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Appendix A: Summaries of Recent Impact Studies

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Cities

Toronto, Ontario

State of Minnesota

Title

**Minnesota Public Libraries' Return On Investment, University of Minnesota
Duluth, Labovitz School of Business and Economics, December 2011**

Goals

This research was designed to answer several questions: (a) what are the levels of support among the state's residents for public library services; (b) how do state residents want public library services to be financed if changes were required to maintain or expand services; (3) what economic impacts are due to public libraries in the state; and (4) what is the cost-benefit ratio/ROI of public libraries.

Methodologies

Two surveys were conducted: a statewide, general population survey of 804 households and a more detailed survey of 557 public library users throughout the state. The user survey was the main method used in determining the value of public library services. Rather than estimating benefits for specific library services, researchers relied on contingent valuation, asking patrons directly how much they would pay or exchange for all library services, that is a bundle of library services rather than individual library services. Contingent valuation is essentially a "willingness-to-pay" approach or the "willingness-to-accept" approach, which generates estimates for how much a patron say they would pay to obtain a service, or how much they would accept to give up the service.

Another component of the research was determining the economic benefits of public libraries with the economic model IMPLAN. Indirect/induced employment, indirect/induced labor income, and indirect/induced economic impacts were computed based on public library employment, labor income, and spending/expenditures as well as the economic profile of the State of Minnesota.

Results

Based on the user survey, researchers estimated that the average household would be willing and able to donate between \$31.7 and \$38.3 dollars annually, resulting in a total donation of \$65.4 to \$79.0 million annually, based on the number of Minnesota households. The researchers stated the estimated amounts should be considered "snapshots," as demand conditions could change frequently.

The combined totals for capital expenditures and operational expenditures in 2010 dollars were computed to be:

Employment	4,202
Payroll	\$296,329,531
Output	\$431,793,024

ROI Ratio(s)

Based on the willingness to pay estimates, the economic model amounts, and Minnesota's population, the economic contribution per capita totalled \$169.32. With local and county tax support per capita at \$36.67, the annual return per dollar of public tax support equalled \$4.62. That is the generally used ratio throughout the report, although in several sections, a lower ratio of \$2.50 was cited.

Other Findings:

The general population survey indicated that Minnesotans felt that public libraries are a very important part of a community, and that public library funding should remain the same or be increased. If additional resources were needed for public libraries to continue, there were divergent views about user fees, taxes and/or reducing services. The most frequently favored option was to raise taxes, not user fees and/or reduce services. However, the next most favored option was to increase user fees and/or reduce services and not alter taxes. Findings varied by the pattern of respondent and household use of public libraries, and background items such as household income, respondent gender, age, and geographic location.

Other pertinent details from the general population survey:

There was a higher level of household usage of public libraries among those in the Twin Cities area (83%) than elsewhere in Minnesota (72%).

There was no statistically significant difference in reported household usage of public libraries by men or women, although gender differences showed up in other patterns of usage.

There was no statistically significant difference between men and women on the question of whether public library support should be increased, remain the same, or be reduced.

In all income categories, to increase support, the highest percentage of respondents favored using taxes and oppose user fees or reduced service.

Those individuals with more education were more likely to report household use of a public library in the past year: 62% among those with some college or less education, 83% among those who have graduated from a technical or other college, and 92% among those with post-graduate work. There was no statistically significant difference between these education groups in their feeling of the importance of having a public library in every community as all groups felt this was important.

There was no statistically significant difference among age groups in the importance they expressed for there being a public library in every community, or on the question about whether public library support should be increased, remain

the same, or be reduced.

Researchers also identified the social return on investment (SROI) from Minnesota public libraries without attempting to measure the educational programs, literacy benefits, the expertise of the library staff, the library facility as a community gathering place, the “halo” spending by library users at establishments close to the library, and the value of a library’s enhancement to neighborhood real estate and community partnerships.

Santa Clara County, California

Title

Santa Clara County Library District, 2013 Return on Investment Report, Berk Consulting, Seattle Washington.

Goals

The Santa Clara County Library District (SCCLD), which has 8 libraries and a bookmobile, serves more than 400,000 residents in the unincorporated portions of Santa Clara County and the cities of:

- Campbell
- Cupertino
- Gilroy
- Los Altos
- Los Altos Hills
- Milpitas
- Monte Sereno
- Morgan Hill
- Saratoga

Besides quantifying the SCCLD's benefits to the extent possible, the report sought to describe SCCLD's unquantified benefits. An extensive portion of this report is devoted to the library district's activities in:

Enhancing early literacy and youth education;
Promoting lifelong learning and personal growth;
Building and bridging diverse communities;
Providing access to information and technology for all; and
Supporting personal recreation and quality of life.

Examples are provided of the district's impacts on health and wellness, adult education, job and employment services, literacy, and being anchors of community life for county residents. Santa Clara County has an extensive variety of economic, social, linguistic, and ethnic backgrounds, with over 100 languages and dialects are spoken by county residents according to the report. The

Library District has tailored its collections and programming to reflect the highest used languages and actively collects in 19 languages.

Methodologies

Five major categories of activities and services were examined in fiscal year 2011-2012:

- Circulation
- Programs
- Reference Services

- Space Usage
- Technology Usage (in-library terminals, wireless, and databases)

The quantitative methodology was standard: (a) identify the quantity of a service; (b) assign a value, usually both a high and a low value, based on the going rate to acquire a comparable good on the open market; and (c) for all circulation categories, apply a discount rate to the low value only. Unquantified benefits were identified primarily through interviews.

Results

Circulation values dominated the total benefits. The low and high calculations for each major category were as follows:

	Low Estimate	High Estimate
Circulation	\$50,995,113	\$105,631,651
Programs	\$1,621,340	\$4,161,784
Reference Services	\$2,945,808	\$8,849,375
Space Usage	\$77,350	\$324,050
Computers	\$1,936,901	\$4,439,814
Databases	\$24,848,725	\$47,706,559

ROI Ratio(s)

Total estimated benefits were computed at approximately \$83 million for a low estimate and \$171 million for the high estimate. Total expenditures were slightly over \$33 million for cost-benefit ratios of \$2.50 and \$5.17.

City of Toronto, Ontario

Title

So Much More: The Economic Impact of the Toronto Public Library on the City of Toronto, University of Toronto, Martin Prosperity Institute, December 2013

Goals

Determine the ROI and total economic impact of the Toronto Public Library based on calculations for tangible benefits and spending. According to the report, direct tangible benefits are those that have an identifiable beneficiary while indirect tangible benefits are those from the re-spending of dollars within the community.

At the time of the study, Toronto's population was nearly 2.8 million. The library had 98 branches located across the City of Toronto, and most Toronto residents lived within a two-kilometer radius of a branch.

Based on a 2012 survey cited in the report, the Toronto Public Library is heavily utilized:

- Over 2 million residents are members;
- 72% of respondents used the library in the past year;
- 44% of the adult population uses the library once a month or more; and
- Nearly half of the adults taking a child to a library branch do so two or three times each month.

Methodologies

The study analysed the five main categories of Toronto Public Library programs and services:

- Collection Use – books, eTitles, CDs, DVDs, magazines, newspapers, and a museum and arts pass providing discounts;
- Programs – for children, teens, adults, and seniors to support literacy, culture, workforce development, and lifelong learning;
- Reference & Database Services – to support study and business development;
- Technology – access to computer technology and the Internet to support career development, personal research, and lifelong learning; and
- Space – used for reading, personal study, meeting, and collaboration.

Values for each service were based on the local comparative market price for a similar service, according to researchers. And in the case of circulation materials and materials used in the library, the actual cost of the item was discounted by 80% to account for the differences between borrowing and owning a book or other media item. (That left a residual value of 20% per item.) Whenever possible and appropriate, local Toronto prices were used to determine the value.

Two approaches were used that were different than those in other jurisdictions. First, all spending data were from a single year (2012), except for capital expenditures. For renovations, the average annual spending from 2007–2012 was used. Second, to calculate the indirect benefit, researchers applied a multiplier range of 1.4 to 2.0 instead of performing calculations with a specific economic model. To justify this approach, researchers provided information about multipliers in other recent economic impact studies evaluating comparable services. They also state that the 1.4 to 2.0 multiplier range is consistent with national and provincial multipliers used by Statistics Canada.

This report also introduced new measures to estimate the value of library space and materials delivery.

Results

Three estimates were computed for the values of services: low, mid-point, and high. Those amounts were: CAD \$352.5m, CAD \$680.8m, and CAD \$1,009.1m.³⁶

Three amounts also were generated for total economic impacts: Low – CAD \$612.1m, mid-point – CAD \$1,000.6m, and high – CAD \$1,389.1m

In general, the mid-point numbers were cited most frequently.

ROI Ratio(s)

Low, mid-point, and high ROIs were 244%, 463%, and 681%.

Other Findings

Values for individual services were:

	Low	Mid-Point	High
Collection Use	\$183.7	\$512.1	\$840.4
Programs		26.4	
Reference & Database Services		78.8	
Technology Access		25.9	
Meeting & Study Space		37.7	

Total economic impact for each household within the City of Toronto: \$955 CAD;

Total economic impact for each of Toronto’s residents: \$358 CAD.

Based on the \$1 billion in direct tangible benefits (the High estimate) provided by the Toronto Public Library, each of the two million library members received as much as \$502 in total direct benefits.

³⁶ In millions of Canadian dollars (CAD\$). The exchange rate as of 12/31/2013 was 1 USD=1.0628 Canadian or CAD\$= 0.94095 USD.

Materials delivery was valued as a service at approximately \$15 million. Library members may place a circulating item on hold and have that item delivered to a branch chosen by the resident for pick-up. The value per “hold” was deemed equivalent to the cost of single fare for the Toronto Transit Commission at that time.

The meeting and study space amount of \$37.7 million was based on a series of assumptions and calculations. To calculate the economic benefit of meeting space, bookings of meeting rooms at branches were multiplied by the Library’s commercial rental rate, which was deemed comparable to the Toronto District School Board space rates of \$12.20 to \$50 per hour. That value was relatively small at \$1.4 million. The bulk of meeting space value (\$36.2 million) was derived by multiplying the 9 million annual visitors by a conservative value for work space in the Toronto.

Salt Lake County, Utah

Title

A Return on Investment Study of Salt Lake County Library Services, Javaid Lal, University of Utah, July 2013

Goals

Due to the financial contraction of 2008, all Salt Lake County departments were asked to justify their expenditures in conjunction with a countywide tax increase. This led library officials to support a study to quantify the monetary value of the library services and inform the public and other stakeholders about their return on investment (ROI). In addition to providing measurable results, the study obtained information from library users about their priorities.

At the time of the report, the Salt Lake County Library (SLCoLibrary) operated 18 community libraries and three reading rooms in 17 cities serving a population in excess of 825,000. During 2012, more than 4.5 million people visited SLCoLibrary branches and over 10.1 million connected virtually via the library website. More than 16 million items were checked out, which made SLCoLibrary the 12th largest circulating library in North America with 22.2 books per capita circulation. Salt Lake City and Murray City, with a combined population of more than 235,000, have their own libraries.

Methodologies

To calculate ROI for Salt Lake County Library Services (SLCoLibrary), a mixed-methods, multi-phase approach was employed. In the first phase of the study, an online survey was fielded to collect data from library patrons. The survey used the contingent valuation method by asking specific questions about patrons' library use and their willingness to pay for similar services in the absence of a library. Questions were asked about discrete services and not a bundle of services.

In the second phase of the study, 2012 library use statistics from SLCoLibrary were utilized in calculating monetary equivalents of the services provided by the library.

Actual usage and willingness to pay were determined for:

- Help from Library Staff
- Magazine borrowing
- Newspaper borrowing
- Book borrowing (hardcover, softcover, children's, E-book, audiobook)
- Computers
- Electronic resources
 - Electronic News & Magazines Subscription

Professional Journals Subscriptions
Business & Investment Resources Subscription
Consumer Reports Subscription
Genealogy And Family History Search

DVDs, CDs

Children's and adult's programs

In the third phase, indirect economic impact analysis was performed with the Rims II Regional Input-Output Modeling System. This analysis generated the economic ripple impacts on the local economy from library expenditures for employee wages, book, supplies, and construction activities.

The final phase aggregated the benefits from services and the direct and indirect economic impacts, and compared them to taxpayer costs. Unusually, capital/construction expenditures were considered one-time benefits and separated from other benefits, although not excluded from the ROI.

Results

ROI Ratio(s)

Salt Lake County taxpayers' combined return on investment was calculated at between \$5.47 and \$6.07 for every \$1.00 invested in library services. This was comprised of between \$3.09 and \$3.69 in direct benefits, \$1.57 in indirect benefits, and \$0.81 in one-time benefits for every \$1.00 invested by the Salt Lake County taxpayers.

Overall, SLCoLibrary provided goods and services worth \$121 million in measurable direct benefits to the County residents.

Other Findings:

An average SLCoLibrary cardholder saved \$4,581 annually by not having to purchase similar material in the marketplace.

When asked how much they would be willing to pay, the average cardholder specified \$487.96.

There were 608 responses to the user/patron survey. More than 100 questions were asked. The first section addressed inclusion criteria, in person and online visitation purposes, and visitation frequency. The second section contained approximately 60 questions pertaining to current usage and willingness to pay for alternative services as well as questions about satisfaction with library services. The third section collected demographic information for statistical purposes.

The majority of survey respondents were satisfied (24.36%) or very satisfied (71.88%) with library services—a combined satisfaction rate of 96.24%.

Toledo Lucas County, Ohio

Title

Return on Investment Analysis of Toledo Lucas County Public Library, Fleeter & Associates, Columbus, Ohio, April 2016

Goals

The Toledo Lucas County Public Library has a collection of nearly 2.2 million print, video, audio, and digital materials, ranking it as the fifth largest in the State of Ohio. There are nearly 300,000 cardholders from the Lucas County population of approximately 442,000. There is a downtown main library and 18 branch libraries.

Methodologies

Library services were broken into the following categories:

- A. Circulation of Physical Materials--books, periodicals, dvds, and cds
- B. Circulation of Digital Materials--eBooks, downloadable audio books, digital magazines, & streamed movies
- C. Computer & Technology Services--loaning of laptops and tablet devices, patron use of library computers, wireless provision, and computer training
- D. Reference Services--non-circulating books and periodicals, provision of answers to reference questions, and electronic database usage
- E. Other Library Services, Programming and Outreach--meeting room use, children's, young adult, and adult & family programs, bookmobiles, genealogy, job & employment and personal finance workshops,

Values for each service were based on comparative market prices for similar services. For instance, based on information about the cost of computer training in northwest Ohio, a value of \$25 per hour per patron was assigned to the computer training offered by the library. The number of patron hours of training was then multiplied by \$25.

For physical books, this study assigned an average discount of the purchase price of 50%. In other words, the assignment of the net value when a patron borrowed a book assumed that the net value of the use of the book equaled its acquisition cost less a resale value of 50%. The formula for computing the value of books borrowed equaled:

Number of Books Borrowed X (Acquisition Cost– 50% Discount) = Total Economic Benefit of Book Circulation

To calculate the indirect benefit, researchers applied a multiplier of 1.41 instead of performing calculations with a specific economic model. This specific multiplier was selected because it was the "Household Consumption" economic multiplier for Ohio,

as computed by the Bureau of Economic Analysis, U.S. Department of Commerce. Unlike all other prior ROI library impact reports, this multiplier was applied quite differently: to multiply to the value of library services and not to multiply library expenditures.

Results

ROI Ratio(s):

When compared to the library's expenditures of \$37.1 million in 2015, the total Return on Investment was determined to be 3.87.

Other Findings:

Values and proportions of values for categories of services were:

Library Service	Estimated Value	Share of Value
Physical Circulation	\$40,949,070	40.30%
Electronic Circulation	\$9,125,812	9.00%
Computer & Technology Services	\$19,770,644	19.40%
Reference Services	\$27,894,521	27.40%
Library Programs & Other Services	\$3,937,933	3.90%

Appendix B: Bibliography and References

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Appendix C: Performing Organization and Project Staff

The Bureau of Business Research, IC² Institute, The University of Texas at Austin

The Bureau of Business Research (BBR) was established in 1926 to provide small business owners and policymakers with applied economic research and data to strengthen the state's business environment. Throughout its history, the Bureau and its work has been characterized by objectivity and independence. The IC² Institute was established in 1977 with the vision that science and technology are resources for economic development and enterprise growth. In addition to the BBR, the Institute oversees several programs that include the Austin Technology Incubator and the Global Commercialization Group. The Bureau's prolific publications history includes numerous economic assessments and program evaluations.

Project Staff

Dr. James Jarrett, Senior Research Scientist, Bureau of Business Research, IC² Institute, The University of Texas at Austin, served as the principal investigator. Brian Lewandowski, Associate Director, Business Research Division, Leeds School of Business, University of Colorado Boulder, performed the economic modelling. The research was conducted in calendar year 2016.



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