Institutional investment on libraries: what is the return of fund-raising? a case study of the Consejo Superior de Investigaciones Cientificas

Agnès Ponsati Obiols

Towards a library economy Funding, planning and increasing value in times of crisis
Milan, 11th – 12th March 2010
Milano
What’s CSIC?

- Research State Agency (2007)
- 116 institutes
- 6% Spanish research community
- 10,600 staff (5,000 scientists)
- 879 M€ budget 2008 (2/3 MCIIN, 1/3 other)
- Collaborates national and internationally with: university + industry for a technological and scientific policy
- Organisation based on 8 scientific areas
- CSIC scientific production represents 20% of ISI Spanish representation
- CSIC Library Network (78 libraries, 8.5 M€ acquisitions)
Library value gap emerges: ARL expenditures vs perception of library value

Amount spent on library resources

Perceived value of library as an information gateway

Value Gap

Online catalogs

CD-ROMs

Web browsers

Chart courtesy of Dr Carol Tenopir, 2009
Learning about library users: What has been done in the past

Focus groups & opinion surveys to examine changes, make improvements

Use surveys & data to show value, outcomes, ROI

Usage logs to show what people do on library systems to inform collection decisions & growth

Methods to learn about users and usage work together to show explicit and implicit value
To demonstrate that library collections contribute to the income-generating activities of the institution.

For every monetary unit spent on the library, the university receives ‘X’ monetary units in return.
Libraries and Grant Research Cycle

- Conduct Research
- Obtain Grants
- CSIC Libraries
- Write Articles
- Write Reports & Proposals
Quantifying library value for the institution

ROI: Income as a proportion of the amount invested in an asset.

Faculty generate income for the institution. Faculty use the library and its collections. What role do information resources serve in the income generation process?

% of grant $ using library resources

÷

Library budget

= “X”
ROI Analytical approach

1. Interviews with key administrators to capture the institutional goals and values
2. Library budget figures over time
3. Grants income over time
4. Faculty survey to measure:
   1. Total number of grant proposals
   2. Number of grant proposals that included citations
   3. Number of grant awards from proposals that included citations
   4. Importance of citations in grant proposals
5. Testimonials (in survey or through faculty interviews) that focus on outcomes of library use
Distribution of institutions involved
Grants ROI model

- Numbers/percentages input into model

\[
\left( \frac{\text{number of grant awards} \times \% \text{ of faculty who say citations are important to grant awards}}{\text{number of grant proposals} \times \% \text{ of proposals that include citations obtained through library}} \right) \times \frac{\text{average size of grant} \times \text{number of grants in one year}}{\text{total library budget}}
\]

- Juxtapose with interviews and survey responses
- Put the ROI result into context for institutional faculty and executive administration
Executive values: Issues that are similar

- Attain prestige and internationalization
- Improve faculty and research productivity
- Attract high quality scientist through high quality instruction
- Expand grant funding

“Funding does not regenerate funding. But reputation does.”
– Charles Zukoski, UIUC

“If we publish more we are better considered for funding” CSIC
Executive values: Issues that are different

- Institutional mission
  - Research-intensive versus focus on teaching
  - Cultural preservation versus globalization

- Funding sources
  - External versus internal
  - National versus global

- Mandates
  - Institutional, regional, national

- Library alignment with mission
  - Investment in information resources
  - Enablement of e-access/infrastructure
Faculty survey: ROI calculation questions & other data checks

- How many proposals submitted?
- How many grants funded?
- Total monetary value of grants?
- Importance of citations in proposals and reports?
- How many citations in proposals, reports, articles?
- What % of citations from the library collections?
- For each cited, how many others do you read?
Faculty survey: Other types of analysis

- How many hours in a typical week do you spend on:
  - Finding or accessing articles or books?
  - Reading articles or books?
- How has access to e-resources through the university network changed the way you work?
Faculty survey: Demographics

- What is your primary subject discipline?
- What is your current rank/position?
- 5,850 faculty invited
- 1,181 participate
- 20% success rate

CSIC's associated institutions include both universities and autonomous research units. Of the 613 respondents who answered the question about their rank, 46% were tenured scientists, 29% were scientific researchers, and 15% were research professors. The remaining 10% were technical personnel (figure 2).
Total monetary value of grants over the last five years, reported by CSIC respondents.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>References in proposals</td>
<td>95% (71%-98%)</td>
</tr>
<tr>
<td>are essential, very</td>
<td></td>
</tr>
<tr>
<td>important, important</td>
<td></td>
</tr>
<tr>
<td>Average number of</td>
<td>31 (20-46)</td>
</tr>
<tr>
<td>citations in proposals</td>
<td></td>
</tr>
<tr>
<td>Percent of citations in</td>
<td>75%-99% (50%-99%)</td>
</tr>
<tr>
<td>proposals (recognized) from</td>
<td></td>
</tr>
<tr>
<td>library</td>
<td></td>
</tr>
<tr>
<td>For every article cited,</td>
<td>27 (18)</td>
</tr>
<tr>
<td>average number of more</td>
<td></td>
</tr>
<tr>
<td>that are read</td>
<td></td>
</tr>
</tbody>
</table>
CSIC % respondents who reported 75-99% of cited items were accessed from the library’s online system.
Value of E-Resources

“The capability of doing thematic and author searches gave me a new control on my research field.” CSIC

“You have access to many more articles and although you do not read them completely, you are more aware of what is going on in the field.” CSIC

“A sure way to kill a proposal is not to give proper credit or to not update new developments.” UIUC

“Access has made collecting research resources infinitely more efficient; and facilitated interdisciplinary research.” UT
Impact on Productivity

“I guess that on average the online access saves me more than 10 hours per week.” CSIC

“It has saved me plenty of time…I can have remote access from home, which allows me to work on weekends.” CSIC

“My productivity would drop at least four fold if I had to go to the library for all my needs.” UIUC

“The task of finding the most pertinent articles on a new topic used to take a full afternoon. The same work can now be completed in 15 to 30 minutes.” UT
“Presently scientific research without electronic access to resources is unthinkable.” CSIC

“It has helped me open or discard lines of research at the very beginning by knowing what other researchers have published or are soon going to publish.” CSIC

“It would be impossible to be competitive internationally without electronic access to publications.” UIUC

“Electronic access greatly improved and simplified work for publication, preparation of proposals, and research work with students.” UT
Library value for Administration

1. Attract & retain outstanding faculty
2. Increase impact of university research
   - Faculty with more publications and citations have higher propensity of obtaining more grants.*
   - Faculty who publish more, read more**
   - Faculty who receive awards read more**

“I would leave this university in a microsecond if the library deteriorated …” UIUC

“[e-journals] save me hours and hours, and my papers, proposals, etc., are better.” UT

“I am now able to explore and trace back topics and check the developments that arose along the topic history making connections that were only dreams a few years ago.” CSIC

*Ali & Bhattacharyya, “Research Grant and Faculty Productivity Nexus: Heterogeneity among Dissimilar Institutions.” Academic Analytics
**Tenopir & King, Towards Electronic Journals, SLA, 2000
✓ For every Euro invested in the library, CSIC received a return of €15.54 in research grant income (expressed as a 15.54:1 ratio).

✓ Respondents reported they submitted an average of 1.1 proposals each in 2007, and reported they received an average of over €294,995 each in research grant income.

✓ Respondents cited an average of 31 books or articles in every grant proposal they submitted, 22 in each grant final report, and 32 for each published article. For every book or article cited, respondents read 27 other books or articles.

✓ Over 95% of respondents considered it “essential”, “very important”, or “important” to cite references to journal articles or books in their grant proposals.

✓ Most respondents accessed from their library e-resource collections at least 75% of the articles and books they cited.
✓ Respondents report spending more than 15 hours per week finding, accessing, and reading scholarly literature.
Conclusions so far...

- This study demonstrates one method of quantifying the library’s value (research income is generated using the library collections)
- Academic library collections *STILL* help faculty be productive and successful
- Libraries help generate grants income
- E-collections are valued by faculty and bring return on investment to the institution, no matter where in the world
- Majority of faculty consider library resources an important part of their research and integral to the grants process
Grants ROI results varies

- From 15.54:1 to under 1:1
- ROI depends on institutional mission
  - Research focus is higher; teaching focus is lower
- Be cautious when comparing ROI among institutions with differing missions
- ROI is one of other measures of the library’s value
  - Usage = implied value
  - Stakeholder testimonials = explicit value
  - Time & cost savings = contingent valuation
## Aggregated ROI results

<table>
<thead>
<tr>
<th>University</th>
<th>ROI</th>
</tr>
</thead>
<tbody>
<tr>
<td>University 1</td>
<td>3.44</td>
</tr>
<tr>
<td>University 2</td>
<td>15.54</td>
</tr>
<tr>
<td>University 3</td>
<td>0.27</td>
</tr>
<tr>
<td>University 4</td>
<td>13.16</td>
</tr>
<tr>
<td>University 5</td>
<td>0.55t</td>
</tr>
<tr>
<td>University 6</td>
<td>1.31</td>
</tr>
<tr>
<td>University 7</td>
<td>0.64</td>
</tr>
<tr>
<td>University 8</td>
<td>1.43</td>
</tr>
<tr>
<td>University 9</td>
<td>5.60</td>
</tr>
</tbody>
</table>

Highest values come from institutions with a purely research mission or with a concentration in science and technology.

Middle values are from research-oriented institutions that cover all disciplines and include both teaching and research, but are located in countries or environments where seeking externally funded competitive grants is a priority and funds are available.

Lower values are from comprehensive liberal arts institutions with a mix of research and teaching where grant monies may be limited or are institutions that rely on government funding instead of competitive grant funding.
Other recent independent works

How Much Do the “Best” Colleges Spend on Libraries? Using College Rankings to Provide Library Financial Benchmarks

D. Yvonne Jones

Recent ACRL guidelines and standards urge academic libraries to compare selected input and output measures with peer institutions for assessment. This paper provides an example of such a comparison, using a freely available statistical tool from the National Center for Education Statistics (NCES). Applying the NCES data tool to liberal arts colleges shows how NCES News and World Report (US News and World Report) may be out of touch with library needs and financial pressures. The online tool is especially useful for providing benchmark information to larger institutions.

E-journals: their use, value and impact

A Research Information Network report

April 2009

CSIC

CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS
This computer model quantifies the association between downloads and research outcomes. A doubling (100 per cent increase) in downloads, from 1 to 2 million, is statistically associated with dramatic increases in research productivity. The gearing becomes even stronger as the volume of downloads increases further. (Source: “E-journals: their use, value and impact”)

“The more you read, more citations, more productivity”