Successful Current Practices: Getting Returns on Investment (ROI)!

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National Oceanic & Atmospheric Administration

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The opinions expressed are those of the author and do not necessarily reflect the views of the U.S. Government.
Topics

• Conceptual Model for Valuing a Library
• Terms Defined
• Local Context
• Status of Effort
Conceptual Model

Strategic Points At Which to Measure Library Performance


Where and when to apply these measures are key questions.
Terms Defined

- **Value** – merit, importance, or relative worth

- **Return on investment (ROI).** A form of cost-benefit analysis that measures the costs of a program (i.e., the investment) versus the financial return realized by that program.

From
http://www.cdc.gov/leanworks/resources/glossary.html
What Does *Return On Investment (ROI)* Mean?

A performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed as a percentage or a ratio.

The return on investment formula:

\[
\text{ROI} = \frac{\text{Gain from investment} - \text{Cost of the investment}}{\text{Cost of the investment}}
\]

from Investopedia
http://www.investopedia.com/terms/r/returnoninvestment.asp
Strategic Points At Which to Measure Library Performance

Where and when to apply these measures are key questions.
Local Context: Library’s Role in NOAA

Science, Service, and Stewardship

To understand and anticipate changes in climate, weather, oceans, and coasts, ...

Library services provides access to current and past scientific research on climate, weather, oceans, and coasts needed to understand and anticipate changes

... share the knowledge and information with others, and ...

Library services provides online access to many NOAA publications and the metadata needed for others to add the information and publications to their own collections

...to conserve and manage marine resources.

Library services are digitizing, where possible, NOAA’s intellectual output and making it available via the Web
Value Chain to Knowledge in NOAA:
The Roles Librarians and Libraries Play

Funds for library staff and materials provided.

Information products selected, organized, and made accessible.

Such as: print and/or electronic journals, databases, books, charts, maps, technical reports, photos, videos, films, microfiche, etc.

Metadata created for the online catalog, digital and print collections.

Librarians provide and promote use of collections and services.

NOAA accesses and uses online resources: databases, journals, books, manuals, reports and more.

Learning accrues from using library collections and services.

New knowledge created - papers and reports written and communicated from NOAA.

Citizens have a better understanding and take more informed actions.

Feedback loop
Context: NOAA Central & Regional Libraries

Library & Information Services Division operates

NOAA Central Library, Silver Spring, MD
NOAA Regional Library in Seattle, WA
NOAA Regional Library in Miami, FL
National Hurricane Center/Tropical Prediction Center Library in Miami, FL
Betty Petersen Memorial Library, in Camp Springs, MD

Staffing (24)

9 full time federal staff
2 graduate students – part time (federal staff)
11 contactors – full time
2 volunteers – part time

Coordinates with ~25 other NOAA libraries

http://www.lib.noaa.gov/about/lib_network.html
http://www.history.noaa.gov
### Usage: Data Downloaded from NOAA Central Library’s Home Page - January through September 2010

<table>
<thead>
<tr>
<th>Month</th>
<th>Successful</th>
<th>Distinct Hosts</th>
<th>Data Transferred</th>
</tr>
</thead>
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<tr>
<td></td>
<td>Requests (Files)</td>
<td>Served</td>
<td>(Gigabytes)</td>
</tr>
<tr>
<td>January</td>
<td>407,798</td>
<td>24,056</td>
<td>127.99</td>
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<tr>
<td>February</td>
<td>419,284</td>
<td>25,053</td>
<td>142.71</td>
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<tr>
<td>March</td>
<td>521,907</td>
<td>27,717</td>
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<tr>
<td>April</td>
<td>479,029</td>
<td>27,243</td>
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<tr>
<td>May</td>
<td>501,306</td>
<td>27,074</td>
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<tr>
<td>June</td>
<td>440,605</td>
<td>23,967</td>
<td>137.89</td>
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<tr>
<td>July</td>
<td>406,049</td>
<td>22,501</td>
<td>116.71</td>
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<tr>
<td>August</td>
<td>404,257</td>
<td>22,383</td>
<td>135.00</td>
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<tr>
<td>September</td>
<td>428,980</td>
<td>22,594</td>
<td>191.58</td>
</tr>
<tr>
<td>October</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>November</td>
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<td></td>
</tr>
<tr>
<td>December</td>
<td></td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,009,215</strong></td>
<td><strong>222,588</strong></td>
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**Monthly Averages**

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<table>
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<th>Month</th>
<th>Successful</th>
<th>Distinct Hosts</th>
<th>Data Transferred</th>
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<tbody>
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<td></td>
<td>Requests (Files)</td>
<td>Served</td>
<td>(Terabytes)</td>
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<td>February</td>
<td>1,089,555</td>
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<td>March</td>
<td>980,010</td>
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<td>April</td>
<td>827,853</td>
<td>22,902</td>
<td>1.409</td>
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<td>May</td>
<td>917,956</td>
<td>21,568</td>
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<td>June</td>
<td>755,622</td>
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<td>718,363</td>
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<tr>
<td>August</td>
<td>552,451</td>
<td>13,619</td>
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<td>September</td>
<td>766,770</td>
<td>21,267</td>
<td>5.331</td>
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<td>October</td>
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<tr>
<td>December</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,768,375</strong></td>
<td><strong>196,559</strong></td>
<td><strong>17.996</strong></td>
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**Monthly Averages**

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<th>Terabytes</th>
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<td>863,153</td>
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Data downloaded (Transferred) from the NOAA Central Library since January 2010 
10 terabytes ~ 61,000,000 books at 100 pages each, 1800 characters per page or 
20, 000,000 books at 300 pages each. **What is the value of these down loads?**
Usage

www.photolib.noaa.gov
average ‘visits’ per month (Webalizer – “Visits occur when some remote site makes a request for a page on your server for the first time”) 130,167

www.history.noaa.gov
average ‘visits’ per month 17,877

Value of the usage: at minimum wage $7.25 a minute is worth $0.12 and 10 minutes is worth $1.20. So what are the visits to the Photo Library and History page worth?
At 10 minutes per visit the annual value is $2,131,833 or a 1 minute $213,183.
Usage
Journals: successful full-text article requests
(2 of 5) libraries for 2009
Science Direct 42,069
Nature 10,103
Science 11,408
JSTOR 45,797
sub total 109,377

Value of the usage: cost of journals, time saved
Cost to purchase individual articles
109,377 x $25.00 = $2,734,425

Time saved by not going to the library 15 minutes
(2080 x $40 per hr = $83,200 yr, $10 for 15 minutes)
109,377 x $10.00 = $1,093,770
Status of Effort

ROI = Gain from investment – Cost of the investment

Cost of the investment

Costs - known for the most part

Do we really want to express everything in dollars?

Tangibles and Intangibles
WHAT'S THE ROI OF THE SYSTEM YOU'RE ABOUT TO DEPLOY?

IT SHOULD BE IN THE SAME BALLPARK AS THE SYSTEM WE DEPLOYED LAST YEAR.

IN OTHER WORDS: YOU HAVE NOT THE SLIGHTEST IDEA.

CORRECT!
Researcher’s Workstation

Vannevar Bush “As We May Think” Atlantic Monthly, July 1945.

“A memex is a device in which an individual stores all his books, records, and communications, and which mechanized so that it may be consulted with exceeding speed and flexibility.”

“Mendel’s concept of the laws of genetics was lost to the world for a generation because his publication did not reach the few who were capable of grasping and extending it; and this sort of catastrophe is undoubtedly being repeated all about us, as truly significant attainments become lost in the mass of the inconsequential.”

Clay tablets, papyrus, scroll, parchment, book, e-books all acquired, organized, retrieved, and preserved by librarians. Libraries are not going away...
What makes a library great?

1. “Great libraries provide measurably superior service. The greatest innovation is superior service. The most constant measure of quality is the delivery of superior service.

2. Great libraries have great funding.

3. Great libraries train and retrain their staffs. (5% not 1% or less)

4. Great libraries integrate the marketing of virtual, place and outreach services.

5. Great libraries serve both the weakest and the strongest among their constituents.

6. Great libraries provide constituents with education and entertainment.

7. Great libraries use virtual tools to offer a full range of timely information and services.”