Featured Article

Marketing with Financial Valuation Data: Best Practices in a Library Setting

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Abstract: This marketing case study discusses how financial concepts used in the business world, such as cost-benefit analysis (CBA) and return on investment (ROI), a CBA metric, can be used to add value in promotion of and advocacy for library projects. The study describes how financial analysis is used to evaluate two acquisition projects and share best practices for marketing the benefits received within different outreach contexts. Specifically, the study highlights the financial analysis and subsequent best practices in marketing to the College of Staten Island (CSI) library’s stakeholders that could be utilized for its open educational resources (OER) and patron-driven acquisition (PDA) programs. It also conducts a survey of these stakeholders, from both academic and public libraries, to gauge their views on whether traditional library data or financial valuations could potentially have a greater marketing influence. The study is a retrospective review on how financial analysis data can be used to advocate for funding, promote sound resource decision-making, and market various projects within an academic library.

Keywords: Promotion, advocacy, budgets, cost-benefit analysis (CBA), return on investment (ROI), open educational resources (OER), patron-driven acquisition (PDA), financial analysis, valuation data, acquisitions.

Author Note: I would like to acknowledge Christina Boyle, CSI’s OER Librarian and the CSI’s Library Marketing and Outreach Interest Group. Correspondence concerning this article should be addressed to Kerry Falloon, College of Staten Island Library, 2800 Victory Boulevard, Staten Island, NY 10314. Email: kerry.falloon@csi.cuny.edu.
This case study’s primary intent is to provide an overview of how cost-benefit analysis (CBA), as a valuation process, can be used to market and promote library collections and projects to library and university stakeholders. It focuses on the use of cost-benefit numbers to advocate and provide business justification for a course of action by librarians—techniques that can be applied to any library project. The use of CBA to gauge the success or failure of specific promotional practices is beyond the scope of this study. However, it does focus on best practices in marketing that uses derived financial data. The study also emphasizes how librarians can use return on investment (ROI) as a metric to change perceptions of library activities by providing quantitative evidence of their value. In sum, financial valuation data can represent the value of libraries through vertical reporting and in conventional advertising techniques that involve lateral communications; e.g., flyers, emails, or posters; to market or share information to individuals at the same level within academia; e.g., students, faculty. However, vertical reporting is hierarchical and often utilized in financial reporting, where data is disseminated up an organizational chain of command, i.e., middle management to the director and to the president.

The goal of applying financial analysis to a project—for instance, an acquisition methodology or practice—is to show that the project’s derived benefits (as expressed monetarily) exceed any costs. The most common method of financial analysis is CBA, which stresses minimizing costs for a given number of benefits in order to maximize the benefits gained. It is a financial analysis technique that, in the business world, aims to maximize profit and can be used in libraries to maximize cost savings or avoidance (Matthews, 2011). The value of a benefit can be unique to each library, and there is no formal standardization as to how CBA is performed except what is established by the library. However, there are standardized formulas and metrics, which can assist the CBA process. ROI and benefit-cost ratios (BCR) will be discussed, in particular, as the two forms of CBA used in this study.

Background

The College of Staten Island (CSI) Library is unique in the City University of New York (CUNY) system, as it serves the only comprehensive public college within the borough. CSI has a full-time student body of more than 11,000 from diverse socioeconomic backgrounds, comprised mainly of first-generation college students. The library has close to 200,000 print volumes and an e-book collection consisting of more than 570,000 titles, mostly provided by CUNY’s Office of Library Services. The library’s collections also include
more than 160 databases with over 120,000 active serials subscriptions, provided to a large extent through CUNY subscriptions.

Use of data traditionally collected by academic libraries—data that focuses on collection size as an implicit value—is a common practice. Indeed, the data has often been used in CSI Library marketing collateral, as shown in a flyer created in 2015 (Figure 1). In economically abundant, pre-digital times, data showing the quantity of resources owned was essential for describing the value of libraries, especially research libraries. Over the last five years, the size of the CSI Library’s physical collections has decreased due to de-acquisition and budget reductions. The library turned its attention to providing access to electronic resources.

Figure 1: CSI Library Marketing Pamphlet Circa 2015

CSI’s library has started to explore marketing-derived financial data that monetarily quantifies the value of benefits received due to access to its resources, projects, and services by different stakeholders. Use of this data is being marketed to promote the value of library collections and acquisition activities, in addition to traditional library marketing techniques. As Tenopir (2012) stated, measuring library value leads to rethinking traditional activities in order to emphasize new activities—including library marketing activities.


**Literature Review**

Matthews (2013) asserted that libraries have three main values: 1) financial value or direct-use benefits measured via outputs; 2) non-financial value, or implicit benefits measured via survey data; and 3) value to the organization. He also stated that “public colleges are being asked to provide real economic value, especially in the face of increasing costs and decreasing financial support from the state” (Matthews, 2013, p. 102). Hence, public universities, similar to large public library systems, are evaluating how various supporting units and departments contribute to their financial goals. Oakleaf's Areas of Academic Library Value (2010) include student retention, graduation, success, achievement, learning, faculty research productivity, and teaching as academic goals. Understandably, these have economic components attached to their successful outcomes, which obligate academic libraries to complete financial assessments, but the social returns on academic investments are harder to gather. It is important to note that value can become clearer or evolve over time and is not always identifiable at the start of a project or even by surveying constituents (Kelly, Hamasu, & Jones, 2012). In conclusion, “providing value is a never-ending challenge that libraries face” (Tabacaru & Hartnett, 2017, p. 35).

Valuation studies were first used in public library impact studies to justify budgets and demonstrate to taxpayers the benefits communities gain by conveying ROI as a single value to connote a positive return in exchange for funding (Imholz & Arns, 2007). Since 2006, ROI calculators, such as the Individual ROI Calculator funded by Library Research Services of the Colorado Department of Education, have started appearing online to justify the investment of tax payer dollars in public libraries (Wilson, 2016). This calculator has been superseded by Texas Public Libraries' Economic Benefits ROI calculator. Presently, there is a web page dedicated to this ROI data geared towards its primary stakeholders or tax-holders to inform them of the ROI of each dollar spent by the public libraries—$4.64 (Texas State Library, 2017). Likewise, the National Network of Libraries of Medicine’s MidContinental Region (NNLM, 2019) created a calculator to assist special library managers with gauging the success of their library expenditures. Financial calculators were also used by vendors to sell and promote their services to libraries. Formerly, the streaming video company Kanopy offered an ROI analytics portal for librarians to justify acquisition decisions (Strauch & Gilson, 2015).

Especially during times of financial scarcity, academic libraries want to communicate to their stakeholders that they are making the most effective use of their funding by showing
that library benefits are achieved with minimal costs. Kelly, Hamasu, & Jones’ study (2012) was one of the first within academic libraries to support using financial analysis tools for advocacy and promotional purposes in order to influence attitudes and decision-making based on benefits received from resources or services. This calculation can be complex because academic libraries’ “total value is composed of many separate values for each type of collection or service and because the value differs for different constituents over time” (Tenopir, 2013, p. 271). In addition, strictly following cost-benefit financial analysis requires academic libraries to measure values monetarily; that is, non-market or intangible non-financial outputs need to be given a numeric value (for example, ratios or percentages). As Neal (2011) reported, this requires a level of precision that is often beyond the abilities of most librarians, who are not used to analyzing financial data along with economic and social variables. Economic valuations are also difficult to compare across libraries unless strict benchmarking standards are applied. For this reason, they are best employed within individual units of a library to evaluate the soundness of specific activities and projects (Lamont, 2015).

In spite of their difficulty, successful applications of this kind of financial analysis do exist within academic libraries. For example, in 2009, Cornell University Library completed an ROI study by calculating the dollar value of primary library transactions. They did so by determining the market cost to the university if the library did not exist. It is generally understood that academic libraries yield economic benefits to their parent institutions. Cornell’s library found that while it cost close to $57 million for the university to maintain the library’s resources, the same resources would have cost close to $91 million on the market. The library was able to market this data to its major stakeholders at the university level and beyond (Cornell University Library, 2009).

In relation to academic library activities, open educational resource (OER) programs and open access projects are straightforward, highly promotable marketing areas, especially with recent studies revealing that the cost of textbooks negatively impacts student success and course completion rates. According to Florida Virtual Campus’s survey (2018), of students who did not purchase a required textbook, 36% later earned a poor grade, and 23% dropped out of the course. With 33% of CSI Library students not persisting into their second year, lowering a student’s expenditures on textbooks would inherently assist with student retention, among other factors (CUNY Office of Institutional Research and Assessment, 2019). By marketing the cost savings or avoidance to students, encouraging faculty to make use of open access textbooks in their courses, CSI Library’s OER project inherently embodies...
helping with student persistence. The library promotes that assistance through financial calculations in terms of monetary savings. Vendors such as EBSCO, Inc. are also providing service platforms, such as Faculty Select, to assist professors seeking open-access-specific textbooks and digital rights management-free e-books for their classes (EBSCO, 2020).

When the library purchases digital rights management-free unlimited and unrestricted use e-books for specific courses, students benefit from the library’s investment with a return calculated in terms of cost avoidance.

In order to calculate the benefit of a patron-driven acquisition (PDA) program, it is suggested that marketing techniques use a soft launch approach, due to the potential of a PDA service failing as a result of over usage and hence a PDA budget spent too rapidly (TERMS, 2017). A soft launch approach is used to promote the discoverability of a new resource through different access points in a “soft” way in order to market new electronic products or programs. As McMullen (2018) stated, discovery interfaces, relative to native database interfaces, demonstrate a significant increase in usage and hence ROI. According to a Springer white paper report (2012), more libraries are exploring demand-driven acquisitions, but the librarians involved still felt it too early to determine if PDA or demand-driven acquisition offered a greater ROI than other business models. In this study, the CSI Library hopes to explore this further through the CBA of a streaming video program. The benefits of streaming video PDA programs, through the free plays they offer, can have easily calculated monetary benefits.

**Methodologies and Results**

CBA has been evolving among different fields of study. While they share similar characteristics, no single methodology is consistently used (Scigliano, 2002). For the purpose of this study, CBA looks at the costs of OER textbooks and the benefits received by students, as defined by the CSI Library. The traditional benefit-cost ratio (BCR) methodology used was calculated as a ratio that results from dividing total benefits by total costs, all measured in monetary dollars. This ratio provides a useful basis for comparing the values of alternate projects before a project even begins. If a type of CBA cannot monetize all costs, then it should be considered a cost-effective analysis study.

ROI is calculated by dividing financial returns by investment costs, expressed commonly as a percentage. A return is essentially the gain or loss on an investment calculated by subtracting the cost of the investment from the total monetary return in
benefits over a specified time period. Using traditional CBA metrics, a BCR greater than 1:1 or an ROI of at least 1% is considered a positive outcome for a project.

**Student Textbooks and OER Project**

This case study assessed the value of the CSI’s OER project. The findings were shared with various stakeholders as a way of maintaining or expanding funding. In the study by Tabacaru and Hartnett (2017), the average cost of savings per student per course was calculated by adding up the cost of all journal articles and books for all required readings multiplied by the number of courses. The CSI Library completed similar tabulations for its OER project.

During 2017 to 2019, CUNY has received granted funding from the state of New York to promote OERs. Collectively, CUNY has saved students $9.5 million during fiscal year 2018 by replacing publishers’ textbooks with OERs in more than 2,800 course sections. This CUNY-wide data, as outlined in the Year One Report, was compiled by the Office of Library Services, CUNY’s centralized library department (New York State, 2018). CSI has participated in this project since its inception, and, as of this writing, has validated the success of the project by utilizing financial analysis techniques. The library marketed the OER program to faculty and students through campus email blasts, registrar and library flyer promotions, and featured incentives such as monetary compensation per course to pursue the redesign of courses as a scholarly endeavor.

An investment analysis was completed for each course by multiplying faculty compensation (with a course designer fee) by the number of sections. Next, a benefit analysis was completed by multiplying the total enrollment of students across all course sections by the cost of textbooks. In some cases, the benefits would be seen in upcoming semesters when the OER material was fully implemented. Although student savings were tallied only once per course, in theory, these beneficial savings would be compounded across multiple semesters and hence would be exponentially higher.

The CSI Library calculated ROI by looking at the difference between the funds invested in OER and the funds saved by students as a result of this initiative to date—something to retrospectively market to various library stakeholders, including university stakeholders [Table 1].
Return on Investment (ROI)

\[
\text{ROI} = \left( \frac{\text{Return or Student Savings}}{\text{Investment}} \right) \times 100
\]

ROI = 169% (100% indicates that the return equals the full investment)

| Benefit:Cost Ratio (BCR) | $340,226 (Benefits or Student Savings) / $126,326 (Grant Costs) = Benefit:Cost Ratio (BCR) | BCR = 2.7:1 (benefits received compared to costs is almost three to one) |

Table 1: Cost-Benefit Analysis Using ROI and BCR: Advocacy Using Vertical Reporting

Overall, the CSI Library helped and promoted student savings of $340,226 through OER adoptions as of spring 2018 (Figure 2), as seen through this marketing flyer, circa 2018. In total, $340,226 in student savings was the marketed return or net benefit received by its primary stakeholders, students.

Figure 2: CSI Library OER Marketing Pamphlet Circa 2018
PDA Project

In order to promote the benefit of a PDA program, it is suggested that general marketing use a soft launch approach by making sure there is marketing through soft access points, such as the catalog, federated tools, guides, and by marketing the platform itself. In the case of the CSI Library’s streaming video PDA program with Films on Demand (FOD), curation of the MARC records was crucial. Comparing PDA to a fiscal year 2017 subscription of FOD, PDA was the most cost-beneficial option at a PDA trigger price of $75, leading to hypothetically only $18,450 spent in comparison to the subscription costs [Table 2]. A $10,000 investment in Films on Demand’s PDA versus spending more than $25,000 on a Films On Demand subscription led to an ROI of $4.32 per play using traditional ROI calculations. Using traditional BCR calculations on the performance of PDA, there was a BCR of 20:1. Benefits were calculated as the number of free plays multiplied by the cost of a one-year license of $150 divided by actual costs. Despite PDA’s ROI being better than the subscription ROI, neither the PDA nor the subscription was extended due to budget cuts.

<table>
<thead>
<tr>
<th>Cost of FOD Subscription FY17</th>
<th>FOD FY17 Subscription Total Views or Plays</th>
<th>FOD FY17 Subscription Cost Per Play</th>
<th>FOD FY17 Subscription Based on Hypothetical PDA Triggers</th>
<th>FOD ROI= Return-Investment/Investment</th>
<th>FOD BRC= (Total Benefits) / Total Costs) :1</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25,368</td>
<td>3,156</td>
<td>$8.04</td>
<td>$18,450</td>
<td>$4.32</td>
<td>20:1</td>
</tr>
</tbody>
</table>

Table 2: CBA Analysis of Films on Demand (FOD) Subscription vs. FOD PDA

Retrospectively, FOD’s PDA performance could have been advocated as a success to major stakeholders and funding agencies as to where a library budget can be successfully invested. The latter is increasingly becoming important for the CSI Library, especially since only 32% of the budget is tax levied. Most of the rest of its funding (63%) comes directly from students through technology fees and student organizations. Another 4% is grant funding where justification and accountability needs to be made to state organizations. With the grant and other organizational funding, the library has to evaluate and advocate for projects that show a good return on the investment provided by these funding streams. With the new millennial generation of financially conscious students, one marketing methodology is to show students their savings through ROI calculators on the library’s website. In fact,
the library is planning a future ROI student resource savings calculator based on textbook and other streaming video course savings.

**Library Marketing Survey**

The author conducted a brief marketing survey through a regional library organization. Its purpose was to understand whether tertiary stakeholder views of marketing approaches differed by library category (public or academic) and librarian type. Feedback was obtained through an email questionnaire. In particular, the author wanted to determine if library stakeholders respond favorably to financial analysis marketing techniques. If there were to be a grassroots change in marketing techniques using financial analysis tools, it would begin with these tertiary stakeholders, first with exploration and then implementation.

Two sets of hypothetical marketing pamphlets were created to promote library services and resources, one set for public libraries and another set for academic libraries, based on their different marketing needs. Each set included two versions of the pamphlet, one that used traditional input–output marketing data (Table 3, Version 1) and another that used financial analysis based marketing data (Table 3, Version 2). Each pamphlet consisted of five sections (A to E) representing the typical units and activities within library settings, either public or academic. Respondents were asked to choose which of the two versions they felt had the most impactful marketing or promotional statement across each section.

In all, 25 surveys were sent out, with 20 surveys returned within the requested time period—a completion rate of 80%. In the introductory email, participants were asked to rate the impact of the verbiage in each section as something that could not only be represented in a library pamphlet but also through digital promotions and general advocacy. The survey participants followed a link corresponding to their library type, academic or public, and were presented with the two versions of the marketing pamphlet (Figure 3).
Figure 3: Version 2, Academic & Public Library Survey Pamphlets
The survey respondents were a mixture of individuals: six were on the administrative level (e.g., directors, managers), five were in the middle-management level (e.g., supervisors, coordinators), and eight were general librarians (e.g., electronic resources, instruction or reference). Half of the participants were from public libraries and the other half from academic libraries. Since the sample size was small, caution should be used in generalizing the survey results. However, the results can lead to larger, more in-depth surveys regarding cost-benefit valuation uses in library marketing techniques.

Twelve of the 20 participants (60%) had an overall preference for Version 2, the pamphlet using financial analysis marketing data. Three out of the 20 (15%) exclusively liked Version 2, while one participant exclusively liked Version 1 (5%), which reflected traditional marketing. Although there were more favorable responses to Version 2’s financial valuations among academic libraries, public library administrators tended to have the most favorable response. Forty-four percent of the mixed responses had only a one-point differential, indicating that there was value seen in both versions and that library marketing should still probably include a mixture of both marketing styles. The responses are further broken down by library category and type of librarian. Non-managing librarians, who were mainly instruction or reference librarians, saw more value in version 1 (Table 3).

<table>
<thead>
<tr>
<th></th>
<th>Academic Library</th>
<th>Public Library</th>
<th>Administrative/Managing Librarians</th>
<th>Non-Managing Librarians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version 1</td>
<td>30%</td>
<td>50%</td>
<td>17%</td>
<td>62%</td>
</tr>
<tr>
<td>Version 2</td>
<td>70%</td>
<td>50%</td>
<td>83%</td>
<td>38%</td>
</tr>
</tbody>
</table>

*Table 3: Marketing Survey to Library Tertiary Stakeholders*

Since academic librarians considered Version 2 to be more impactful than Version 1 for their libraries, the impetus for this new trend in library marketing appears to be due to scarce economic times. In other words, academic librarians seemed to score this marketing approach slightly higher because it is a more useful and impactful conceptual approach. However, qualitative comments from academic librarians indicated that the feeling is that
students do not see a value in ROI unless it has a direct immediate benefit to them financially: for example, textbook savings. Students also have certain expectations of library services due to their tuition and other fee payments, which can be justified through ROI figures.

The survey also focused on where to start CBA marketing endeavors. The pamphlets were divided into sections corresponding to library units and included advertising statements for each:

- Section A: ROI to Specific Stakeholders
- Section B: About the Library
- Section C: Main Library Statistics
- Section D: Public Access and Technical Services
- Section E: Reference

In terms of promoting reference services and the library in general, respondents viewed traditional marketing methods of describing the library by size of staff, size of the space, and the number of visiting patrons as ideal. Respondents scored reference services the lowest in terms of the potential usefulness of CBA in terms of promotional activities. They indicated that the areas where CBA could be useful were the library’s main resources (Section C) as well as access services and technical services (Section D). The latter section, summarizing new acquisitions, donations, and circulation transactions, scored the second highest although this area would have scored higher if broken down further by unit. Access services still seems to value output transactions more than CBA; similar to reference, value is seen more in interpersonal transactions. Promoting directly to stakeholders (Section A), such as public patrons and academic administrators, had the next highest score indicating value of use and was dependent on whether it was a public or academic library reporting. For example, an academic library participant indicated that academic patrons do not care as much about savings attained as university or library administration.

**Discussion and Recommendations**

The CSI Library intends to continue providing value to students through textbook cost savings achieved through a combination of open access textbooks and print reserve provisions. It has the unique opportunity to justify its purchasing practices to students as funding from student organizations and technology fees collected comprises a high of 67% of the library’s materials budget, especially in the purchase of course materials. The library will
have an opportunity to demonstrate this value to the student body not only through CBA and reporting, but also by planning to include ROI calculators on the library’s website. These calculations could show students how the library’s purchasing practices directly benefit them. Future studies could obtain feedback from students directly regarding this type of CBA as a marketing technique versus more traditional techniques (Figure 2).

Libraries also can apply ROI and other various CBA techniques discussed here when developing marketing plans. Once again, determining what is the “return” and the “investment” is important. For example, returns could be increased usage of a resource or service or increased favorable feedback that results from a marketing effort. It is recommended to first establish a baseline and then create an activity timeline based on when the marketing tool was implemented, while looking for patterns (Blanchard, 2011). The CSI Library followed these steps to measure the impact of marketing on its streaming video program. Prior to a soft launch through CUNY’s discovery tool, dashboard analytics clearly showed that transactional precursors were minimal. At that time—prior to its activation in the discovery tool—a baseline for transactions was set. The day after the soft launch, a transactional impact was evident (see Figure 4). Indeed, as McMullen (2018) mentioned, discovery tools have very good ROI, for product usage increases dramatically. Likewise, after starting a monthly movie series in 2018 that was traditionally marketed to students for educational purposes and as a new student orientation requirement (Figure 5), streaming video platform usage statistics also showed a significant increase in usage (Figure 6). However, as mentioned, traditional marketing for PDA has to be mediated since a highly successful ROI can budgetarily exceed a library’s expenditure limitations.
Figure 4: Using a Discovery Tool in Marketing: PDA Program Usage after Implementation

Figure 5: Marketing: Monthly Movie Series at the CSI Library
In evaluating the costs and benefits of a marketing plan, CBA can be used pre-implementation through BCR analysis and post-implementation through ROI analysis. Investment costs for a marketing effort can be calculated in terms of printing, equipment, supplies, technical or creative labor, and media. It is recommended to set a number as an ROI goal and define the minimal annual monetary benefits expected to determine investment costs. By reversing the calculations, libraries can use ROI to plan marketing campaigns that are likely to produce the greatest return (MarketingMO, n.d.).

This paper’s intent is to show how library stakeholders advocate for projects and increased funding by promoting library activities in terms of cost savings and cost avoidance to other stakeholders. It is not intended to quantify any intangible benefits, such as the impact of the cost of textbooks on student retention, although this benefit was qualitatively noted. Likewise, the correlation between library expenditures and student persistence, as has been reported by Mezick (2007), is also out of scope for the practical nature of this case study.

**Conclusion**
The findings of this study are that financial calculations are a useful tool in advocating, promoting, and advertising activities by various units in a library. The overall impact of financial valuation data depends on the collection or service being promoted, the stakeholders involved, and the financial analysis metric used. Although this study did not measure the impact of CBA on the libraries’ primary stakeholders, it measured the feedback of its tertiary stakeholders, librarians. Librarians make marketing and financial decisions on a daily basis for all library stakeholders, and, as such, their attitudes about the impact of CBA and ROI are valid and beneficial for marketing purposes.

The study also gave examples of how CBA can be calculated in terms of ROI since statistical data can make promotion more impactful. Although there is truth in the statement that the only bad marketing is no marketing, successful marketing needs to have an impact on the targeted audience. In the instance of the CSI Library’s OER ROI data, marketing was geared towards promoting cost avoidance and savings to students with its Zero Textbook Cost program promotion to students, which will become a Low-Textbook Cost program when grant funding ends. In terms of the CSI Library’s PDA streaming video program, purchasing librarians often have to justify the costs versus benefits derived when choosing one purchasing practice over the other, as in PDA over a subscription plan. Business justification is in the form of financial outcomes based on the performance measures of each option. For both the OER and PDA project, CBA metrics were used in vertical reporting and lateral communications to advocate and market the projects’ financial benefits. The CBA techniques used in these CSI Library studies have proven effective in promoting these library products and services.
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