

**Speaking in the ROI-al We: On the Need to Create a Return-on-Investment
Calculator for Academic Libraries of Community Colleges and
Regional/Undergraduate Four-Year Institutions**

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Abstract

In response to “times of austerity” and the precarious funding situation that higher education finds itself in, the author examines how academic libraries might quantify their goods and services as a means of demonstrating to campus administration the value of the library. By utilizing Return-On-Investment (ROI) libraries can attach dollar amounts to perceived “free services” (such as reference help, interlibrary loan, and computer labs). Public libraries have used ROI calculators such as the Weiner ROI Model but academic libraries have heretofore not made much use of the ROI model. By building on the Weiner model, the Louisiana Chapter of the ACRL hopes to build a ROI calculator that academic libraries of any size can use; to that end, the ACRL-LA has taken preliminary steps in the development of such a tool.

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An Answer During Times of Austerity

In a June/July *State News (Council of State Governments)* article, Mikel Chavers examined the state government practice of addressing financial shortfalls by paying recurring bills with one time money. He points out that when Colorado attempted this “balancing act” in order to fund higher education, saving it from a \$150 million cut over the course of three years, this placed higher education in a much more precarious situation, once the one time funding (recovery money) dried up. Chavers goes on to state that Louisiana may be following suit if it addresses its ongoing revenue shortfalls (\$1.3 billion in 2009, with a subsequent \$219 million dollar cut in higher education) with either rainy day fund money¹ or federal stimulus money. Chavers argues that this makes prospects for 2011-2012 bleak,² indicating there will be no easy solutions for higher education in Louisiana.

One example to consider is that of the LSU system in 2009—it dealt with hundreds of millions of dollars in higher education funding deficit by raising the number of hours full-time professors teach, raising the current limit on class sizes, and discussing the possibility of furloughing staff. In January of 2010 Chancellor Michael Martin called some 300 non-tenure-track instructors and research faculty to a meeting to announce that their contracts were officially terminating in one year (although he did leave wiggle room by adding that some instructors may receive “extensions” to their contracts when the new fiscal year began in July). This was a

response to the state legislature's slashing of \$12.6 million, leaving the university reeling from overall cuts of \$43 million for the year, with additional budget cuts to be expected due to a \$3 billion projected decline in state revenues in the next two years.³ As of March 2010, Martin has once again indicated that faculty furloughs are on the table.⁴ These deficit problems have been addressed at the highest levels of state government, with Governor Bobby Jindal's 2009 threat of using line-item vetoes to force state legislators to pass a feasible budget and with his 2010 introduction of The Louisiana GRAD Act.⁵ Without a doubt, the word "crisis" is appropriate to describe the financial problems facing Louisiana's higher education system. For example, Northwestern State's funding, in a worst case scenario, could be cut by an unthinkable 47 percent by 2011. Nicholls State University's funding would be similarly affected, being cut by up to 43 percent over the next two to three years.⁶ Academic librarians may soon find themselves using the same descriptor—crisis—when discussing the multiple implications that higher education budget cuts will have on university and college libraries, as well as on the profession.

Academic librarians would be remiss not to meet this challenge head on, by realizing that when money is tight, it is essential to translate the mission of the academic library, and by extension that of the academic librarian, into terminology that both upper administrators and state legislators understand and respect. Therefore, Louisiana's academic librarians (and perhaps academic librarians nationally) need to begin expressing the function of the academic library in business terms, by developing working, feasible models to show the Return-On-Investment (ROI) of the library. In an interview in *Reference Services Review*, Paula Kaufman (University Librarian and Dean of Libraries, University of Illinois at Urbana-Champaign), one of the few librarians nationally who has seriously attempted an ROI translation for an academic library, succinctly points out the changes that academic librarians need to make in how they present their

funding needs to administrators: “From the point of view of a university provost ... a reliable ROI would answer the question of how much quantifiable value the University received for every dollar it invested in the library.”⁷ This ROI call to action is becoming more common in the literature of librarianship in general, and recently more and more academic librarians have been adding their voices to the mix. Luther (2006) writes that “academic libraries are being challenged increasingly to demonstrate their value to their institution in compelling quantitative terms.... [providing] a response based on sound methodology to questions about the value of the university’s investment in the library.”⁸

Adapting the Public Model

In essence, academic libraries have to figure out a way to do what public libraries have been doing for some time: they must develop a method for calculating the dollar value of *every single* service they provide. Libraries associated with smaller campuses would be best served to adapt an ROI model similar to the public library one of Weiner’s (2000), which is based on the idea that “statistics alone do not reflect a dollar value of worth.”⁹ In fact, public libraries are so far ahead of the game that a March 29, 2010 Google search for the phrase “return on investment calculator” and the words “libraries” or “library” returns nearly 3000 hits, the bulk of them associated with public libraries. Monroe (2005) encapsulates the progress public libraries have made in this arena as the ability to articulate Return-on-Investment by “contingent valuation.” In other words, public librarians can use an ROI Calculator to determine the worth of their libraries by evaluating non-priced goods and services—mostly by examining the financial implications of the disappearance of various library services. For example, a public library ROI Calculator would allow librarians to determine the value of their collection by calculating the hypothetical

costs of patrons' suddenly having to use private, proprietary sources for books and journals if those materials were not made freely available.¹⁰ By the same token, the value of services, such as reference, could be calculated by determining the cost incurred by a patron base if those services were not made freely available.

Various scholars have theorized the reasons that academic librarians trail public librarians in this regard, and the primary factor seems to be a change in the way assessment is conducted and articulated. In other words, it may take a culture change before smaller academic libraries get on board and begin to think of value in financial, not simply subjective and/or statistical terms. Meeting the challenges of tough financial times by creating opportunities for change is not a new concept. In 1984 Nitecki posited the possibility that “austerity could be regarded as a milieu for change, [as] it results from processes that transformed an economy of abundance into one of scarcity.”¹¹ Academic librarians faced with today's shrinking budgets will find a need to adopt Nitecki's broader perspective, meeting the pessimism of budget cuts to personnel, materials (books, journals, and audiovisual items), and capital outlay funding with an optimistic sense that they can create an opportunity to evolve the traditional, subjective methods of assessment into their own version of the Return-on-Investment model.

If Matthews (2007) is correct in his argument that the main reason that Return-on-Investment assessment is seldom attempted by academic libraries is the false belief that it is impossible to quantify what the library does,¹² then academic librarians can take heart in the fact that most academic libraries actually do use some quantifying methods when performing self-assessment. The problem, as Gibbons (2007) sees it, is not that librarianship cannot be expressed in bottom-line language, but that the current measuring devices, such as the LibQUAL+ survey and other ACRL survey tools, compare academic libraries to one another. While these

comparisons may be valid methods of determining how libraries meet a predetermined standard, it would better serve librarians at a given institution—any given institution of any size—to measure the worth of the library by its function within the home institution and its mission statement.¹³ Since most ROI studies are based on the value of an organization to its customer base (or patron base, as is the case with public library ROI studies), it stands to reason that the best possible model for academic libraries would be one that measures what values its patron base—students, faculty, and administration, as well as the broader university community—places on the most common services provided.¹⁴

Early Academic Models: Large Research Libraries

Despite the efforts of the Urbana-Champaign team, Kaufman admits that the development of ROI models for academic libraries is “perhaps in its teenage years.”¹⁵ Given that administrators may well be the most important clientele of an academic library (considering that administrators hold the purse strings), it becomes crucial for academic librarians to speak the language of administration, by translating the functions of the library in terms of finance, rather than solely in terms of user satisfaction—although they are two sides of the same coin. The limitations of the current academic library assessment model, which continues to express the worth of the academic library in nebulous terms, is that it will propagate the status quo, best summed up by Hardesty (2007) as an environment where “academic administrators too often support the library as a ‘good thing’ *in the abstract*” (emphasis mine).¹⁶ And when financial times get tough, entities which cannot express their worth in concrete terms always stand the chance of being undervalued. The proverbial bottom line is that academic librarians will find themselves forced to express worth in terms of the financial bottom line. What this means is that

the idea of an ROI Calculator for Academic Libraries (and I would argue especially for smaller academic libraries) is long overdue. Such a calculator would give academic libraries the tools to translate their raw statistics, which to anyone outside of librarianship are meaningless numbers, into an expression of concrete value. In other words, such a calculator would allow a reference librarian to express monetarily (to reiterate, in the language of administration) what an answer to a reference question is worth—be it a quick (under five minutes) definitive, factual answer found in a reference source, or a protracted answer (which can take the librarian anywhere from five to thirty minutes to answer) which leads to further resource consultation or a referral.

Fortunately, there are ways to avoid reinventing the wheel, so to speak. Current ROI Calculator models for public libraries, corporate libraries, and large Research I institutions (based on grant funding only) do exist and can be consulted, and applicable calculations from each of them assimilated into a generic model which could serve the purposes of all academic libraries, from those associated with community colleges and undergraduate institutions, to those which support research-oriented doctoral granting institutions. The Louisiana Chapter of the Association of College and Research Libraries (ACRL-LA) is slated to begin developing such a calculator in 2010.¹⁷ Our model hopes to give librarians an impetus to change their ways of thinking, to speak not about nebulous degrees of customer satisfaction, but rather in measurable dollars. Our research into creating an ROI Calculator attempts to develop a quantitative measure that recognizes the library's role in supporting the university's strategic goals. Beginning with the best current model available, that developed by The University of Illinois at Urbana-Champaign, the chapter officers have been examining ways to adapt it to libraries not associated with Research I institutions, since that model expresses worth based solely on the amount of grant money that library resources have made possible.¹⁸ One possible adaptable ROI model

would be that of the corporate library; this is particularly important since corporate librarians more often have to express their own and their library's value in dollars and cents. To that end, Housewright (2009) recently argued that the *lessons* of corporate libraries should be applied to academic libraries (emphasis mine). He writes, “By explaining how and why their tasks were chosen based on their business impact, libraries could make a case for their sustenance or even growth in language that managers could relate to.”¹⁹

The Call for an ROI Calculator for Smaller Academic Libraries

Academic librarians will find that if they simply examine the repercussions of their service to the university community, it will not be difficult to find areas of meaningful value. Certainly all academic librarians contribute, as Kelly and Kross (2002) note, to the library's being an “important partner” in the First Year Experience on campuses. While assessing the effect of the library on Freshmen may seem nebulous at first (as it is typically measured with subjective surveys which assess comfort levels and a self-determined sense of understanding), keeping in mind that the FYE is in itself essential to the cause of retention, at least through the Freshman year—which ultimately leads to higher overall retention and graduation rates—the need for calculating the ROI factor of the library on retention becomes apparent, especially since, as Kelly and Kross also point out, the library is now the tech center of most campuses.²⁰ Again, understanding the importance of calculating the library's value for a factor such as retention is nothing revolutionary. In 2004 Samson and Granath argued that retention rates, the development of quality First-Year Experience programs, accreditation, learning outcomes, and the goal of creating life-long learners create an environment wherein research instruction is an *essential* part of the academic curriculum.²¹ This is because, as Guskin (2007) notes, the modern university

needs to focus on student learning, rather than just what students are taught in the classroom.²²

Retention rates being only the tip of the iceberg, academic librarians (especially those at smaller universities and community colleges, where teaching is emphasized over research/grants) can, by applying the lessons of the Weiner Model for public libraries, determine values for most services and materials routinely provided. The golden rule for information professionals, in the words of Jakobs (2008), is that “. . . measuring our own worth often is tied to measuring our ability to create, deliver and interpret sophisticated resources so they genuinely help researchers achieve their goals and provide answers to their questions.”²³ To that end, the Louisiana Chapter of ACRL’s goal for 2010 will be to create an adaptable ROI calculator for *all* academic libraries. Therefore, ACRL-LA will build on the Weiner ROI Model for public libraries, which does the following:

1. Find all cost data for operating information services,
2. Collect user estimates of the value of beneficial library services,
3. Record narrative accounts of library impact,
4. Analyze the cost and benefit information gathered, and determine cost-benefit ratios to provide a Return-On-Investment figure.²⁴

Since the ultimate outcome is to place a dollar figure on the library’s services and on the worth of its collection, ACRL-LA will be creating a web-based interface whereby librarians can articulate the academic library’s value, as well as the value of librarians themselves, in bottom-line, financial terms, even for those aspects of librarianship that are in the public service sector. In other words, like the Weiner Model, a practical ROI Calculator for small to mid-sized academic libraries would have to determine how to deal with the problem that “statistics alone

do not reflect a dollar value of worth.”²⁵ Without a doubt, flexibility will have to be the informing factor of any ROI Calculator that can meet such needs. By combining the Weiner Model, the theories behind the Strouse Model (developed by Roger Strouse, Vice President and Lead Analyst with Outsell Inc.), which described the contribution of corporate and government libraries to their institutions based on the time and costs saved by users, and the Urbana-Champaign Model, ACRL-LA hopes to meet those needs.

The lessons we have learned thus far (in the data collection phase) have already forced us to rethink how we collect statistics so that primarily undergraduate universities, which place emphasis on determining dollar values for services that support teaching and learning, rather than those that primarily support grant writing (although they will include the latter), will be able to input meaningful statistical factors to calculate meaningful values. Four examples of the factors we have explored thus far, for determining the ROI of circulation, interlibrary loan, computer accessibility, and reference desk services, can be found in Appendix 2. To determine the ROI of those services, we've identified possible value determinants, in other words, those savings which get passed on to the library's clientele (patrons, administrators, community members), based on the costs that would be incurred by patrons if those services did not exist. Having isolated those, we then attempted a formula which would use usage statistics in order to determine an overall value for a given service. Since we know the cost of those services, we can simply determine the ratio of value to cost. For example, if it were determined that the library's making accessible books in the sciences saved the library's clientele \$300,000 annually, and the library spent \$100,000 for those books, the ROI ratio for that service would be 3:1, which could be better expressed as a return of \$3 for every \$1 invested. For those not familiar with the ROI ratio, a simplified explanation is offered in Appendix 1. Obviously, this is merely an example of

how ROI analysis could be used to determine not just the overall cost effectiveness of a library, but the cost effectiveness of specific services and collections; such data could be used to determine a course of action for either continuing, modifying, or discontinuing a service or collection.

We realize that there is much work to be done in order to achieve our goal of a feasible and malleable ROI Calculator, but we feel that ACRL-LA has taken giant strides in the right direction. Our next step will be to shore up the formulae used to calculate the various ROI ratios that will make up the overall Return-on-Investment articulation. We fully expect to have a working calculator web-ready by the end of 2010, and we intend to publish our findings at various stages of the project, so that we can further this essential discourse with other ACRL chapters and other librarians during these times of austerity.

¹ Bill McMahon, "Inside Report," *The Advocate* (Baton Rouge, LA), September 4, 1986, sec. B. McMahon chronicles the history of the "Rainy Day Fund," beginning with its creation in 1979. He reports that in the early days of the trust **fund**, the key players were Billy Tauzin, then a state representative and now a former U.S. congressman, former Governor Dave Treen, and 144 lawmakers in the **Louisiana** Senate and House who were in office from 1980-84. The trust was created because "the big money coming from deregulation of oil and natural gas prices and from OPEC price controls flowed into **Louisiana**," **and** Tauzin's idea was to, in his words, "put our asset away and let it make money for us while we can still gather it.... to accrue over the next decade or two to eventually act as a hedge against the **day** when the state may be in dire need of additional revenues."

² Mikel Chavers, "Balancing Act," *State News* (Council of State Governments) 52, no. 6 (June/July 2009): 22-25.

³ Jordan Blum, "LSU Sends 1-Year Notices: 300 Instructors Could Lose Jobs," *The Advocate* (Baton Rouge, LA), January 15, 2010, sec. A.

⁴ Jordan Blum, "Legislators Discuss Higher Education Funding Cuts," *The Advocate* (Baton Rouge, LA), March 24, 2010, sec. A.

⁵ Jordan Blum, "Jindal Plan Allows for Tuition Increases," *The Advocate* (Baton Rouge, LA), February 24, 2010, sec. A. According to Blum, one of the effects of the proposed LA GRAD Act legislation would be to "let colleges raise tuition by 10 percent per year until they meet the average costs of their regional peers. Then schools could continue to increase costs by 5 percent per year if they keep meeting graduation rate goals and other measures."

⁶ From the 2009 Faculty Senate meetings of Nicholls State University. These numbers are based on calculations reported by University President Stephen Hulbert and Academic President Carroll Falcon.

⁷ Paula Kaufman and Sarah Barbara Watstein, "Library Value (Return on Investment, ROI) and the Challenge of Placing a Value on Public Services," *Reference Services Review* 36, no. 3 (2008): 227.

⁸ Judy Luther, *University Investment in the Library: What's the Return? A Case Study at the University of Illinois at Urbana-Champaign* (San Diego: Elsevier-Library Connect, 2008), 3, <http://libraryconnect.elsevier.com/whitepapers/lcwp0101.pdf>.

⁹ Barbara Weiner, "A Bottom-Line Adventure," *Behavioral & Social Sciences Librarian* 18, no. 2 (2000): 27.

¹⁰ Wanda Monroe, "Libraries' Return on Investment Study," *Library Mosaics* 16, no. 6 (2005): 12-13.

¹¹ Joseph Z. Nitecki, "Creative Management in Austerity," in *Austerity Management in Academic Libraries*, ed. John F. Harvey and Peter Spyers-Duran (Metuchen, NJ: Scarecrow, 1984), 43.

¹² Joseph R. Matthews, *Library Assessment in Higher Education* (Westport, CT: Libraries Unlimited, 2007), 6.

¹³ Susan Gibbons, *The Academic Library and the Net Gen Student: Making the Connections* (Chicago: ALA, 2007), 7.

¹⁴ Kaufman and Watstein, 227.

¹⁵ *Ibid.*, 227.

¹⁶ Larry L. Hardesty, Introduction to *The Role of the Library in the First College Year*, ed. Hardesty, *The First Year Experience Monograph Series 45* (Columbia: University of South Carolina Press, 2007), xxiii.

¹⁷ Two of the chapter's current officers, President Anthony J. (Tony) Fonseca (Nicholls State University) and President-Elect Melissa Ursula Dawn Goldsmith (Nicholls State University), along with Membership and Elections Chairperson Jessica Hutchings (McNeese State University) and Website Administrator Karen Niemla (University of Louisiana-Monroe) are collecting data and will be developing a web version of the ROI Calculator, free for use. All four ACRL-LA members are from primarily undergraduate universities, so their emphasis will be on determining dollar values for services that support teaching and learning, rather than those that support grant writing, although they will include the latter, using the University of Illinois at Urbana-Champaign Model. The first step was to create a list of possible factors—and possible value determinants for those factors. Examples of these are included in

Appendix 2.

¹⁸ Scott Walter, "Mind the Gap: Finding the "Value Proposition" for Your Library" (lecture, ACRL-LA, Baton Rouge, LA, September 30, 2009), http://www.acrlla.org/events/Walter_ACRL_LA_09.pdf.

¹⁹ Ross Housewright, "Themes of Change in Corporate Libraries: Consideration for Academic Libraries," *Portal: libraries and the academy* 9, no. 2 (2009): 261.

²⁰ Introduction to *Making the Grade: Academic Libraries and Student Success*, ed. Maurie Caitlin Kelly and Andrea Kross (Chicago: ALA-ACRL, 2002), iv.

²¹ Sue Samson and Kim Granath, "Reading, Writing, and Research: Added Value to University First-Year Experience Programs," *Reference Services Review* 32, no. 2 (2004): 149-156.

²² Alan E. Guskin, Foreword to *The Role of the Library in the First College Year*, ed. Hardesty, xii.

²³ Roy Jakobs, "Welcome (Information Valuation Issue)," *Library Connect Newsletter* 6, no.1 (2008): 1, <http://libraryconnect.elsevier.com/lcn/0601/lcn0601>.

²⁴ Weiner, 28.

²⁵ *Ibid.*, 27.

²⁶ Although it may be impossible to determine an exact dollar ratio value for website ROI, there has been work in this direction See Ron Miller, "How Much is Your Content Worth? Measuring Website Content ROI," *EContent* 31, no. 2 (2008): 38-42.

²⁷ This will differ greatly by library, since journal prices differ greatly by discipline. Each library will have to develop its own formula for determining the average price for subscriptions its patrons would have to pay if ILL did not provide a service. One possibility for small academic libraries would be that the ILL Librarian create a list of the top ten requested journals in each discipline or fund, and have the Serials Librarian or subject liaisons find the prices, to determine an average price per discipline or fund. Then the average prices for all disciplines or funds can be averaged to determine an average price per journal subscription that would have been paid by a patron. Another possibility would be to simply use the prices of the most often requested journals (perhaps the top 100) to determine an average. A third possibility would be a legitimate random sampling.

Appendix 1

The ROI Ratio Made Simple

What Does Return On Investment Mean?

Simply put, ROI is a determination of how many dollars of productivity are generated for every dollar spent to create and administer a service, or for every dollar spent to purchase materials. In essence, it's a assessment based on performance measures that evaluate the financial efficiency of an investment. It can also be used to compare the relative efficiency of different services, or as in the case with academic libraries, different collections.

How Is ROI Calculated?

ROI is a ratio, so the calculation is dead simple: the benefit (return) of an investment is divided by the cost of the investment. The result is always expressed as a percentage or a ratio. For example, a service that costs \$50,000 to provide, but which yields a return on \$100,000, has an ROI of 2:1 (sometimes expressed as 2), meaning that for every dollar spent, two dollars are returned. The determination of whether or not this particular ratio is efficient would be in the eye of the beholder (in the case of academic libraries, university administrators).

Generally speaking, in the financial world, Return-on-Investment is a very popular assessment metric because of its versatility and simplicity. That is, if an investment does not have a positive ROI, or if it pales in comparison to a similar service that has a higher ROI, then discontinuation or modification is necessary.

How Standard is ROI?

The trick with ROI is to create a feasible formula for measuring costs and returns. This may be simple with materials, but with services that do not have a dollar value, definitions of returns (and sometimes costs) are malleable—and sometimes situational. The definition of the term in the broadest sense is an attempt to measure the profitability of an investment. While there are no single calculations that may fit each and every academic library, the flexibility of a good ROI Calculator allows for each institution to assess based on its own mission. If there is a downside to the flexibility, it is that it allows manipulation if the user is unscrupulous. However, if the calculator is approached honestly, as an assessment tool that helps to determine future policies and procedures based on efficiency, it is no different than the subjective assessments and stats currently used by academic libraries; it is simply a translation of those assessment figures into the language of administration (especially during budget cuts).

What Changes Need to Be Made in My Library to Make Use of ROI?

What we found as we examined possible values for determining the ROI ratios of specific materials and services was that meaningful statistics are an absolute must. For example, the value of a quick, simple reference answer is much less than the value of an involved answer that results in a referral to a resource list or another resource altogether, since the relative values of these are different in the private sector. Simple reference answers can be purchased from text services at around \$1.00 an answer; while involved resource referrals, which would need to be purchased from an Information Agency, would run up an hourly fee. Obviously, a library's stats would have to reflect the forethought that these types of services must be differentiated. We are also

beginning to discover that a full array of stats is necessary, especially of database and electronic book usage.

What Would Be Considered an Acceptable ROI?

This would depend on the entities assessing the ROI assessment metric. Essential services may have an intrinsic value, so that any positive ratio (more is returned than invested) is acceptable. Services seen as non-essential may need to be justified by an ROI of 3:1 or 4:1. The library as a whole will likely have a positive ROI, so the point of the assessment is to present the library's contribution in terms of financial return. The more serious need for an ROI Calculator may be when it comes to defending services and/or materials, such as book budgets.

Appendix 2

Possible Factors in Determining the ROI of Academic Libraries of All Sizes:

ROI Factor One: Books, Circulation and In House Usage

***Similar calculations can be adapted for other materials**

Possible Determinant for Establishing Value:

Need for Purchase of Books by Students and Faculty

ROI Calculations:

$$\mathbf{B1 = B2 + B3}$$

$$\mathbf{B4 = B1 + B5}$$

$$\mathbf{VALUE-CIRC1 = (B6 * B7) / B4}$$

$$\mathbf{VALUE-CIRC2 = (B6 * B8) / B4}$$

$$\mathbf{VALUE CIRCULATION= VALUE-CIRC1 + VALUE-CIRC2}$$

$$\mathbf{ROI = VALUE CIRCULATION : 1}$$

B1 = Total average price paid by library for a book

B2 = Average price paid by library for a book

B3 = Average (calculated) price paid by library for processing materials per book

B4 = Average total cost to the library of making a book accessible

B5 = Annual cost of personnel salaries devoted to acquisitions, cataloging and circulation

B6 = Average price paid by patron for a book

B7 = Circulation statistics (annual) for books

B8 = Reshelving statistics (annual) for books

VALUE-CIRC1 = The calculated value of providing books for circulation

VALUE-CIRC2 = The calculated value of providing books for in-house use

VALUE CIRCULATION= The calculated value of providing books to patrons

ROI Factor Two: Interlibrary Loan Borrowing, Books and Articles

Possible Determinants for Establishing Value:

Need for Purchase of Books by Students and Faculty

Need for Purchase of Journals by Students and Faculty

ROI Calculation:

$$\mathbf{L1 = L2 + L3}$$

$$\mathbf{VALUE-B = (B6 * L4) / L1}$$

$$\mathbf{VALUE-A = (L5 * L6) / L1}$$

$$\mathbf{VALUE INTERLIBRARY LOAN= VALUE-ILL1 + VALUE-ILL2}$$

$$\mathbf{ROI = VALUE : 1}$$

L1 = Total annual cost to the library of making a book accessible via ILL

L2 = ILL annual fees and costs incurred

L3 = Annual cost to staff ILL with personnel

L4 = ILL annual borrowing statistics for books

L5 = Average price paid by patron for journal subscription²⁷

L6 = ILL annual borrowing statistics for articles

VALUE ILL1 = Calculated value of supplying books via ILL

VALUE ILL2 = Calculated value of supplying articles via ILL

VALUE INTERLIBRARY LOAN= The calculated value of interlibrary loan services

ROI Factor Three: Use of Library Computers

Possible Determinants for Establishing Value:

Purchase of Laptops by Students and Faculty

Maintenance of Laptops by Students and Faculty

Security of Laptops by Students and Faculty

ROI Calculation:

$$\mathbf{C1 = C2 + C3 + C4}$$

$$\mathbf{VALUE\ COMPUTERS = ((C5 + C6) * C7) / C1}$$

$$\mathbf{ROI = VALUE : 1}$$

C1 = Total cost to library to provide computer access to patrons

C2 = Average cost to the library for purchasing a patron computer

C3 = Annual cost to the library for providing internet service

C4 = Salary (annual) devoted to staffing automation/systems department in library

C5 = Average cost to patron of a reliable laptop or desktop computer

C6 = Average annual cost to patron of internet service provider

C7 = Computer usage statistics (raw number of patrons using computers, annual)

VALUE COMPUTERS= The calculated value of supplying patrons with computers and internet

ROI Factor Four: Reference Delivery

Possible Determinant for Establishing Value:

Fee-Per-Use Reference Purchased by Patrons (Yahoo Answers or KGB)

Information Brokerage Fees (Hourly) Paid by Patrons for Involved Answers

ROI Calculation:

$$\mathbf{R1 = R2 / R3}$$

$$\mathbf{R4 = R5 / R3}$$

$$\mathbf{R6 = R1 + R4}$$

$$\mathbf{R8 = R7 / R3}$$

$$\mathbf{RQH-2 = R9 / R3}$$

$$\mathbf{VALUE REF1 = (R11 * R8) / R6}$$

$$\mathbf{VALUE REF2 = (R12 * R10) / R6}$$

$$\mathbf{VALUE REFERENCE DESK = VALUE REF1 + VALUE REF2}$$

$$\mathbf{ROI = VALUE : 1}$$

R1 = Average hourly salary (calculated) of reference librarians

R2 = Average annual/yearly salary of reference librarians

R3 = Number of hours per year reference desk is staffed

R4 = Average price (hourly, calculated) spent on reference collection

R5 = Average price (annual) spent on reference collection

R6 = Cost to library of staffing the reference desk (hourly)

R7 = Number (annual) of quick reference answers (5 min or fewer)

R8 = Number (hourly, calculated) of quick reference answers (5 min or fewer)

R9 = Number (annual) of involved reference answers by librarian

R10 = Number (hourly, calculated) of involved reference answers by librarian

R11 = Average price paid by patron for text answer services, quick question (Example: KGB)

R12 = Average price paid by patron for an information agency/broker service (minimum rate)

VALUE REF1 = The calculated value of answering quick reference questions

VALUE REF2 = The calculated value of answering involved reference questions

VALUE REFERENCE DESK = The calculated value of providing a reference desk service