

DEVELOPING BEST-FIT EVALUATION STRATEGIES

John T. Snead, Manager for Research Development, Information Use Management and Policy Institute, College of Information, Florida State University;

John Carlo Bertot, (bertot@lis.fsu.edu) Professor and Associate Director, Information Use Management and Policy Institute, College of Information, Florida State University;

Charles R. McClure, Francis Eppes Professor and Director, Information Use Management and Policy Institute, College of Information, Florida State University; and

Paul T. Jaeger, Assistant Professor, College of Information Studies, University of Maryland.

INTRODUCTION

Library facilities, resources, and services provide substantial value to their communities; however, libraries increasingly find themselves under pressure to quantify the value they provide and the impacts they have on their patrons to library boards, local governments, community institutions, educational institutions, state legislatures, funding agencies, and private donors. For many years, libraries were an assumed public good, and the funding of libraries was primarily viewed as a necessary expense to ensure public access to information and educational materials.¹ Changes in government philosophy and policy since the 1980s, however, have altered the political climate for libraries. Many libraries are now required to provide justification for the funding they receive and the benefits that they offer to their communities.²

In this environment, libraries need to measure use, demonstrate effectiveness and efficiency, determine quality and usefulness, estimate value, and assess impacts of the services and resources provided by the library. The challenge to libraries in quantifying value, assessing impacts, and addressing other information needs is the selection of best-fit evaluations that match data needs within specific situational contexts. Best-fit evaluation strategies involve matching the data needs of a library within a specific situational context to the evaluation approaches that are most appropriate to that particular situational context.

Little research to date has provided comprehensive assistance in the determination of what specific evaluation approach or approaches serve libraries best relative to specific library situational factors, data needs, and a host of other considerations. With so many evaluation options available, there is a need to bridge information need issues (i.e., situational factors, data needs, stakeholder questions, etc.) with evaluation approaches. Understanding information needs and linking these needs to evaluation approaches requires evaluation strategies capable of providing library practitioners and researchers with data that library decision makers can use to address specific problems. Identifying issues and factors that affect evaluation will provide researchers and practitioners with understanding and guidance in the selection of best practice assessment techniques to best meet their needs.³

This paper examines and describes considerations for the development of best-fit evaluation strategies based on local situational contexts for libraries. The paper examines key issues and factors that appear to be associated with selecting evaluation strategies based on specific situational contexts, drawing upon the lessons and findings from a range of library evaluation projects. The paper then presents future directions for the development and implementation of evaluation strategies for libraries.

EVALUATION CONTEXT

With the growing importance of the provision of online library services and resources, there is a need to establish methods by which to evaluate and measure the performance of library websites, the information they contain, and the services they deliver against set standards. Evaluation can play both a formative role, helping to continually refine and update goals, objectives, and services; and a summative role, helping to ascertain whether the goals and objectives are being met.⁴ Evaluation can also provide insight into whether a program is more effective and efficient as a physical program or as a technology-driven program.⁵ As identified in ensuing sections of this paper, all of these issues have implications for the evaluation of digital libraries.

A review of the research literature shows that library researchers and practitioners currently engage in a range of evaluation strategies in attempts to answer questions regarding the value, impact, and benefits of library services, resources, and programs. There are a number of *how-to* manuals, tool kits, and other forms of assistance that provide details on evaluating services, resources, and programs. These manuals fall largely into four identifiable, selected key evaluation approaches that include outputs assessment, performance measures, outcomes assessment, and quality assessment.⁶

In addition, more recent research has focused on an approach developed within the private business sector, the balanced scorecard methodology.⁷ A number of further studies have sought to create frameworks for researching or assessing a library's networked environment.⁸ Additionally, from a methodological standpoint, the right combination of multiple approaches is important. Multi-method approaches can facilitate the development of innovative evaluation methods in the networked environment.⁹ When used in a combination of methods that simultaneously provide different types of data and are complimentary to one another, the use of multiple evaluation approaches can provide insights would not otherwise be found.¹⁰

The library community in general, however, has little guidance, about which evaluation strategies and approaches will provide the best data, have the greatest impact for improving library services, or enable libraries to better advocate the value of libraries to their institutions or to the communities they serve. It is essential, therefore, to provide library researchers and practitioners guidance as to:

- What evaluation approaches are available;
- Which evaluation approaches might best meet their data needs, either library developed or imposed by external funders/organizations/etc.;

- How to develop an overall evaluation plan that makes effective and efficient use of limited library resources;
- How to implement an evaluation strategy; and
- How to use evaluation findings to advocate for local library support.

In addition, there is little or no guidance offered to link data needs to specific evaluation approaches to library organizational and situational contexts.¹¹ The development of best-fit evaluation strategies would significantly help to provide guidance in the selection and use of evaluation approaches to address evaluation issues.¹²

LIBRARY EVALUATION CONCEPTUAL FRAMEWORK

Library researchers and practitioners typically consider differing motivations to meet information needs from one or more of three different perspectives: stakeholder type (i.e., who is requesting certain data); data or information need (i.e., what data are necessary or sought); or evaluation approach selected to meet stakeholder data/information needs (i.e., outputs evaluation, outcomes-based evaluation, etc.).¹³ Figure 1 (below) represents the conceptual framework that illustrates stakeholder evaluation perspectives (user- and library-centered) and data/information needs used to meet those needs (center) in terms of stakeholders and specific evaluation approaches.

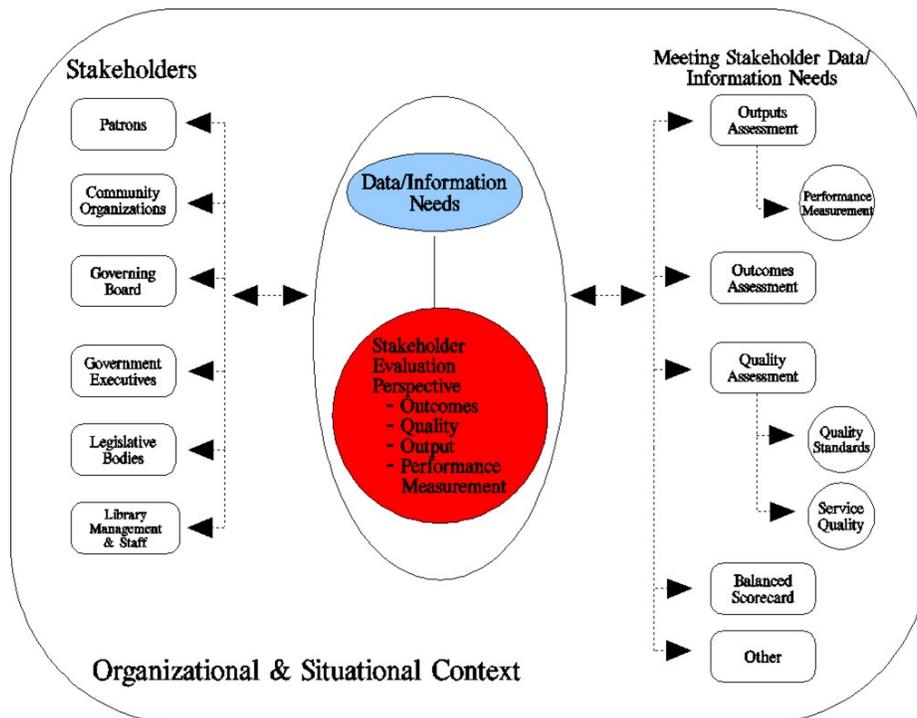


Figure 1: Library Evaluation Conceptual Framework (Bertot & Snead, 2004)

Prior and ongoing research suggests that practitioners and scholars have developed and/or adapted a number of evaluation approaches to facilitate the management of library services and resources.¹⁴ Initial research indicates that most prevalent among these evaluation strategies are those that rely on output assessment,

performance measures, outcomes assessment, and quality assessment.¹⁵ Into this mix is an emerging evaluation approach that borrows from output, outcomes, and quality assessment efforts known as the Balanced Scorecard.¹⁶

There are multiple motivations for library evaluation efforts from a diverse group of library stakeholders. Such motivations can include questions prompted by stakeholders, internal management needs, and requirements of funding agencies, for example. A key issue is that these approaches may or may not provide data necessary to:

- Answer a range of questions asked by various stakeholders groups (e.g., library boards, county or city executives, funding agencies, library patrons, state library agencies) regarding library services and resources; or
- Make informed decisions regarding a library's range or availability of services and resources.

Additionally, without an understanding of specific situational factors related to effective and efficient evaluation, libraries may not be able to conduct the most useful and informative types of evaluation or successfully demonstrate impacts of the services and resources they provide to the communities they serve or demonstrate accountability to funding organizations.

Moreover, libraries may engage in only one form of assessment (such as output assessment) to answer service/resource questions of various community stakeholders, regardless of whether the assessment is most appropriate for a specific inquiry. As such, there are several compelling reasons for libraries in the networked environment to employ evaluation approaches. Evaluation can provide the data necessary to:

- Answer a range of questions asked by various stakeholders groups (user-centered evaluation perspective);
- Make informed decisions regarding a library's range or availability of services and resources (library-centered evaluation perspective);
- Demonstrate value and effectiveness of the library to the community that it serves (community-centered evaluation perspective);
- Frame the perceptions of the library in the local political environment (political context-centered evaluation perspective); and
- Support the notion of the library as serving as a public good (customer-centered evaluation perspective).

Each of these roles for evaluation can be of great benefit in demonstrating the value, effectiveness, and importance of libraries, while also advocating for funding and other support for libraries.

With the data and analysis completed, libraries can employ the data to answer stakeholder concerns and meet user needs; make decisions about library resources and services; demonstrate value of the library to the community; help the library have a voice

in the political environment; and support the role of the library as a public good and demonstrate its value.

Library decision makers are often faced with difficulties matching their data needs with the appropriate evaluation approaches. There are many different kinds of evaluation data that a library may need and evaluation approaches that a library might employ. As a result, many libraries struggle with the problem of choosing the best evaluation approaches to effectively and efficiently demonstrate the value they provide. The development of best-fit evaluation strategies would significantly help to address such issues.

ISSUES, FACTORS, AND SELECTION OF BEST-FIT STRATEGIES

The rewards from evaluation can include the ability to describe and understand the impact, benefits, uses, and user satisfaction with library services and resources. The perils of poor evaluation range from wasting finite library resources to providing useless data that are incapable of answering questions about library services. Due to this, there are a number of issues and factors to consider in the selection of evaluation strategies.

Issues in the Determination of Best-fit Evaluation

Issues researchers and practitioners should consider in the development and implementation of a *best-fit* evaluation strategy includes:

- Success with which libraries are currently employing a number of different evaluation approaches;
- Problematic evaluation efforts in libraries (i.e., historical but outdated efforts, mismatched evaluation efforts to data needs);
- How library situational factors (organizational, community, other) affect the successful use (or unsuccessful use) of leading evaluation approaches;
- Library preparedness to engage in evaluation efforts; and
- Types of evaluations available for use, including the data each evaluation approach might produce, the strengths and weaknesses of each evaluation approach, and potential applications of each evaluation approach within varying library situational settings and contexts.

Examining these issues can facilitate the use of the most appropriate evaluation strategy available to meet data needs and to demonstrate library community impact and value.

Factors in Determination of Best-fit Evaluation

Minimally, the factors to consider in the selection of a best-fit evaluation approach include the following:

- Purpose of the evaluation;
- Type of data needed;

- Knowledge and skills of library staff related to evaluation, data collection, data analysis, and data reporting;
- Degree of difficulty associated to understanding/implementing a particular evaluation approach; and
- Organizational and situational factors related to the library (such as available resources), its community, and its political/governing context.

In short, the selection of a best-fit evaluation approach requires the determination of what type of evaluation approach will best meet the library's evaluation purposes and needs given the library's current situation. Without a good understanding of the factors related to conducting successful evaluation, the most useful types of evaluation may not occur.

Selection of Best-Fit Evaluation Strategies

Library decision makers need be able to select the *best* evaluation strategy given the:

- Specific program, service, resource use, or other item being evaluated;
- Situational factors unique to that library and its setting;
- Evaluation goals to be accomplished;
- Motivation for the evaluation;
- Availability of various data sources;
- Availability of staff and other resources for the evaluation;
- Diverse populations represented within the communities served by the library;
- Governance factors;
- Extent and availability of library resources to support the strategy; and
- Intended audience of the evaluation.

To understand the impacts, benefits, and value of library services and resources, library decision makers must select evaluation strategies appropriate to targeted data needs within specific situational contexts.

In considering types of evaluation to target data needs, developers conduct a number of data collection activities related to library evaluation needs and in order to identify current best practices regarding library assessment. The purpose of conducting these data collection activities (see examples above) is to find which evaluation frameworks work best in meeting the decision making and reporting needs of libraries.

This is done by studying the application of various evaluative frameworks within a library setting, identifying the circumstances and situational contexts as they existed within the libraries during the application of these frameworks, and determining the degree of the effectiveness of the application of these frameworks in meeting the decision making and reporting needs of the libraries.

FUTURE DIRECTIONS OF STUDY

The evaluation of library services requires effort, knowledge, and an investment of time and resources. Increasingly, evaluation requires the use of multiple methodologies (i.e., surveys, focus groups, log file analysis, etc.) and the coordination of data collection efforts, data analysis, and the presentation of findings to numerous stakeholder groups (i.e., library board, city council, others).

As a result, many libraries struggle with the problem of choosing the best evaluation approaches available that can effectively and efficiently assess services and programs they provide and the use of resources in providing the services and programs. Research, however, offers a number of potential directions for future study to continue to help libraries with evaluation of their services and use of resources.

Resource-based Process

A central challenge in libraries is the difficulty of quantifying the value of resources to individual users in the community, particularly when such resources are provided in both physical and electronic formats. Libraries today exist within a dual environment that is a mix of:

- Physical brick-and-mortar setting where traditional services and resources are offered to library patrons; and
- Rapidly expanding networked environment where traditional brick-and-mortar services and resources (i.e. circulation, reference, collections, databases, etc.) have evolved and are increasingly offered through a library's website.

Operating within this dual environment, additional research is needed to assess the use and allocation of resources in both the traditional and the networked environments.

Problem-based Process

Libraries are often asked questions regarding the quality and the impact of services and resources they provide. Library researchers and practitioners typically must engage in a number of evaluation strategies to attempt to answer these and other questions regarding library services, resources, and programs – sometimes through systematic evaluation programs, other times through ad hoc evaluation efforts.¹⁷ More research is needed to link specific questions or problems that libraries face or are trying to address to data needs and best-fit evaluation approaches which will address the problems and questions which libraries identified.¹⁸

Multiple Evaluation Process

There are a number of approaches for researchers and practitioners to consider when evaluating library services and resources. Using digital libraries as an example of library services, there is a need to consider:

- A design which tailors the evaluation to the library's circumstances fits the information needs of the primary audiences for the evaluation, and address a real, known need.¹⁹ Evaluation design, planning, and execution are essential to fruitful evaluation efforts.²⁰
- Multiple evaluation approaches, tools, and techniques are possible to employ in the evaluation of digital libraries. These can range from measures of performance and outputs (e-metrics) to measures that focus on users such as service quality, outcomes, functionality, usability, and accessibility.²¹ Given the approaches available to digital library evaluators and managers, it is important to select the most appropriate evaluation approach or approaches that best meet their informational needs.
- One evaluation technique may not meet the informational needs of researchers or digital library managers. It is more likely the case that there is a need to engage in multiple evaluation techniques to yield a comprehensive picture of a digital library's impact(s) on its user community.²²

The protocols and methods aimed at the evaluation of digital libraries, and the implementation of such protocols and methods, will need to continue to evolve over time to meet the changing digital library landscape, goals and objectives of specific digital libraries, and evaluation needs of researchers and practitioners.

Unanticipated Factors

Library evaluations may also need to be designed to better account for library services in relation to external pressures placed on libraries that may be unanticipated or the result of unforeseen events. Two recent examples of such unanticipated factors can be found in the significant roles that libraries played in helping communities cope with the aftermath of hurricanes in 2004 and 2005 along the Gulf Coast²³ and in delivering access to, training for, and assistance with e-government services to diverse patron populations, often at the instructions of government agencies.²⁴ In such cases, libraries are providing benefits and impacts to their patrons, their communities, and governmental agencies, while also expending resources, in ways that were unplanned. However, such impacts and costs need to be accounted for in evaluations. More research is needed to understand the impacts and costs of such unanticipated factors, as well as the best ways to design evaluations that incorporate these factors.

Other Factors

Effectively using resources and using evaluation to account for the use of those resources are pressing issues for libraries. Being able to articulate library impact, value,

quality, and other benefits of publicly funded services and resources can enable librarians and managers to demonstrate what libraries do for the communities they serve.

Evaluation approaches, however, may not always be the best method to understand impacts, value, and quality of a library. There may be other factors that affect the benefits of library services and resources, such as issues involving literacy (traditional, information, and technology), or the affects of economic and social factors. To fully evaluate a libraries services and use of resources, more research is needed to identify the potential impacts of these other factors.²⁵

In addition, library researchers and practitioners typically engage in a number of evaluation strategies to attempt to answer questions regarding effectiveness or efficiency of library services and resources – sometimes through systematic evaluation programs, other times through ad hoc evaluation efforts. As mentioned earlier, evaluation can provide useful data capable of describing and understanding the impact, benefits, uses, and user satisfaction with library services and resources. The perils of poor evaluation, however, can actually waste finite library resources, provide useless data, and be incapable of answering questions about library services. Additional research is needed to identify poor evaluation practices as well as to develop best-fit evaluation practices.²⁶

Conclusion

Libraries continue to engage in a wide range of evaluation efforts in order to determine the value that their services and resources provide to the communities libraries serve. The evaluation environment is increasingly complex, and requires knowledge of multiple evaluation frameworks, methodologies, data analysis techniques, and communication skills.

The issue is not that libraries face a paucity of evaluation approaches. The issue is selecting the approach or approaches that best meet the data needs of the library from the many evaluation techniques that exist so that the library can effectively identify the ways in which the library adds value to its community. This challenge is ever more complex as libraries provide both traditional and continually evolving digital library services and resources.

ENDNOTES

- ¹ Buschman, J. E. 2004. *Dismantling the public sphere: Situating and sustaining librarianship in the age of the new public philosophy*. Westport, CT: Libraries Unlimited.
- ² Buschman, 2004; and Missingham, R. 2005. Libraries and economic value: A Review of recent studies. *Performance Measurement and Metrics*, 6(3), 142-158.
- ³ Bertot, J. C. 2003. Libraries and networked information services: Issues and considerations in measurement. *Proceedings of the 5th Northumbria International Conference on Performance Measurement in Libraries and Information Services*: University of Northumbria at Newcastle, Durham, England: 15-25.
- ⁴ Ryan, J. et al. 2001. Choosing measures to evaluate networked information resources and services: Selected issues. In C. R. McClure & J. C. Bertot, *Evaluating networked information services: Techniques, policy, and issues* (pp. 111-136). Medford, NJ: Information Today; and Thompson, K. M. et al. 2003. Evaluating federal websites: Improving e-government for the people. In J. F. George (Ed.), *Computers in society: Privacy, ethics, and the Internet* (pp. 400-412). Upper Saddle River, NJ: Prentice Hall.
- ⁵ Hallfors, D. et al. 2000. A comparison of paper vs computer-assisted self-interview for school alcohol, tobacco, and other drug surveys. *Evaluation and Program Planning*, 23, 149-155.
- ⁶ Bertot, J. C., & Davis, D. M. 2005. *Planning and evaluating library networked services and resources*. Westport, CT: Libraries Unlimited; and Bertot, J. C. & Snead, J. T. 2005. Social measurement in libraries. In K. Kempf-Leonard, (Ed.). *Encyclopedia of Social Measurement*. San Diego, CA: Academic Press.
- ⁷ Matthews, J. R. 2004. *Measuring for results: The dimensions of public library effectiveness*. Westport, CT: Libraries Unlimited; and Self, J. 2003. From values to metrics: Implementation of the balanced scorecard at a university library. *Performance Measurement and Metrics*, 4(2), 57-63.
- ⁸ Bertot & Snead, 2005.
- ⁹ McClure, C. R. & Bertot, J. C. 2001. Introduction. In C. R. McClure & J. C. Bertot, *Evaluating networked information services: Techniques, policy, and issues* (pp. xiii-xx). Medford, NJ: Information Today.
- ¹⁰ Jaeger, P. T. (2006). Assessing Section 508 compliance on federal e-government websites: A Multi-method, user-centered evaluation of accessibility for persons with disabilities. *Government Information Quarterly*, 23(2), 169-190.
- ¹¹ Bertot, J. C. 2003. Libraries and networked information services: Issues and considerations in measurement. *Proceedings of the 5th Northumbria International Conference on Performance Measurement in Libraries and Information Services*: University of Northumbria at Newcastle, Durham, England: 15-25; Bertot & Snead, 2005; and Mathews, 2004.
- ¹² McClure, C. R. 2004a. Strategies for collecting networked statistics: Practical suggestions. *VINE: the Journal of Information and Knowledge Management Systems*, 34(4): 166-171; McClure, C. R. 2004b. Challenges and strategies for evaluating networked information services [issue editor]. *Library Quarterly*, 74(4); and Bertot & Davis, 2005.

- ¹³ Bertot & Davis, 2005.
- ¹⁴ Bertot, J. C., & McClure, C. R. 2003a. Outcomes assessment in the networked environment: Research questions, issues, considerations, and moving forward. *Library Trends*, 51(4): 590-613; Bertot, J. C. & McClure, C. R. 2003b. *Assessing LSTA project outcomes: Methods and practice*. Available at: <http://www.ii.fsu.edu/index.cfm>; Mathews, 2004; McClure, C.R. & Bertot, J.C. 2003. *Analysis of E-rate data*. Retrieved 14 January 2004, from: <http://www.ii.fsu.edu/index.cfm>; and Self, J. 2004. Metrics and management: Applying the results of the balanced scorecard. *Performance Measurement and Metrics*, 5(3), 101-105.
- ¹⁵ Bertot & Snead, 2004.
- ¹⁶ Self, 2003 & 2004.
- ¹⁷ Bertot, J.C. et al. 2000. *Statistics and performance measures for public library networked services*. Chicago, IL: American Library Association; and Durrance, J. C. & Fisher, K. E. 2005. *How libraries and librarians help*. Chicago: American Library Association.
- ¹⁸ Bertot & Snead, 2004; Mathews, 2004.
- ¹⁹ Feinstein, O. 2002. Use of evaluations and the evaluation of their use. *Evaluation*, 8, 433-439; Mathison, S. 2001. What's it like when the participatory evaluator is a "genuine" stakeholder? *American Journal of Evaluation*, 22, 29-35; and Patton, M. Q. 1997. *Utilization-focused evaluation: A New century text* (3rd ed.). Thousand Oaks, CA: Sage.
- ²⁰ Carvalho, S. & White, H. 2004. Theory-based evaluation: The Case of social funds. *American Journal of Evaluation*, 25, 141-160.
- ²¹ Bertot, et al. 2006. Functionality, usability, and accessibility: Iterative user-centered evaluation strategies for digital libraries. *Performance Measurement and Metrics*, 7(1): 17-28; Bertot, J.C. & Jaeger, P.T. 2006. User-centered e-government: Challenges and benefits for government Web sites. *Government Information Quarterly*, 23(2): 163-168.
- ²² Bertot et al., 2006; Bertot & Snead, 2004; and McClure, 2004b.
- ²³ Jaeger, P.T. et al. In press. The 2004 and 2005 Gulf Coast hurricanes: Evolving roles and lessons learned for public libraries in disaster preparedness and community services. *Public Library Quarterly*.
- ²⁴ Bertot, J.C. et al. 2006. Drafted: I want you to deliver e-government. *Library Journal*, 131(14), 34-39; and Bertot, J. C., et al. 2006. Public access computing and Internet access in public libraries: The Role of public libraries in e-government and emergencies. *First Monday* 11(9). Available: http://www.firstmonday.org/issues/issue11_9/bertot/index.html.
- ²⁵ Buschman, 2004; Mathews, 2004; and Van House, N.A. & Childers, T. 1993. *The Public library effectiveness study: The Complete report*. Chicago, IL: American Library Association.
- ²⁶ Bertot et al., 2000; Bertot & Snead, 2004; and Mathews, 2004.