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An evaluation decision-making system: development and implementation of a web-based evaluation learning and instructional tool

CHARLES R. McCLURE AND JOHN T. SNEAD

... libraries need to develop services that enable and encourage users not simply to be passive receptors of information, but themselves to create new information and other objects that they can share with their worldwide community.

Peter Brophy (2004, 14)

US public libraries received \$9.7 billion in operating income in FY 2005 (National Center for Education Statistics, 2008): 81% from local sources, 10% from state sources, 1% from federal sources, and 8% from other sources (gifts, fines, donations, and so on). Regardless of how much each individual library received, public library administrators and librarians are under increasing pressure to articulate the value and impacts of their library services and resources to these sources of funds. The process for determining value, impacts, outcomes, satisfaction and so on increasingly requires more attention and more tools. The project described here is one attempt to assist public library administrators to develop better evaluation tools.

Researchers and library practitioners have developed a number of evaluation strategies and tools to help libraries articulate value, impact, quality and other benefits related to the use of services and resources. Identification of the best evaluation methods to use as part of these strategies, however, and obtaining access to sources of information capable of providing useful service and resource data, presents a formidable task for many libraries. Oftentimes, methods and evaluation tools are not compared against each other nor do they take into consideration local situational factors that may affect the success with which these tools can be implemented.

The project described in this paper, an evaluation decision management system (EDMS) (EDMS, 2008, available at www.libevaluation.com/edms), addresses how public libraries:

- develop evaluation strategies to demonstrate value and impacts
- identify the best evaluation methods for these strategies
- access a range of service and resource data from national library-based databases.

Public libraries can address the above through a centralized online portal that encourages users to share and create a range of information related to evaluation. In addition, this paper identifies issues related to the development and implementation of a web-based instructional system and assesses the effects of technology development on evaluation of networked services and resources. Although the project is currently under development as this paper is written (2008), a number of lessons have been learned that may be of use to others developing such an evaluation tool.

Background

Local community leaders, individuals from government and private funding agencies, and others often ask public libraries questions about the value, quality and impact of services they provide and the use of resources, such as (Bertot and Davis, 2004; Bertot and McClure, 2003a, b; Griffiths et al., 2004; Holt, 2003; Matthews, 2004; McClure and Bertot, 1998; Ryan and McClure, 2003):

- How many users come into the library to use internet workstations?
- In what ways do library resources meet community needs?
- How, and in what ways, do patrons benefit from reading online or print material?
- For every dollar invested in the library, what does the community get in return?
- Does the library need to continue to fund print collections in the same amount or can the library divert more resources to online material?
- How do users of library services rate the quality of the services they receive from the library?

Library practitioners and researchers develop and engage in a number of evaluation strategies to attempt to answer these and other questions regarding library services and resources.

There is little available guidance to libraries from library practitioners and researchers, however, about which specific evaluation strategies and approaches

will provide the best data and greatest impact to answer such questions. Because of this lack of guidance, libraries may generically apply pre-developed evaluation strategies with little or no regard for their local situational contexts and needs. For example, at times libraries assess services and resources using applied, systematic evaluation programmes and at other times through ad hoc evaluation efforts (Bertot and Snead, 2004 a, b; Brophy and Coulling, 1996; Durrance and Fisher, 2005; Hernon and Dugan, 2002; Matthews, 2004; Van House et al., 1987).

Consequently, it is essential that researchers and library practitioners have guidance on which evaluation strategies and approaches will provide the best data capable of producing the greatest desired effect based on a local library's situational context and evaluation needs. The type of guidance library administrators need includes:

- what evaluation approaches are available
- which evaluation approaches might best meet their data needs, either library developed or imposed by external funders, organizations and so on
- how to develop an overall evaluation plan that makes effective and efficient use of library resources
- how to implement an evaluation plan using local library resources
- how to analyse and present evaluation findings
- how to create advocacy strategies that promote library value and the use of services and resources to improve library support.

Without an understanding of the above, a public library may not be able to conduct the most useful and informative types of evaluation or successfully demonstrate value and impact of provided services and resources to the communities they serve and to funding organizations (Bertot, 2004; Bertot and Snead, 2004 a, b).

How-to manuals, tool kits, and other forms of assistance are available that provide details on evaluating selected or individual library services and resources. These manuals typically fall largely into four identifiable, selected key evaluation areas:

- outputs assessment and use of performance measures
- outcomes assessment
- quality assessment
- value determination.

No effort to date, however, has provided integrated assistance in determining which evaluation approach to use relative to specific library situational factors, data needs, and a host of other considerations (Bertot and McClure, 2003a, b; Bertot and Snead, 2004 a, b; Griffiths et al., 2004; Matthews, 2004; McClure and Bertot, 2003; Ryan and McClure, 2003).

With so many evaluation options available, there is a substantial need to bridge evaluation approaches to situational factors in order to provide public library managers and librarians with understanding and guidance in the selection of best practice evaluation strategies and methods that meet their needs. The EDMS addresses how best practice evaluation strategies support public libraries' efforts to demonstrate the value of their libraries to the communities they serve.

Evaluation of library services and resources

There are multiple motivations for public library evaluation efforts, such as questions prompted by stakeholders, internal management needs, and/or requirements by funding agencies. A key issue driven by various motivations, however, involves the selection of evaluation methods that provide relevant data capable of informing the decision-making process of library managers. Selection of evaluation methods should answer a range of questions asked by various stakeholder groups (for example library boards, county/city executives, funders, customers, state library agencies) regarding library services and resources; or enhance informed decisions regarding a library's range of services and resources.

Given the differing motivations for evaluation to answer questions and inform the decision-making process, public librarians and managers generally approach meeting an evaluation need from at least three different perspectives (Bertot and Davis, 2004):

- stakeholder type (who is requesting certain data)
- data or information need (what data are necessary/sought)
- evaluation approach (outcomes assessment, service quality and so on).

The EDMS enables public librarians and managers to access the system's contents from these different perspectives to meet specific library evaluation needs.

In addition to the motivational perspective, evaluating library services and resources requires effort, knowledge and an investment of time. Evaluation is a complex process that involves allocation of staff and other library resources; use of various methods (for example surveys, focus groups, log file analysis); and co-

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ordination of data collection efforts, data analysis, and the presentation of findings to numerous stakeholder groups (for example library board, city council, others).

Among the benefits of evaluation is the ability to describe and understand the impacts, benefits, uses and user satisfaction with library services and resources. The perils of poor evaluation, however, range from wasting library resources to providing useless data that does not demonstrate impacts of services and resources to the public library community.

The EDMS

The EDMS addresses multiple priorities that include evaluating the impact of library services on users or communities; improving knowledge about users' information needs, expectations and behaviour; and providing knowledge that enhances people's ability to use library resources. The EDMS meets these priorities by identifying:

- leading evaluation methods used in a public library setting
- types of data each method provides and how each data type is related to specific library services, resources and programmes
- strengths and weaknesses of each method and the success with which libraries have employed the different methods
- how situational contexts and local factors within library settings affect the successful use of these methods
- ways in which to engage in and use various evaluation strategies, analyse evaluation data, interpret evaluation results, and present evaluation findings.

In terms of these priorities, EDMS module content assists public librarians and managers in selecting evaluation approaches capable of yielding information that describes use of library services and resources. EDMS module content also includes user-based ratings of library services and resources; identifies ways to improve library services and resources based on user feedback; and measures and assesses the value and impacts of library services and resources to the communities that libraries serve. The EDMS provides information related to the management, improvement and advocacy for public libraries' continued provision of services and resources in terms of meeting user needs.

Ultimately, this project provides sustained guidance to public librarians and managers in understanding and selecting appropriate evaluation approaches and access to training modules on the types and uses of evaluation approaches

maintained in a centralized, public-access setting. The project promotes customizable strategies for developing evaluation methods specific to a local public library setting and access to a sustainable web-based source of information that includes tools on evaluation to support the strategies. The EDMS builds on existing research supported by grants from the Institute of Museum and Library Services and the State Library and Archives of Florida.

Project design

The overall purpose of the EDMS is to provide a product that will help public librarians and managers match data collection needs with the best evaluation approaches to demonstrate public library value or impact to communities served. The following goals guide this process. Public librarians and managers will successfully:

- capture evaluation information regarding library services and resources that best meets user, community and public librarian or manager information needs
- select and use appropriate, efficient and effective evaluation approaches in order to undertake informative evaluation activities
- understand uses, impacts and benefits, value and other aspects of library services and resources to a library's local community and funders
- advocate at a local level benefits, impacts, and value of library services and resources.

Meeting these goals improves library services that better meet patron needs and will provide practical methods and mechanisms for providing evaluation results to local, state and federal funding agencies. To achieve these goals, the project has the following objectives:

- to compare and contrast types of data provided by each leading evaluation approach
- to determine what such data enables libraries to say about their services and resources
- to compare and contrast the strengths and weaknesses of leading evaluation approaches
- to describe the success with which selected public libraries are currently employing a number of different evaluation approaches

- to better understand how library situational factors (organizational, community, other) affect the successful use of leading evaluation approaches
- to develop guidelines and practical recommendations to assist library managers in selecting appropriate evaluation approaches and determining under what circumstances selected evaluation approaches offer a best fit given their evaluation needs
- to provide assistance in using evaluation data for library advocacy purposes
- to design and create a nationwide and sustainable EDMS to facilitate assessment efforts in public libraries, based on an iterative development process with project partners.

The study team used ongoing, iterative evaluation techniques and input from its advisory committee throughout the course of the project to ensure that development of the EDMS meets project objectives and user needs.

The study team's expectation was that the EDMS best meets the needs of users by designing it so that it addresses the following outcomes:

- Public librarians and managers identify data needs of local community officials and funding agencies.
- Public librarians and managers identify data sources needed to assess services and programmes within specific library situational contexts.
- Public librarians and managers select evaluation approaches appropriate to targeted data needs within specific situational contexts.
- Public librarians and managers disseminate evaluation results in a format appropriate for target audiences.
- EDMS users and project partners more successfully advocate for improved library services and programmes.

The study team worked with members of the project advisory committee and project partners to identify these outcomes in the initial phase of the project.

To facilitate the use and sustainability of the EDMS, the Information Institute, project advisory committee and project partners plan a number of activities to disseminate the results of the project, which include:

- training sessions at major professional conferences, i.e. American Library Association (ALA) annual and winter conferences, Public Library Association (PLA) conferences, annual Federal-State Cooperative System (FSCS) state data co-ordinator meetings, and so on

- presentations at professional conferences, selected professional committees, and membership organizations, i.e. ALA, PLA, state library association meetings, ALA/PLA statistics committees, Urban Libraries Council (ULC) meetings, and so on
- announcements on selected electronic lists, e.g. public library lists, state library agency public library lists, Chief Officers of State Library Agencies (COSLA) lists, appropriate lists maintained by ALA, and so on
- creation of an ALA-supported evaluation website by the ALA Office for Research
- other dissemination efforts as identified.

The purpose of the above efforts includes spreading awareness of the project and informing various stakeholder groups of the potential usefulness of the EDMS to the public library community.

The project currently has four partners, the Baltimore County Public Library (BCPL), the Omaha Public Library (OPL), the Mid-York Library System, New York (MLS) and the ALA Office for Research. The library partners represent a diverse library community along a number of demographics, including library size, service community, geographic region and evaluation needs. In addition, all of the partners have substantial experience and interest in evaluation efforts and provide an important practitioner-based perspective for the project in general and the EDMS in particular.

Evaluation plan

The project relies on three types of evaluation to judge its success – summative, formative and outcomes-based assessment. The combination of these three evaluation strategies affords the study team and the Institute of Museum and Library Services (IMLS) multiple ways to judge the success of the study. At the end of the project, the project team will conduct a summative evaluation to determine the degree to which the project accomplished its objectives.

To conduct the summative evaluation, the project team will engage in two primary efforts. The first is the functionality, usability and accessibility testing of the EDMS. The Information Institute project team conducts usability (system presentation), functionality (system features) and accessibility (access for users with disabilities) testing of the EDMS with public librarians, managers and MLS students.

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The second summative evaluation is field analysis. The project team conducts additional assessments of the EDMS with key constituencies such as the state data co-ordinators involved in the FSCS annual public library surveys conducted by the National Center for Education Statistics (NCES) and PLA's Research and Statistics Committee. The purpose of the field analysis is to gain additional feedback on the utility of the EDMS to public libraries, how the EDMS can facilitate decision-making and advocacy efforts, and system features for continued improvement.

Throughout the project, the project team employed a number of formative evaluation techniques to ensure that the study is proceeding appropriately. First, the advisory committee served in an evaluation capacity and provided regular feedback and review of project products, process and issues. Second, a number of activities built into the project enabled the study team to obtain feedback and suggestions from public librarians and managers. Third, project partner public libraries and others field-tested the EDMS. In addition, the study team engaged in functionality, usability and accessibility testing of the EDMS throughout its development process.

The project goals and objectives, as measured through the use and application of the EDMS, inform the outcomes-based assessment of the project. One key strategy for outcomes assessment is the development of surveys and other feedback mechanisms in the EDMS that enable users to inform the study team along several EDMS dimensions that include:

- usefulness of the content
- EDMS design and functionality
- participants' ability to use the EDMS for advocacy purposes.

The findings from these outcomes-based evaluation activities inform the continued development of the EDMS beyond the life of the grant.

EDMS implementation

The current version of the EDMS consists of selected modules, 'commons' and infrastructure areas that include:

- instructional modules that provide guidance for planning, managing and conducting evaluations

- interactive modules that present local library level public access computing statistics based on the Information Institute's 2006 internet national level survey, create templates for NCES related library statistic generation, and develop report generation modules useful for library reporting and advocacy purposes
- a commons area that provides a uniform presentation of references and resources; and the EDMS communication centre (phpBB threaded discussion list, as described on page 174) to improve interaction between participants of the EDMS system
- an About Us section that provides information about the EDMS and the Information Institute
- contact templates for individuals to provide comments, feedback, and to suggest additional resources and references.

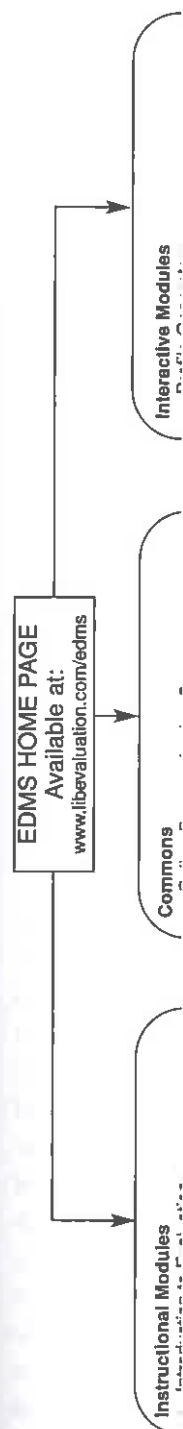
In addition, the EDMS includes an infrastructure developed specifically to sustain and update the site, access national level resources and databases, generate reports on-the-fly using data from the national-level databases, and allows for future refinement and expansion of the site.

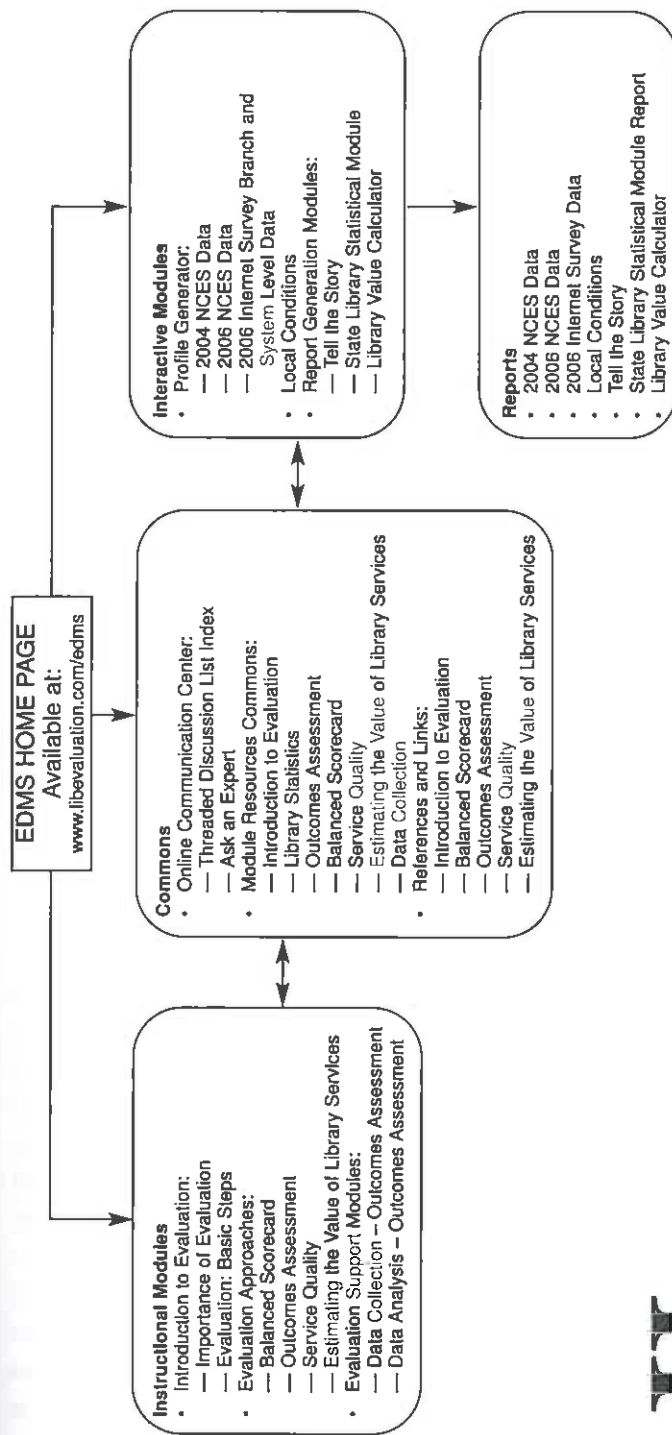
Refinement of the EDMS includes ongoing development of the support structure for future implementation of modules in the instructional, interactive and commons areas. Refinement also includes the ongoing design to improve interactivity between the project's SQL database and future added databases, i.e. annual NCES databases and Information Institute internet databases.

Figure 10.1 offers an overview of the EDMS. The various EDMS areas of development:

- offer ways in which to think about and engage in evaluation efforts
- stress that different evaluation approaches meet different assessment needs
- provide public librarians and managers with decision tools to facilitate the most appropriate evaluation approach to meet their data needs
- assist public libraries in understanding and using best practices in evaluation to demonstrate the contributions that libraries make to the communities that they serve.

The EDMS as it has evolved provides access to a broad spectrum of information and includes interactive aspects intended to aid libraries with evaluation and advocacy purposes; however, the EDMS does not produce standards or force compliance with a set of evaluation approaches or guidelines.





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Figure 10.1 An overview of the EDMS

Selected key issues

The overall purpose of this project is to develop a web-based learning and instructional tool that will help public librarians and managers determine the most appropriate evaluation approach that best fits unique situational needs and factors of a library for the type of information required. EDMS design enables public librarians and managers to use the system's guidance and instruction to identify evaluation methods and match the methods to local library needs and budgetary constraints. In addition, the EDMS will help public librarians and managers use these evaluations to demonstrate the value of library services and resources.

During the development and implementation of the EDMS, however, the study team identified a number of issues that affected the evolution of the EDMS website. A selection of key issues discussed here includes customization of on-the-fly reports, integration of communication features into the site, academic v. real-world perspectives, engaging users with the site, and sustainability of the site.

Customization of on-the-fly reports

The EDMS consists of instructional modules, interactive modules, a commons area and information areas (about the EDMS, the Information Institute, and giving contact information). With the exception of the interactive component of the EDMS, development of each of the other areas occurred with relatively few issues. The interactive components of the EDMS, however, created a number of technology issues related to the customization of on-the-fly reports.

Interactive reports contain data drawn from national level library databases (nationwide-based NCES and Information Institute internet studies). Technology developers of the EDMS incorporated the original Access databases and Excel spreadsheets from NCES and the Information Institute surveys, respectively, into an SQL format. Reports available from the interactive component contain data integrated into report templates, which also contain fields for the addition of descriptive and/or explanatory text. These fields allow users to customize the reports for management, planning, and/or advocacy purposes. The integration of technology and database design, however, created a number of issues related to the development of the EDMS.

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Integration of technology

The study team completed the initial development of the infrastructure of the site, integrated national level databases into SQL format, and created report templates designed specifically for the generation of data-driven reports for specific areas of interest. Examples of each type of interactive template are implemented and functional; however, the process of creating queries to fill template fields from the SQL database took longer than anticipated.

In addition, the overall development of interactive modules to auto-generate reports based on specific library situational contexts and needs also proved to be much more challenging than anticipated, requiring significantly more technical expertise and study team time than originally planned. For example, the design team intended that library reports include a problem-solving aspect where libraries could use data from national surveys combined with prescribed questions to identify local situational contexts for problem-solving purposes.

The resultant report would address a specific problem or issue, such as the cost (budgeting issue) of adding public workstations to improve public access to the internet. Data included in the reports from national surveys would provide libraries with the means to compare the number of public workstations to state and national averages and libraries would follow a prescribed process to create a report that specifically addresses a local library problem or issue. Creating a report template capable of identifying local situation contexts and needs useful for all libraries, however, was not feasible or practical.

Based on the advice from the partners and advisory committee, the study team revised the design criteria for the interactive problem-solving modules. The study team revised the library report templates from the problem-solving approach to data and text presentation where libraries could use national level survey data and include descriptive text for the data to tell their own stories based on their local situational contexts. This tell-the-story approach allows libraries to use national data for planning and advocacy purposes based on local library conditions and factors.

By working with the partners and advisory committee, the study team determined (both technically and intellectually) from its previous efforts in designing such modules that programming or anticipating the extent of potential situational factors affecting report development or dissemination for a particular library is unrealistic. Current templates allow participants of the interactive site of the EDMS to identify specific situational contexts and needs and add descriptive and explanatory text to report generated data from the SQL database as needed to tell their own story.

Database design

Interactive components require a login process so users of the system can save reports created by interactive modules for future reference and/or refinement. Initial planning for a login process included an option for users to view and interact with the modules without logging into the system; however, providing this option created presentation and content issues throughout the interactive component. Adjustments to the initial option design led to the requirement of all users to login to view or interact with the interactive modules of the site.

As mentioned in the section on integration of technology, the technology developers of the EDMS site integrated several national databases into the SQL database. The integration process created issues unique to how the SQL system provides users of the EDMS access to data that is specific to a local library, such as the presence of unique identifiers for each library associated with the library's data fields in the system and library personnel knowing the unique identifier to begin the query process. For users of the EDMS to create customized reports, they need to access data specific to that library.

Theoretically, each library has a unique identifier associated with the library, referred to as an FSCS ID. For users of the system who know the FSCS ID for a particular library, they can enter the ID and proceed with the interaction process. EDMS technology developers had to develop a unique FSCS ID location protocol, however, for users who do not know a library's FSCS ID or for libraries with IDs that for a number of reasons do not provide a unique identifier for that library.

Communication features

The Commons area contains a functional threaded discussion area (an open source discussion-forum software called phpBB, available at www.phpbb.com) and a template for users to contact experts for each instructional module of the EDMS (the Ask an Expert templates). The initial design of the communication area of the EDMS included blogs, wikis, list-servs, a threaded discussion list and other similar types of interactive communication features. Each of these types of communication software, however, can require a substantial amount of moderation time for sustainability purposes.

For the first version of the EDMS, the study team focused on the inclusion of a threaded discussion list and selected the phpBB software; however, a number of issues arose related to this type of discussion list. For the EDMS, the study team initially planned for all users of the system to have open access to the discussion list. This led to an influx of multiple spam posts to the list that required a

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considerable amount of time to clear. In discussions with experts in the field of online communication software, the experts identified spam as a key issue with all open-access discussion lists and none could suggest better alternatives or suggestions other than to limit access to the list and develop an approval protocol to allow entry to the discussion areas.

In addition, the study team planned for a synchronous login process where a participant could login to either the EDMS or the phpBB yet have access to both. The proprietary nature of the phpBB software, however, prohibited full implementation of this login process.

Academic v. real-world perspective

Developers of instructional and information systems, such as the EDMS, often must consider the presentation of the system from a user perspective, particularly when users of the system are in essence volunteers willing to participate. The study team continuously focused on a user perspective, from design to implementation; however, issues related to users' comprehension and understanding of the various component parts of the EDMS continue as ongoing development and testing of the system occurs.

To address this issue, the study team recruited members of the library community to participate on the advisory committee and as project partners. The advisory committee, project partners and other experts from the field who provide insights and contributions to the project are integral to maintaining the academic/real-world perspective through comments and suggestions offered to improve the system. In addition, the study team recruits individuals from library staffs and experts from the library field (academic researchers, library practitioners, state library staff and so on) as participants of usability studies and focus groups. As part of this ongoing evaluation process of the EDMS, these participants provide invaluable insights into the ongoing development and refinement of the EDMS system.

Engaging users with the site

In addition to the inclusion of potential participants as part of the ongoing evaluation process of the EDMS (as described above), the study team plans and implements workshops, seminars and presentations in conjunction with key public library and library conferences to engage users with the EDMS site. Some reasons for the need to engage users with the site include:

- to introduce the library community to the EDMS
- to provide an introduction to available information and resources on how best to use evaluation information and evaluation frameworks, such as the EDMS, for library advocacy in the local community
- to improve assessment and development of public library services and programmes based on library resources and needs of a library's community
- to engage in numerous marketing efforts to increase awareness and use of the EDMS.

Ultimately, the users of any instructional system determine the success or failure of the use and usefulness of the content and presentation of the system; therefore users are integral participants throughout the design and implementation process of any instructional system project.

Sustainability

The Information Institute is committed to keeping the EDMS current and operational after the end of the IMLS project-funding period, and developed a number of approaches to sustain the effort. First, during the project (and also for a planned two-year post-project window), the Institute engaged organizations such as COSLA, the Public Library Data Service (PLDS), PLA, ALA and other organizations for their direct support to ensure continued and ongoing support, development and benefit of the EDMS to public libraries.

Second, the Information Institute continues to work with current support organizations (the advisory committee, project partners, experts in the field and so on) to take ownership for the development and ongoing evolution of the EDMS. The ultimate goal of the project is to establish ongoing support for the EDMS that will promote its continual updating, revision, new module development and system enhancements; however, developers must continue to address actual sustainability of systems such as the EDMS in terms of effort and the availability and allocation of resources.

Third, the EDMS has been designed so that users of the system can update the components and provide additional discussion and information about evaluation approaches. The EDMS will allow participants to post good examples of evaluation reports, new resources and opinions about the strengths and weaknesses of the various evaluation methodologies. To some extent basic social networking applications will be built into the EDMS.

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Future developments and moving to Web 2.0 and beyond

Understanding the potential uses and applications of the web for evaluation instruction and other contexts is an ongoing, rapidly developing process, and the approaches and strategies by which public libraries will select and develop various evaluation methods is a rapidly evolving and changing environment as well. The EDMS described in this paper might soon be out of date after the completion of the project because of this changing environment and require wholesale upgrades to stay current with new development in web applications such as Web 2.0 and beyond (Stephens, 2007).

The current trend in the use of social networking applications is likely to have significant impacts on internet-based service roles. A recent report from OCLC (2007, vii–viii) notes:

Social sites like MySpace, Mixi, Facebook and YouTube have built a new 'social web' connecting communities of hundreds of millions of users across much of the industrialized world. In June 2007, the world's top three social sites (YouTube, MySpace, Facebook) attracted more than 350 million people to their Web sites according to comScore. . . . We know relatively little about what these emerging social Web communities will mean for the future of the Internet or the possibilities they hold for library services on the Internet.

In the future, then, is it possible that public library users will develop their own interactive and participatory evaluation approaches incorporating such techniques? Will the developers of the EDMS be able to enhance the use and impact of this site with such techniques?

As one example, the website Library Thing (www.librarything.com/) provides a means for users to enter and catalogue their personal library or a reading list, connects users to other people reading the same or similar books, offers recommendations of books of interest, gives blogging space, and much more. As of February 2008, members have catalogued some 23 million books. Designers of online information systems can incorporate these types of applications into interactive and social networking instructional modules such as the EDMS.

Other examples of these new types of internet applications include Bibliocommons, which is 'transforming online library catalogues from searchable inventory systems into engaging social discovery environments' (www.bibliocommons.com/). The notion of social networked communal cataloguing, resource discovery among information and people, participatory readers' adviser,

and more, has very significant implications for how public library internet-based evaluation may evolve. Indeed, inclusion of such applications could make tools such as the EDMS much more useful.

In a recent paper, Lankes et al. describe library service in terms of participatory networks in which the library is a 'conversation'. They go on to state (2007, 19):

A core concept of Web 2.0 is that people are the content of sites; that is, a site is not populated with information for users to consume. Instead, services are provided to individual users for them to build networks of friends and other groups (professional, recreational, and so on). The content of a site then comprises user-provided information that attracts new members of an ever-expanding network.

The Lankes et al. paper raises numerous challenges and issues for the future of public library internet-based services for application to web-based evaluation instruction. Of special interest to the topic discussed here, however, is to what degree could these participatory network conversations promote public library evaluation instruction and how can we design such systems? To what degree will developers be able to design exciting and dynamic internet-based instructional sites that are participatory and draw on social networking principles successfully?

At the heart of all of these various social networking applications is a peer-to-peer relationship of community members not well understood in terms of how they will affect instructional modules such as EDMS. Many of the social networking applications 'push' services to users, offer links to other information, much of it directly from other peers, and ultimately allow internet users to define and create information services that are personalized or customized to meet their specific needs. Perhaps more importantly, they encourage the development, content and services to evolve based on participants' needs and creativity, the point made by Brophy in 2004 we quoted at the opening of this chapter.

An underlying notion of these social networking applications is personal trust among participants and a sense of value of receiving the opinions from others. Obtaining access to interactive evaluation modules is not the same as obtaining the opinion, insights and experiences of someone regarding an evaluation topic of special interest (for example assessing the quality of a digital reference service) who is trusted by the user and with whom the community of users has shared values. A major conclusion of the OCLC study *Sharing, Privacy and Trust in Our Networked World* (2007) is that internet users increasingly have less concern about privacy, confidentiality and trustworthiness about these social sites. Thus, they are

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increasingly likely to participate in providing personal information, views and various library evaluation experiences that develop these sites.

Planning for the future of public library interactive instructional web-based sites such as the EDMS also needs to consider how such websites can be successfully evaluated. Evaluating such sites that are built into a social networked environment would involve consideration of a number of factors:

- Traditional evaluation approaches typically base assessment on an imposed or organizationally accepted set of service goals and objectives. Evaluation based on social networked activities builds on dynamic, personally self-driven goals and objectives, which are constantly evolving and changing.
- Outcome measures (for example) that assess changes in behaviour, skills and/or attitudes may be of less importance in social networking service roles where learning, contacts, quality of life and other individually based measures are most important. Moreover, individually based process measures may have greater validity for measuring user success than system-based outcomes.
- Comparing the 'success' of users across various types of social networking evaluation applications presents numerous challenges given the situational nature of users of these applications.
- The nature and definition of 'community' as it relates to the library's service population changes significantly in a social networking context. Successful social networking applications rely on 'virtual' communities that span the globe and not 'local' communities defined by an artificial geographical or political boundary.
- Separating the evaluation and measurement of the technological infrastructure of the website from the actual use of that application may be impossible. In short, to what degree are evaluators measuring quality of the technology as opposed to the use of that technology?
- Success of an individual's use of an internet based socially networked instructional service is dependent on the skills and knowledge of the user – one person's success versus another's may have little to do with the application itself.

These are but a few of the challenges that the future holds for successful design and evaluation of web-based instructional tools such as the EDMS, which build on social networking applications.

Existing public library evaluation strategies may continue to be of use for many public libraries, but evaluation approaches that incorporate social networked and participatory techniques may be rapidly changing and evolving, dependent on a range of library factors such as staff skills and available information technology infrastructure, and situational factors and skills of individual users. Thus, the public library community may find it useful to move from a static to a dynamic evaluation mentality and incorporate a range of Web 2.0 techniques into library evaluations.

Regardless of how evaluation methods and instruction evolve, public libraries will continue to be asked to justify their budgets; demonstrate the impact, outcomes, benefits, quality, value and so on of the library; and have to consider the reporting of these data in complicated political environments that vary from library to library. To do this successfully, public library administrators will need to have access to the best evaluation tools possible and be able to judge which evaluation methods and tools will best meet their needs. The EDMS is a first effort to assist them in this endeavour.

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11

Measuring
services**Introduction**

Walk into an library and see students use information. We refer to as the use of search electronic resources. This approach is by this approach lack of awareness the best interest.

This issue electronic (a approaches to for journal articles to the knowledge we are considering resources possible approaches a services and particular have undertaken information-

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