

Preface

Flash back to 1992. *The Thomas Register of American Manufacturers*, all 33 volumes of it, was one of the hottest business sources on the shelf. It was so popular at the Dayton Metro Library, Ohio, where this editor cut her reference teeth, that the alphabetical volumes had sturdy handles book-taped to the cover so that pulling them off the shelf would be easier on users' hands and the spines of books. In addition to *The Thomas Register*, a slew of other print business sources were available to help users verify addresses, employees, sales, and top executives of thousands of companies around the world. While not the only type of reference question, company research was quite popular in 1992 at the "West Reference Desk" of the Dayton Metro Library. But what was still not possible was the availability of company research online. At that time the researcher's best bet was to use a CD-ROM for the *Dun & Bradstreet Regional Business Directory*, loaded on a dedicated stand-alone computer, which provided little more information than the print resources, but focused on a much wider array of local companies.

Enter the World Wide Web in 1993. Little did the librarians at the Dayton Metro Library realize what impact the Web would have on the future of reference collections and formats. And, just what was the Web's impact on the library? Within a few short years, a veritable potpourri of Web sources answered many of the patrons' questions. Today, collections of annual reports, business directories, and telephone books from around the world are gone. The CD-ROM drives and products that librarians so favored for their quarterly updates have now vanished. Hundreds of new print resources produced each year, and the budgets to support them are missing in action. Thanks to HTML, search engines, and dot-coms, much of this front-line print reference material has become unnecessary, and in many cases, all but extinct.

Without question, reference collections have changed. We are in the midst of a paradigm shift where publishers are focusing on a future with electronic content and full-text interfaces; classic reference sources are being transformed into online interactive products; the use of print continues to decline. Despite this relentless shift, some libraries cannot afford a complete transformation to e-reference and depend on print and free Web-based sources for added support. Students, however, are turning to search engines and Wikipedia as starting points for their research, leaving vetted content out-of-sight, and consequently, out-of-mind.

But numerous studies show that students struggle with information overload and a lack of context from general Web searching, pointing to a need for vetted reference sources. Such sources can provide students with the context they need but are difficult, if not impossible, to find in an online environment. Factors such as these elicit many questions: What will become of reference collections in public, academic, and school libraries? How do librarians and reference publishers make e-reference content more discoverable? And, are they doing enough to meet the changing needs of today's researchers?

E-Reference Context and Discoverability in Libraries provides an in-depth analysis of these issues and offers solutions to help vetted reference sources remain integral to research.

This book consists of over 20 informative chapters by librarians, publishers, and other industry professionals that propose new ideas for reinventing reference collections and interfaces to fit the needs of today's researchers. The chapters examine the issues of reference context and discoverability in school, public, and academic libraries as well as within the reference publishing community. Librarians, publishers, and those studying library and information science are the book's primary audience, but others in the information industry, particularly those with an interest in reference, will find significant value here as well.

The collection is organized into five distinct content areas. The first focuses on the rapidly changing landscape of electronic reference, examining the dramatic changes from library, publisher, and end-user perspectives. In Chapter 1, seasoned reference and instruction librarian Jack O'Gorman provides an historical look at the development of reference sources and the paradigm shift to electronic reference services and sources. O'Gorman describes how major changes have impacted traditional reference titles and how libraries and users have adjusted to those changes through history. Peter Tobey, a reference publishing executive, investigates changes in reference publishing, including the shift to electronic publishing, new business models, and challenges publishers face today. Tobey provides detailed and personal discussions about sharing content, simultaneous use, pricing for a fair reward, and the importance of content discovery. The last chapter in this section, written by publisher and researcher Anh Bui, introduces discoverability and sets the stage for how libraries and publishers together might adapt to meet end users' future needs. Bui examines common information seeking practices and the ways in which both discovery and filter failure can play key roles. She also discusses the user's perspective and identifies several value signifiers – i.e., the signals typically used to determine the relevance of discovered resources.

Section 2 explores the value of information literacy in research. James Galbraith, a long-time collection development librarian, and Miriam Matteson, library and information science professor, in Chapters 4 and 5, look at the research habits of undergraduate and graduate students as well as faculty to determine how they conduct their research. Each author summarizes extensive studies addressing the changing habits of students, highlights motivations of researchers as well as their information seeking strategies, and offers suggestions on how to best meet the changing needs of these important user groups.

In Chapter 6, Frank Menchaca, a publishing executive, considers the role of libraries and educational publishers in the information age. Menchaca focuses on information overload and evaluation of resources, proposing new roles for librarians and publishers to help them address these critical issues and remain relevant in a search-engine dominated research process. Jackie Zanghi-LaPlaca, an online reference product developer, explores online research without e-reference sources. She stresses the importance of reference services to increase the value and use of an institution's electronic resources collection, resulting in increased information literacy. Jason Phillips, a social sciences librarian, wraps up Section 2 with his discussion of the underutilization of online resources and the great need for information literacy instruction. Phillips offers insight into these problems by highlighting the results of interviews conducted with undergraduate students at New York University.

Section 3 takes a closer look at the design and delivery of reference content through four informative chapters. In Chapter 9, Tom Beyer, an online product designer, examines interface features available on reference platforms today and suggests innovative ways to reach the end user of the future. Beyer examines the value of adding multi-media content to text, browsing via timelines and maps, developing taxonomies and ontologies, inter-linking products, and delivering content through mobile devices.

Chapter 10, written by two technology consultants, Alix Vance and David Wojick, provides a template of design considerations for mobile applications. Vance and Wojick discuss general theories of content restructuring, strategic planning and tactical execution, with an eye on publisher-based applications. The concepts and issues covered can be applied to library-based applications for reference content delivery.

Chapter 11 examines why medical reference sources frequently lead the way in setting a standard for the design of e-reference products, particularly with e-books and mobile access to content. Two health sciences librarians, Terese DeSimio and Ximena Chrisagis, offer examples of features currently available through medical content aggregators that should be widely adopted. They describe several challenges of e-reference delivery, including ease of access, user-friendliness, mobile delivery, and data security. In Chapter 12, K-12 librarians and educators Terri Fredericka and Jennifer Schwelik examine an INFOhio project that delivers content to today's digital learners. They chronicle the ongoing partnership between INFOhio (Ohio's K-12 library and information network) and a library vendor to create an innovative virtual classroom of reference, research, and discovery material to support student curricular needs.

In Section 4, the focus shifts to possibilities inherent in the discoverability and context of e-reference. Six chapters explore strategies that librarians and publishers can use to improve e-reference discoverability. In Chapter 13, online reference product manager Lettie Conrad challenges today's thinking about discoverability and discusses future publishing tactics that will increase content discoverability. Conrad goes beyond search engine optimization, suggesting that publishers need to investigate business models and existing editorial positions to produce more agile content. In Chapter 14, publishing executive Eric Calaluca covers the indexing of reference content. He begins with an overview of the diminished interaction between end users and librarians and describes how that impacts contextualization for end users. He then examines how new technologies are applied to increase discoverability of subject encyclopedias in particular. Metadata, DOIs, and other discovery tools found in subject encyclopedias are all necessary pieces to this "discoverability" puzzle. John Dove and Ingrid Becker, reference content aggregators, continue the discussion of subject encyclopedias in Chapter 15 by exploring their role in providing context for users. Based on studies of student research behavior, Dove and Becker argue for the contemporary relevance of the subject encyclopedia. They also explore current practices and future possibilities important in the transition of print encyclopedias to digital formats suitable for the open Web.

Information services librarian Chad Mairn goes mobile in Chapter 16, providing examples of the successful implementation of mobile reference products and services in libraries today. He discusses best practices for acquiring, promoting, and using mobile-optimized library resources and services, while attempting to determine if promoting mobile-optimized content is a viable solution to discoverability. In Chapter 17, media consultant Darrell Gunter introduces the Semantic Web and its role in connecting disparate pieces of information. Gunter provides an historical look at the Semantic Web, breaks down the technological pieces that form the Semantic Web with examples of the successful use of semantic technologies in the STM environment. He suggests that many of these technologies could be positioned in most online reference products. Section 4 wraps with a modern view of archival reference. Jane Wildermuth and Laurie Gemmill, archivists and digitization specialists, investigate how the landscape in archival reference has changed from one of protection to one of "crowdsourcing." They propose some new ideas that can be incorporated into a discovery solution for all types of reference sources.

The final section of the book offers a unique glimpse into the inner workings of libraries and publishers through five case studies. Librarians Kathleen Sullivan and Ross MacLachlan give an extensive overview of the shift from print to electronic reference at Phoenix Public Library, highlighting the strategies that helped them achieve quality results while also learning from failed initiatives. In Chapter 20,

librarian Wright Rix describes how Santa Monica Public Library's collections and services have adapted and changed to match needs of patrons and available technologies. He surmises that today's library customers exhibit a decreasing tendency to regard the public library as the primary local repository of research information and that the library's services and products must evolve to support the changing needs of patrons.

Chapter 21, written by instructional technologist and library media specialist Buffy Hamilton, examines the positive impact of embedded school librarianship through her Media 21 program at the "Unquiet Library." Her case study chronicles the learning experiences of students who participated in a year-long learning initiative rooted in connectivism, inquiry, and participatory literacy.

In the final two case studies, publishers offer their own perspectives on e-reference. In Chapter 22, publishers Miriam Gilbert and Roger Rosen, describe the creation of the Teen Health & Wellness: Real Life, Real Answers database, review the creative process behind it, and share successes and challenges. Finally, Chapter 23 examines the role of bibliographies in the research process. Online product developers Rebecca Cullen and Robert Faber review the research chain as it is currently understood and discuss both the planned and actual role of Oxford Bibliographies Online on this shifting research process.

Fast forward to 2025. People are using voice-activated personal holographic screens to access information—anywhere, anytime. Scholarly reference content is seamlessly delivered due to technological advances and collaborative business models, licensing agreements, and authentication among libraries, publishers, and search providers. Information seekers are conducting research and connecting to relevant information in ways never imagined. Just as librarians working at the West Reference Desk at the Dayton Metro Library could not anticipate the impact of the Web back in 1993, today we are also unable to anticipate exactly how mobile technology, the Semantic Web, filtering, and the convergence of electronic innovation with scholarly content will impact our own future, be it 2025 or tomorrow. More than anything, this collection of essays, written by information professionals, offers readers an opportunity to think about the future of reference, to explore their own choices, and to act on the ideas that best fit the new generation of researchers they serve.

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