 100 count) in searches from 03/04 to 04/05
  - 9 were at the top of at least one subject web page on the old 03/04 website
  - 3 others were full-text journal sources
  - 1 signaled questions about why usage dropped

- 31 of 78 databases had greater than 30% increase (at least 100 count) in searches from 03/04 to 04/05
  - 4 are at the top of at least one subject page on the new 04/05 website
  - 16 had increases of between 100% and 267%
  - 11 had increases greater than 300%
Results  Limited User Licenses

Monitor turnaways and sessions per month to determine whether to increase or decrease users.

- Database A started with 1 user, had 11 turnaways in first month and switched to 2-4 users.
- Database B started with 2-4 users, first 12 months had no turnaways and average 4.5 sessions per month, switched to 1 user.
- Database C had only 4 turnaways in 18 months with 2-4 users and never more than 2 simultaneous sessions, switched to 1 user.
- Turnaways focused in only 1 or 2 months for several databases were considered anomalies.
- Database D began showing high turnaways, call to vendor resulted in review of license with update to unlimited usage.

Results  Cost Analysis

Calculate cost per search and article to share with faculty.

- Cost per search / article
  - Cost per search runs from $.55 to $36.30 for 15 purchased databases with statistics
  - Cost per article runs from $.43 to $65.27 for 8 purchased full-text databases with statistics
Results  Journal Subscriptions

High turnaways for unsubscribed journals can indicate errors in EJMS configuration, provide input for new title considerations, or indicate need for user instruction.

- Major distributor of academic and professional journals online → 49,366 turnaways in 30 months
  - Are students using Ingenta as a database?
- Publisher full-text package → 42 turnaways in 22 months
  - Should we subscribe to some of the embargoed titles?
- Distributor of scholarly journals in humanities and social sciences → 44 turnaways in 22 months
  - Is EJMS access correct? Should 10-user limit be increased?

Results  Multidisciplinary Databases

Compare use of multidisciplinary databases.

Database A appeared first on the General Research page on both the old and new websites.
Databases B and C moved up in order on the new website.
Database D was listed second on the old website but was not listed at all as a general database on the new website.
Results **Discipline-Specific Databases**

Compare use of databases in a specific discipline.

- **Business Databases**
  - Data is available for 12 of the 18 business databases listed on the Business research page on the new website, shown in relative order of appearance from A to L.
  - Database C was first on the old website but fell to third on the new website.
  - Databases D, E and F were not on the Business databases page on the old website.

- **History Databases**
  - Data is available for 11 of the 16 history databases listed on the History research page on the new website, shown in relative order of appearance from A to K.
  - Databases E and J are not on the History databases page on the new website.
  - Databases C, D, H and I were not on the History databases page on the old website.
Caveats

- Not all products have vendor-supplied usage statistics.
- Until all vendors are COUNTER-compliant, it’s not apples to apples.
- Assume 1-2% inflation from library staff use and testing.
- Look for increases or decreases of 20% or more and consider what may account for it:
  - Major change or redesign in library space or services
  - Change in placement on website
  - High use in a course offered infrequently
  - Instruction focused on a product

Challenges

- Incorporate the COUNTER Release 2 report data elements into the next ERMI standards for ERM data structure.
- Encourage ERM vendors and open source developers to provide a means to record the 4 basic COUNTER usage elements at database and journal level, with filters to import COUNTER files directly.

In the meantime, are one-off efforts such as Longwood’s worth the time or merely a luxury?
Contact Information

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