Library Value Calculation
Library value calculations

We all know that maintaining a research library requires a large investment. The annual expenditure figures of a library quantify the investment, but do not tell the whole story.

How do we quantify the other side of the story, the contributions the library makes in return to the university? Research libraries are not used to assigning a monetary value to the use of their collections, services and expertise, although public libraries have been moving into this direction in the past few years. Borrowing some of the methods public libraries use, RAU has calculated dollar values for some core library transactions. This is only an illustration and is by no means an exhaustive list of the ways the library contributes to the university. As calculating financial value is a new approach in our environment, we'd be interested in hearing your reactions and suggestions for improvement.

The bottom line: even a partial list of how CUL is used every day shows that we generate more value than how much money is expended on supporting our operations. And we didn't even try to include what the popular MasterCard ad would use as its punch line:

Intellectual stimulation: priceless.

Here are the figures:

It cost $56,678,222 to maintain Cornell's 20 libraries in 2008/2009.

Includes Weill Cornell in New York City but not in Doha, Qatar. Includes all sources of funds: appropriated, endowment income, sponsored funds.
If CUL did not exist, the university would have had to pay the following amounts last year to secure services that are comparable to the use that the Cornell community makes of the library:

for the use of physical volumes: $15,135,782
The assumption is that access to a volume through borrowing it from the library is worth a user 50% of what it would cost to purchase a book.

This calculation uses 50% of the average Amazon.com unit order cost for library-like content (price + shipping): $26.12 (although obviously a lot of volumes we provide access to are not available at Amazon and are a lot more valuable than Amazon's average title.)

In 2008/09 Cornell-owned titles were used 553,938 times (general and reserve charges excluding renewals, laptop and equipment charges.)

Books not owned by Cornell were borrowed for Cornell users 25,533 times a year (BorrowDirect and Interlibrary Loan)

for articles accessed online and through interlibrary services: $61,265,783
The assumption is that a commercial pay-per-view charge fairly describes the value of accessing a scholarly article.
Number of full text article downloads from licensed core online sources in calendar year 2008: 3,877,755 (not all downloads can be tracked, so the actual number is higher than this.)

Pay-per-view charge for Science Direct in the absence of a license: $31.50
This calculation uses 50% of Science Direct charge to attempt to average out price differences among a wide range of disciplines.

for answering questions to build research skills and contribute to Cornell research results: $1,176,615
Number of reference questions answered in 08/09: 78,441

The Massachusetts Library Association, in its widely used and adapted library value calculator, uses $15 to represent the value of a reference question.
for in-depth consultations that contribute to Cornell research results: $126,900

The assumption is that $75/hr is a fair representation of the value of a research consultation. This figure is based on the fee-based reference rate charged at the ILR library for requests coming from non-Cornellians.

In 2008/09 376 consultations were conducted at the handful of unit libraries that record these transactions. We are estimating that three times this number took place at CUL as a whole, and that the average length of a consultation was 90 minutes.

for Cornell’s use of preprints from arXiv.org: $740,250

The assumption is that half of a commercial pay-per-view charge fairly describes the value of accessing a scientific preprint (since preprints have not gone through peer review and the editing process, although they are a lot more current than published articles.)

Number of arXiv preprint downloads from cornell.edu unique IP (multiple downloads of same item from same IP in the same month are excluded): 47,000

Pay-per-view charge for Science Direct in the absence of a license: $31.50

Calculation uses 50% of Science Direct charge in recognition of the fact that these items are preprints.

for distributing Cornell-created content to the world through eCommons: $12,001,290

The assumption is that half of a commercial pay-per-view charge fairly describes the value of accessing a Cornell-authored preprint/document (since these items have not gone through peer review and the editing process.)

Number of downloads from eCommons excluding robots for 1/1/09 – 11/30/09: 733,412. Extrapolated for full 12 months: 800,086.

for laptops borrowed: $202,165
The assumption is that half of a commercial pay-per-view charge fairly describes the value of accessing a Cornell-authored preprint/document (since these items have not gone through peer review and the editing process.)

Number of downloads from eCommons excluding robots for 1/1/09 – 11/30/09: 733,412. Extrapolated for full 12 months: 800,086.

for laptops borrowed: $202,165

In 2008/2009 124,793 laptop charges and renewals took place. We are calculating that each loan and renewal lasted for 3 hours, so the total is 374,379 hours.

The Cornell Store rents laptops at $90/week, and we assume that this is a fair market value. This translates to the $0.54/hr rate used in this calculation.

TOTAL OF PARTIAL LIST ABOVE: $90,648,785

What’s missing from these value calculations:

- Use figures are not available for some parts of our electronic collections (e.g. use of our approximately 518,000 e-books, some of our licensed e-journals and electronic databases, some locally produced and maintained digital collections.)
- Use figures are not available for our public computers, carrels, and study spaces.
- It is difficult to assign a dollar value to library instruction and what it contributes to students’ educational outcomes.
- It is difficult to quantify the value of unique and rare materials (e.g. archival material and rare books)
- We are not including library discovery services in these calculations since it can be argued that the value is included in the delivery of the items discovered.

Please share your reactions and ideas for other value calculations.