PUBLIC Knowledge

Access and Benefits

Edited by
Miriam A. Drake & Donald T. Hawkins

Foreword by Judith Coffey Russell

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To the memory of Miriam A. Drake

And to Pat,
Michael and Lisa,
and Sean, Rebecca, Ethan, and Emma,
for their constant love and unfailing support

Advance Praise for *Public Knowledge*

"Donald Hawkins and Miriam A. Drake, along with various knowledgeable contributors, present a comprehensive view of government information and access to this information through key agencies and libraries. *Public Knowledge* is a useful resource for librarians, information professionals, and the general public—we *all* need government information."

—Eileen G. Abels
dean and professor, School of Library
and Information Science, Simmons College

"In today's wired world amid the explosion of technology and the internet, [*Public Knowledge*] is a must read for anyone interested in or who wants to access government information. … Coverage includes multiple aspects and characteristics of government publishing sources, what they are, how to find them, and, perhaps most importantly, what the future portends for open government."

—Corilee Christou
president, C2 Consulting

"*Public Knowledge* reaffirms the value of public information in serving a democracy well and the vital role that libraries of all types play in disseminating that information. The authors provide clear explanations of the history of public information from the founding of the United States, and discussions of the modern day challenges of management, access, and preservation in the digital environment. A great introduction for librarians seeking to learn how and where to find public information online to serve their communities better."

—Cherilyn P. Fiory
director, Upper Dublin (Pa.) Public Library

"*Public Knowledge* highlights some excellent examples of how government information becomes public for the benefit of specific communities of use and describes the role institutions and librarians play in making better use of public information. This book is a call for private citizens, educational institutions, and government employees to diligently advocate for the timely and efficient release of government information into the public domain. The examples provided offer us hope that the investment we make in our federal government will continue to return dividends to society for decades to come."

—Richard Huffine
independent consultant
and former president, Federal and Armed Forces
Libraries Round Table, American Library Association

"As a government documents librarian I have a special appreciation for the coverage in this book of agencies that make research and policy information available to the public. *Public Knowledge* describes the breadth and scope of information provided by the federal government, from the many documents and increasing volume of data produced by agencies to the incredible wealth of research in science, space, health, energy, and agriculture that are freely available to a global audience. A wonderful book and an excellent tribute to Mimi Drake's lifelong interests and work."

—Judy Luther
president, Informed Strategies, LLC

Contents

Acknowledgments

I am fortunate to have friends who have supported my efforts and who have supplied names of potential authors. I owe them a big thank you. Blane Dessy, executive director of FEDLINK (Federal Library and Information Network), sent a notice to his network about the book, which generated several responses. Bonnie Carroll, chairman and CEO of IIa (Information International Associates), followed up by sending a note to her network and contacts. Donald Hagen, associate director at the National Technical Information Service (NTIS), offered good advice and support. Mary Alice Baish, superintendent of documents at the U.S. Government Publishing Office, made author suggestions and gave advice and support.

—Miriam A. Drake

I have had the privilege of getting to know and working with the contributors, who gave their time willingly to bring this book to fruition. Thank you for your support and for your timely responses to my many requests. Without that, this book would not exist.

Robert Drake, Miriam's son, and Kathy Tomajko, who worked closely with her at Georgia Tech Library, both supplied me with very helpful information about her life and work. Barbie Keiser was instrumental in providing me with suggestions for chapters and authors in addition to those Miriam had recruited. Deborah Thomas, digital projects coordinator for the National Digital Newspaper Program at the Library of Congress and head of the Chronicling America project,

kindly reviewed and updated the paragraphs in Chapter 5 describing the project.

I have thoroughly enjoyed my 17 years working with Tom Hogan Sr., president and CEO, and John Bryans, editor-in-chief and publisher, at Information Today, Inc. Thank you for your friendship, and for providing such enthusiastic support for this project in so many ways, and especially for helping me to pick up this project in midstream and bring it to a successful conclusion. Finally, thank you to Brandi Scardilli for her careful and diligent copy editing and for steering the manuscript through the production process.

—Donald T. Hawkins

Foreword

Judith Coffey Russell

I can't remember a time when government information policy wasn't an important part of my personal and professional values. Perhaps it began in graduate school, or even earlier in my study of American history and government. Whenever and however it embedded itself into my core values, government information policy has played an important role in my career, and I am extremely proud of the opportunities I have had to influence and implement such policies.

When I was asked to review the contents of this book and contribute a foreword, it felt like coming home. I have worked closely with every one of the agencies represented here during my career and know many of the authors. I am sorry that Miriam Drake is not here to share in the culmination of her vision for this book, but I know it achieves her primary purpose: to reaffirm that public information and knowledge are public goods and to document that the dissemination of this information continues to produce what she called "significant and specific benefits" to the American people and the U.S. economy. The agencies represented in this volume were selected because of their substantial contributions to the aggregation, organization, and dissemination of government information to the public. The fact that the specific impact that access to this information has on every individual using it cannot be easily determined should not diminish the commitment of our government to making its information accessible for current and future users through these and other agencies.

From the earliest years of this great nation, our leaders have recognized the importance of an informed citizenry to the successful functioning of a democracy. During his first inaugural address in 1801, Thomas Jefferson said, "The diffusion of information and the arraignment of all abuses at the bar of public reason, I deem [one of] the essential principles of our government, and consequently [one of] those which ought to shape its administration." He also spoke and wrote frequently about the importance of public education and understanding to good government. His viewpoint is succinctly and eloquently summarized by this statement: "If a nation expects to be ignorant and free in a state of civilization, it expects what never was and never will be."[1]

James Madison was also eloquent in his affirmation of the necessity for an informed citizenry, and although his statements were made primarily in the context of the importance of public education and literacy for citizens in a democracy, he is the Founding Father most often quoted as an early and prominent advocate for public access to government information. His words are frequently used in support of government information policy and legislation, as they were for the Freedom of Information Act.[2] Madison's most compelling statement is this declaration:

> A popular Government, without popular information, or the means of acquiring it, is but a Prologue to a Farce or a Tragedy; or, perhaps both. Knowledge will forever govern ignorance: And a people who mean to be their own Governors, must arm themselves with the power which knowledge gives.[3]

Jefferson and Madison were not alone in their recognition of the need for public access to information from and about the government. Eight years earlier, on Dec. 1, 1814, the U.S. Congress approved "Resolution 7: For furnishing the American Antiquarian Society with a copy of the journals of Congress; and of the documents published under their order," in response to a request from the society. This resolution

is considered to be the beginning of the Federal Depository Library Program (FDLP), and demonstrates an early commitment by Congress to public access to its own information. That commitment eventually spread to cover the publications of all three branches of government.[4]

U.S. government information policy has evolved through the years into a complex maze of laws, regulations, and other official guidance. From 2000 to 2001, the National Commission on Libraries and Information Science (NCLIS) undertook a major project to assess the then current state of government information policy and propose a comprehensive reform to simplify and clarify the federal government's commitment to public access to its information.[5] I was honored to be a part of compiling the report, as was Forest "Woody" Horton Jr., the author of the first chapter in this book. In that report, NCLIS recommended that the "United States Government formally recognize and affirm the concept that public information is a strategic national resource." It also recommended "the inclusion of a standard provision in the enabling legislation for each agency incorporating public information dissemination as a primary agency responsibility integral to its mission." The report provides detailed findings, conclusions, and specific recommendations, as well as a major legislative proposal. It remains surprisingly relevant in spite of the passage of time, and the American people would clearly benefit from implementation of many of the recommendations, including the two mentioned above.

I want to conclude by advising all who read this book, and all who concern themselves with establishing and maintaining information policies that serve the best interests of the people of the U.S., to review the Preamble of an earlier NCLIS document, "Principles of Public Information," issued in July 1990 (which is reprinted on the following pages). Twenty-five years after they were issued, these principles remain a clarion call for excellence in government information policy. They are as relevant today—and perhaps even more essential as a touchstone for evaluating government information policy—as they were when NCLIS issued them and they well define the mission of this book, its authors, and its editors. Hopefully, this book will reinvigorate and inform a

public policy discussion of the need for a more coherent and comprehensive policy for public access to government information. If it does, Miriam Drake's vision will have been fulfilled.

Judith Coffey Russell
Dean of University Libraries
University of Florida
Gainesville, Florida, 2015

Superintendent of Documents
U.S. Government Printing Office,[6] 2003–2007

Deputy Director,
NCLIS,[7] 1998–2003

Endnotes

1. Letter to Charles Yancey, Jan. 6, 1816.
2. Doyle, Michael, "Misquoting Madison," *Legal Affairs*, July/August 2002. legalaffairs.org/issues/July-August-2002/scene_doyle_julaug2002.msp (accessed Aug. 11, 2015).
3. Ibid.
4. In 1895, responsibility for administering the FDLP was transferred to the U.S. Government Printing Office (now the U.S. Government Publishing Office), where it remains today.
5. National Commission on Libraries and Information Science, "A Comprehensive Assessment of Public Information Dissemination," Final Report, Volume 3, Jan. 26, 2001. 4uth.gov.ua/usa/english/politics/assess/vol3.pdf (accessed Aug. 11, 2015).
6. The U.S. Government Printing Office was renamed the U.S. Government Publishing Office by an act of Congress in 2015.
7. NCLIS was closed and its functions were transferred to IMLS (Institute of Museum and Library Services) in 2007.

Principles of Public Information

Issued by the United States National Commission on Libraries and Information Science (NCLIS), July 12, 1990

Preamble

From the birth of our nation, open and uninhibited access to public information has ensured good government and a free society. Public information helps to educate our people, stimulate our progress and solve our most complex economic, scientific and social problems. With the coming of the Information Age and its many new technologies, however, public information has expanded so quickly that basic principles regarding its creation, use and dissemination are in danger of being neglected and even forgotten.

The National Commission on Libraries and Information Science, therefore, reaffirms that the information policies of the U.S. government are based on the freedoms guaranteed by the Constitution, and on the recognition of public information as a national resource to be developed and preserved in the public interest. We define "public information" as information created, compiled and/or maintained by the Federal Government. We assert that public information is information owned by the people, held in trust by their government, and should be available to the people except where restricted by law. It is in this spirit of public ownership and public trust that we offer the following Principles of Public Information.

1. The public has the right of access to public information. Government agencies should guarantee open, timely and uninhibited access to public information except where restricted by law. People should be able to access public information, regardless of its format, without any special training or expertise.
2. The Federal Government should guarantee the integrity and preservation of public information, regardless of its format. By maintaining public information in the fact of changing

times and technologies, government agencies assure the government's accountability and the accessibility of the government's business to the public.

3. The Federal Government should guarantee the dissemination, reproduction, and redistribution of public information. Any restriction of dissemination or any other function dealing with public information must be strictly defined by law.
4. The Federal Government should safeguard the privacy of persons who use or request information, as well as persons about whom information exists in government records.
5. The Federal Government should ensure a wide diversity of sources of access, private as well as governmental, to public information. Although sources of access may change over time and because of advances in technology, government agencies have an obligation to the public to encourage diversity.
6. The Federal Government should not allow cost to obstruct the people's access to public information. Costs incurred by creating, collecting and processing information for the government's own purposes should not be passed on to people who wish to utilize public information.
7. The Federal Government should ensure that information about government information is easily available and in a single index accessible in a variety of formats. The government index of public information should be in addition to inventories of information kept within individual government agencies.
8. The Federal Government should guarantee the public's access to public information, regardless of where they live and work, through national networks and programs like the Depository Library Program. Government agencies should

periodically review such programs as well as the emerging technology to ensure that access to public information remains inexpensive and convenient to the public.

Conclusion

The National Commission on Libraries and Information Science offers these Principles of Public Information as a foundation for the decisions made throughout the Federal Government and the nation regarding issues of public information. We urge all branches of the Federal Government, state and local governments and the private sector to utilize these principles in the development of information policies and in the creation, use, dissemination and preservation of public information. We believe that in so acting, they will serve the best interests of the nation and the people in the Information Age.

Introduction

Donald T. Hawkins

The need for government information to be available to the public was recognized by our nation's founders, who acknowledged that the American people had a right to know what their government was doing. They included publication of congressional doings in Article I, Section 5 of the U.S. Constitution, and the mandate to publish was later extended to all parts of the government. In a letter to the trustees of East Tennessee College dated May 6, 1810, Thomas Jefferson wrote, "No one sincerely wishes the spread of information among mankind more than I do, and no one has greater confidence in its effect towards supporting free and good government."

The mission statement of the Center for Effective Government (for effectivegov.org) reflects the importance of information to the public in holding the government accountable for its actions: "We believe that effective government should reflect the needs and priorities of the American people, as defined by an informed, engaged citizenry. … In a democracy, citizens have a right to know what their government does, how decisions are made, and how to make their voices heard. We advocate for *proactive* government disclosure of timely, useful public information that empowers citizen action and helps individuals and organizations effect positive change in their communities."

The calls for the production and dissemination of public information have not gone unheeded; the information is becoming more prolific every day and is virtually everywhere. It affects everyone in the country

throughout their lives. For example, babies receive a Social Security Number soon after birth. As we progress through our lives, we interact with a wide range of government information, some of us to a greater degree than others. And after death, our names are listed in the Social Security Death Index. Through its many agencies, the federal government publishes and disseminates thousands of documents, millions of pages, and petabytes of data—a major body of publicly accessible knowledge. State and local governments also supply information and online egovernment services to their populations. The value of all of this content is inestimable, but because of its size, diversity, and wide range of hosts, finding one's way to the desired information can be a Herculean task.

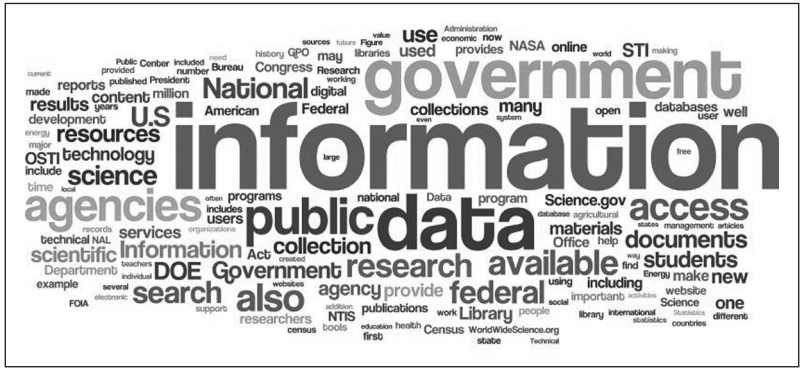
The mission of this book is to describe some of the sources of public information and to highlight how it can be used to the benefit of its users. Its major arguments are that public knowledge is a public good and that dissemination of public information produces significant benefits. Research has indicated that people access these sources to answer questions, solve problems, reduce ambiguity, do background reading, and verify information. The benefits of access are not usually documented and hence are unknown, but they are enormous. Specific benefits that have been documented, such as the development of drugs from National Institutes of Health research and the development of materials that were used in the space program, are examples of how the use of public information has resulted in new and improved products, as well as sales in the commercial sector.

Many individuals and organizations inside and outside the government work to bring its information to users. Although many citizens are well-informed, a substantial portion of the population may neither know nor care about the activities of their government. Students use the internet from an early age, but they may not know how to access government information. As adults, they may not think of the government as a reliable source of information. This book presents a sample of government information sources and their benefits to the public.

The image on page xxi is a tag cloud (see en.wikipedia.org/wiki/Tag_cloud) of the nearly 70,000 words in the text of this book. It was

created using the Wordle software (wordle.net). The size of each word indicates the frequency of its occurrence. This diagram provides a useful visual overview of the subjects included under the topic of public information. For example, it is clear that, other than the terms in the title of this book, the most prominent words are *information* and others that are frequently used when talking about the federal government, which is not unexpected. But it is interesting to note the heavy usage of *data*, which gives us a clue that the current and growing emphasis on Big Data in the information industry is also important in the area of public information. After *data*, the next most prominent terms include *science*, *search*, *students*, and *library*, which is also not surprising because using public information frequently involves extensive and sophisticated searches, often in libraries by students and with the assistance of information professionals. *Access* is also a prominently used term, reflecting a growing emphasis by government agencies on making their data more openly accessible to the public. It is also noteworthy that more than one chapter author has cited President Barack Obama's Executive Order 13642 (signed May 9, 2013), which mandated that the default for government information is that it be open and machine-readable, and which will go a long way toward improving access.

This book was conceived by the late Miriam ("Mimi") Drake, and it stands as one of her legacies. She envisioned chapters written by authors from selected government agencies and other organizations such as



***Public Knowledge* tag cloud created using Wordle software**

national libraries that have a close relationship with public information, and she recruited most of the authors. When she became unable to complete the work, she asked me to help with the editing, which I was delighted to do, especially since I had known, worked with, and highly respected her for many years. After her death, it was my privilege to work with the chapter authors and complete the editing process. We are fortunate that Mimi's vision and her expertise have heavily influenced the content of this book.

About This Book

Forest "Woody" Horton Jr. draws on his long history of service as a government information systems and networks manager in discussing citizen information literacy in Chapter 1. He reviews the government's public information infrastructure and discusses the skills (and often the patience) necessary in using public information, including the reasons why public information has not achieved the level of its potential benefits, and suggests that agencies' legislation should be amended to explicitly include a public information component.

In Chapter 2, James A. Jacobs and James R. Jacobs present case studies drawn from their years of working with government documents and explain how access goes beyond a simple LMGTFY (Let Me Google That For You) process. They note that data gathering and processing is a significant activity of government agencies and discuss the migration from print to electronic datasets, concluding that the need for skilled information professionals to sustain the information infrastructure has not diminished.

Susanne Caro discusses the use of public information in classrooms in Chapter 3, listing some of the agencies that produce relevant information for both K–12 and higher education. She then goes on to indicate some of the steps that librarians can take to educate students about those resources and notes that a librarian is frequently invited to appear as a guest teacher in classes, which is an excellent way to market the library's services to students.

Chapter 4, by Miriam A. Drake and Donald T. Hawkins, presents an overview of the U.S. Government Publishing Office (GPO, formerly known as the U.S. Government Printing Office), which has transformed itself from a print publisher to an electronic producer of government documents. They begin with a brief history and then describe various services offered by the GPO, such as its bookstore, blogs, and the systems managed by the superintendent of documents (the manager of the information dissemination functions of the GPO). Among the systems described are the Federal Digital System (FDsys), the primary access point to government documents by the public, and the Federal Depository Library Program (FDLP), a network of libraries maintaining collections of federal documents and providing access and related services to the public.

The Library of Congress (LC) is one of the most important libraries in the nation, and in Chapter 5, Miriam Drake briefly recounts its early history, describes its mission to support Congress and "further the progress of knowledge and creativity for the benefit of the American people," and reviews its three major divisions: the Congressional Research Service, U.S. Copyright Office, and Law Library of Congress. The bulk of the chapter presents details on five of the LC's major collections: electronic resources, the Chronicling America newspaper project, prints and photographs, the American Archive of Public Broadcasting, and American Memory. As Drake notes, the LC is not simply a national library but a worldwide treasure.

Katherine B. Majewski and Wanda Whitney review some of the most significant databases produced by the National Library of Medicine (NLM) in Chapter 6. NLM is the largest biomedical library in the world and a major curator of biomedical information. It has developed an impressive array of databases and content collections covering all aspects of medicine and its related disciplines, some of the more well-known of which are MEDLINE, PubMed, ClinicalTrials.gov, and the Unified Medical Language System (UMLS). Majewski and Whitney conclude their chapter with a brief summary of the major features of NLM's most widely used databases.

Chapters 7 and 8 are a two-part discussion of the information services of the Department of Energy (DOE) by Brian A. Hitson and Peter M. Lincoln. In Chapter 7, Hitson and Lincoln describe the founding of DOE's Office of Scientific and Technical Information (OSTI). They go on to discuss how OSTI has moved into the use of electronic publishing technologies, and conclude with a description of some of OSTI's efforts to enhance the dissemination of scientific knowledge through its more innovative information services: SciTech Connect, the National Library of Energy^{Beta}, ScienceCinema, and WorldWideScience.org.

In Chapter 8, Hitson and Lincoln discuss the development of Science .gov, a comprehensive gateway to U.S. federal science information, as well as its features and content. Adding international collaboration to Science.gov was a natural extension, which resulted in the creation of WorldWideScience.org. Hitson and Lincoln conclude both their chapters with a description of the content of WorldWideScience.org and its development as a key resource for searchers around the world.

By its very nature, the National Aeronautics and Space Administration (NASA) produces and disseminates a wealth of scientific and technical information on aerospace and a wide range of related fields. In Chapter 9, Lynn Heimerl describes the NASA Scientific and Technical Information (STI) Program and the network of NASA centers from which it collects information. She goes on to discuss the organization of the program's information and the services that it provides to the public through a variety of platforms—including popular social media such as Facebook and Twitter—and concludes with a discussion of how NASA is working to leverage its heavy investment in the STI Program for the future.

The National Technical Information Service (NTIS) is one of the oldest services that disseminates public information. Gail Hodge describes NTIS's history and services in Chapter 10, along with the challenges it has faced during its nearly 70-year history. NTIS was originally founded to provide scientific and technical information to U.S. businesses and industries from its collection of government technical reports and databases. Because it must recover its costs through fees

for its products and services, NTIS is in a somewhat different position from most of the other agencies and libraries described in this book, which are funded by congressional appropriations. Hodge describes how NTIS has met the challenges it has faced over the years by developing new products, entering into partnerships with the private sector and other government agencies, and using new electronic technologies to its advantage.

Governments of the world typically collect a vast amount of statistical information, and the U.S. is no exception. In Chapter 11, Mark Anderson reviews the wide range of U.S. government statistical data available to the public, beginning with the regular population census every 10 years as mandated by the U.S. Constitution. Anderson traces the history of the census since the first one was conducted in 1790 and how the historical environment of the country affected each one. Prior to 1903, each census was conducted under legislation enacted by Congress, but after that the Bureau of the Census was established, and it has become a major statistical data collection agency. Other federal statistical activities are housed in the Departments of Commerce, Agriculture, Education, Transportation, Justice, Energy, and the Treasury. The output of many of these activities is also repackaged and sold as a number of commercial products.

In Chapter 12, Marianne Stowell Bracke notes that many people have a limited understanding of agriculture, but it is an important topic in our society. She reviews the activities of the National Agricultural Library (NAL)—one of the world's largest repositories of agricultural information—and describes its products, particularly its AGRICOLA and PubAg databases, as well as its activities in making its publications and datasets more discoverable and available. Although NAL is a leading source of agricultural information, Bracke also reviews other sources, including some agricultural libraries that are affiliated with land-grant universities and have notable collections.

Miriam Drake writes in Chapter 13 that despite the current emphasis on making government information more open and accessible than ever before, a significant amount of it still remains hidden. This chapter

describes some ways of finding and accessing such information, primarily via the Freedom of Information Act (FOIA). Drake begins by describing why information may be classified, the various levels of classification, and the declassification processes managed by the National Declassification Center, a part of the National Archives and Records Administration. A description of FOIA, information that is exempt from its provisions, and its modernization efforts round out this chapter.

Barbie E. Keiser concludes the book with a look at open information, how its definitions have evolved, and how federal agencies are responding to demands for making their information more open. She describes how various major historical events such as the Watergate scandal and the 9/11 attacks affected restrictions on access to federal information, responses to the public's right to know hazardous information, new regulations for depositing results of research sponsored by the National Science Foundation in open repositories, and cultural and demographic shifts that are impacting efforts to make government information more accessible. Keiser also discusses technology hurdles that agencies must overcome in dealing with databases created in past years with mainframe computers, open data activities in other countries, the impacts of FOIA, recent executive orders and open government directives, and the resulting changes in agency websites that have led to egovernment digital services, as well as the effects of social media and data analytics on open data. She concludes with some predictions for the future of government information and lists of additional resources.

Public Knowledge should be widely read by librarians, other information professionals, and anyone who needs to find and use publicly available government information—and that includes most of us at one time or another. My hope as co-editor is that this book will amply fulfill this need as well as the vision that Miriam Drake had for it.

Chapter 1

The Relationship Between Citizen Information Literacy and Public Information Use

Forest "Woody" Horton Jr.

The federal government funds, produces, stores, and provides an enormous amount of knowledge, information, and raw data of all kinds, in many formats and many communication modalities, including text, statistics, graphics, photos, pictures, recordings, multimedia, interactive elements, and so on. It is made available and accessible in print via sources such as newsletters, subscriptions, books, magazines, or journals, and online via website downloads, electronic publications, or RSS feeds. Some of this information is produced for the government's own use and some is for public use. And of course both of these groups may use the same information for different purposes.

But not even the government knows with any degree of precision how much it produces, what kinds, when, how, and exactly for whom. Neither does it know with precision, despite periodic surveys, to what degree the public is able to search for and retrieve the information efficiently in order to solve problems. Thus, the federal government's main

public information (PI) management challenge is neither one of volume nor of availability. Instead, it is related to the following:

- The multiple modes and channels used for its access, handling, and communication
- A citizen's ability to search for, retrieve, and then organize it for use (which we call citizen information literacy), especially by disadvantaged and literacy-challenged individuals
- A reliable means of assessing the information's usefulness and value, versus the expenses incurred to obtain it

The federal government's challenge for improving the utility of PI has many dimensions to it, including the following:

- Incredibly rapid, powerful, and pervasive technological changes that are occurring in the way it is produced, stored, handled, provided, searched for, retrieved, disseminated, and communicated in multiple formats and mediums
- The tremendous disparities and the very wide technical proficiency range of computer literacy, media literacy, and information literacy skills of the many diverse PI user audiences (young, old, disabled, illiterate, and foreign-born users, as well as international visitors and others), along with the tools that are readily available to them (computers, telephones, mobile phones, tablets, and so on)
- The lack of a single, central, and authoritative government PI management body to review, plan, coordinate, and manage the sheer size and complexity of the government's diverse PI programs
- The proliferation of knowledge, information, and data resources available

Virtually every person on the planet can publish and instantly communicate and disseminate information to anybody, anytime, anyplace.

However, searching for PI requires a great deal of patience and perseverance, a positive attitude, and a willingness to ask for help if needed. Ironically, a PI component of agency-enabling legislation is often entirely missing, weak, or added well after the agency has been created by amendment—almost as an afterthought. In short, we are inundated with PI funded, produced, and provided to the public by the federal government, but the great majority of citizens do not know the following information with any degree of detail and precision:

- What is available that is of potential use and value to them
- Which of hundreds of federal agencies produce it
- How best to efficiently search for and retrieve it
- How to organize and reformat it for various uses

These skills, that knowledge, and those positive attitudes are collectively what we mean by "information literacy challenges." Hence the main focus is to explain and correlate citizen information literacy with PI use.

Information use obviously has to do with how successfully the retrieved information is used to solve problems and make decisions. There are always benefits and values as well as costs and burdens associated with searching for it. And we all make implicit judgments about the level of effort and amount of time we are prepared to make available whenever we are faced with a search challenge. Therefore, in the interest of fairness, this chapter will touch on the benefits and values as well as the costs and burdens for ordinary citizens who are searching for and retrieving PI goods and services.

A Useful Framework for Discussion

The problems at the root cause of why all of this government-produced information ("undistilled wisdom") available to and intended for the public has not been of even greater benefit and value lie in the following

four main reasons. The end of this chapter presents some conclusions and recommendations based on the author's almost 60 years of experience as a federal government information systems and networks manager, employed by perhaps a dozen different agencies, including the Executive Office of the President.

1. Government agencies have each designed unique and distinctive information systems, which they use as internal communication networks to serve their own staffers, their own external constituencies and clienteles, their own individual missions, and their own particular goals. There is no "grand" single, comprehensive, authoritative, and centralized government information management system (contrary to the coveted tenets of the much-heralded "systems approach" theory that guides systems analysts and computer programmers). Consequently, users must learn literally hundreds of sets of rules and guidelines, not to mention unique terminologies, tags, and terms, as well as specialized search tools, algorithms, and protocols to be able to efficiently search for, find, access, retrieve, reorganize, reformat, and then communicate or use needed information.
2. The same or closely related elements of data cannot be easily linked and correlated between the information and communication systems of two or more agencies because they are defined based on underlying and widely disparate laws, rules, and regulations in slightly different but significant ways (for example, defining a "full-time employee" or precisely which days constitute a "financial accounting period").
3. The range of computer, media, and information literacy expertise among the public is vast, ranging from the most sophisticated and highly trained professional researchers to young school-age children, foreign-born people with poor English-language skills, or illiterate and uneducated individuals, thereby making it virtually impossible to design

a "one-size-fits-all" government information access portal. Nevertheless, successive frequent attempts to improve the government's major PI portals (such as USA.gov) over a period of 50-plus years have been commendable and have involved hundreds of hard-working experts, but they are still deficient in many important respects.

4. There has always been a sharp and very vocal tension between privacy rights advocates on the one hand and government efficiency advocates on the other regarding the question of whether the government, in the name of efficiency, should link all of its information flows and holdings together into one large databank. Every time this issue has come up (and it regularly has at least once in each decade since World War II), the "compartmentalization" school of advocates prevails. The core of their argument has been that the PI access, management, and control problems caused by the failure to create one large databank fade into insignificance when compared to the vulnerabilities and threats to privacy, personal freedom, and liberty that would be caused by government agency data consolidation and decompartmentalization. The metadata collection and phone call monitoring by the National Security Agency (NSA), exacerbated by Edward Snowden's and Chelsea Manning's leaks, are just the latest headline examples in a long line of debates in many different contexts.

Benefits and Values Versus Costs and Burdens

Every citizen needs to consider both the benefits and expected results from successful searches and retrievals of information versus the costs and burdens of preparing and then doing the searches. The two sides of the equation are rarely in balance for any given search and retrieval task. When the burdens and costs are too great, the frustrated citizen usually gives up in disgust.

Potential benefits and values include:

- Significant time and cost savings
- Solutions to personal and business problems, leading to timely and informed decisions
- Enhanced information literacy skills that in turn create opportunities, identify unforeseen choices and options, lessen risks, and decrease vulnerability to misinformation

Potential costs and burdens include:

- Significant time wasted and costs incurred
- Unsolved personal and business problems that linger and fester, leading to unmade decisions that can cause lost opportunities, overlooked choices and options, and increased risks
- Unlearned information literacy skills compounding continued ignorance and increasing vulnerability to misinformation

Every decision to search for needed PI is unique and usually made based on time and priority constraints and considerations at the moment. In the end, the risks and costs associated with making a wrong decision because of the absence of timely, credible, and reliable information are perhaps the weightiest factors to be taken into account. Decision making under uncertainty is still a highly inexact art—as any gambler, stock market investor, government policymaker, or parent can attest. So finding perfect information in answer to a need is rarely, if ever, attainable because it is usually unavailable at the right time, in the right form, and at the right place. The result is that we are forced to expend an effort to try to find it, and our first recourse is usually to search for PI by ourselves rather than ask information professionals to find it for us.

But sometimes paying an information professional is the best option if the costs and risks of failure are too great. Most medium and large businesses, government agencies, and other kinds of institutions hire skilled information searchers, such as trained librarians, and they are usually well-paid—as they should be.

Overview of the Government's PI Infrastructure

Agencies on the Front Lines

Only comparatively few federal agencies have enabling legislation that requires them to create and maintain important, ongoing major PI programs, among which are:

- NOAA (National Oceanic and Atmospheric Administration), for weather, space, and ocean information
- USDA (United States Department of Agriculture), for planting and pesticides information for farmers
- EPA (United States Environmental Protection Agency), for air and water pollution data for both the general public and businesses
- The U.S. Department of Commerce, for business investment opportunities and the regulation of trade between states
- National Technical Information Service (NTIS), for government funded research data, which is also of business value to the private sector

However, most agencies do not have clear PI mandates and as a result, the information they do provide to the public is an indirect byproduct of their enabling legislation, not a direct result. But unfortunately, because a clear PI mandate is not explicitly written into their underlying laws, during budget-crunch times these kinds of indirect PI programs are among the first to be cut back, both in terms of staffing reductions and operations funding.

Congress should systematically review all federal agencies' enabling legislation (with a view to specifically determining for which of their major program areas an appropriate PI component should be established by their congressional authorization committees) and should amend their laws explicitly to establish PI programs. Then, the corresponding appropriations committees should ensure that adequate funds are provided annually for that purpose. Of course, not

all agencies have missions that make creating a PI program appropriate, but many do, and in the interests of government transparency and simply making government information more useful to the citizenry, many could and should have such programs.

Specialized Agencies: The Rear Guard

Several federal "information agencies" (or other kinds of "federal public information instruments") were created primarily, or even exclusively, to provide specialized information products and services for specific public audiences such as businesses, students, home buyers, the unemployed, seniors, people with disabilities, and so on. The cluster of intelligence, national security, and law enforcement agencies such as the Central Intelligence Agency (CIA), NSA, Department of Homeland Security, National Security Council (NSC), and FBI (Federal Bureau of Investigation) can be omitted because their missions and programs, which arguably should involve at least some PI dissemination, are beyond the scope of this chapter. This also goes for the U.S. Government Accountability Office (GAO) and Office of Management and Budget (OMB) because, although they also produce important public reports, their goals are primarily financial and missions management, not information management.

The most important of the primary information agencies and instruments are discussed in the following sections. (Note that several of these are discussed in detail in other chapters of this book, so they are mentioned only briefly here.)

USA.gov

USA.gov has a very special niche in the context of information literacy because it is intended as the first step for the public to find the information they need, especially for literacy-challenged users. It is the main and only official government website (or "portal") that was set up as a "one-stop service" to help the public begin the process of finding PI. But it is only the first stop in the search process because it is a "meta information" tool containing publicly available and accessible

information. After performing a search on USA.gov, users must go through several more steps and visit several more websites before they finally find the detailed information they seek.

USA.gov provides a variety of finding aids, such as:

- A broad Search the Government feature in which, like Google, users can enter any desired word(s), terms, or phrases
- An A–Z comprehensive index of agencies arranged by official agency name (which does not always reflect or reveal the underlying nature of their missions and programs)
- Special instructions using language and a writing style that is appropriate for different public audiences (young people, seniors, people with disabilities, foreign visitors, and so on)
- Various highly popular major categories of government public services, programs, and opportunities (such as government jobs, student loans, money owed to citizens, home mortgage loan assistance, passports and visas, citizenship rules, immigration rules, taxes, veteran benefits, recreational permits, and business licenses)
- Links to social media, including Facebook and Twitter
- Public-to-government contact information and tools (email, frequently asked questions, chat, phone, fax, and so on)

One obvious omission on USA.gov is a link to a comprehensive set of online tutorials for highly diverse audiences that would teach each major audience how to take the next steps to search for needed information.

President Barack Obama recently announced his intention to add a new feature, MyUSA, which would automatically add certain "missing" or incomplete (but known) information when an individual logs in to a government site to apply for some service, product, benefit, program, or entitlement. This feature is already used by many retailers' websites when a customer logs in (after their name and password have

been entered) to supply billing and shipping addresses from the user's stored past transactions.

U.S. Government Publishing Office

The U.S. Government Publishing Office (GPO; see Chapter 4), provides major dissemination services for the three branches of government as well as the general public. For example, it offers the bills introduced and the laws passed by the two houses of Congress, the Budget of the United States Government, and the executive orders issued by the president.

NTIS

NTIS (see Chapter 10) is charged with creating databases consisting of R&D information on the results of research that was funded by the government, but which is of value and interest to the public, especially the private sector.

United States Patent and Trademark Office

The United States Patent and Trademark Office (USPTO) reviews applications for patents, trademarks, and other kinds of intellectual property such as videos, graphics, digital media, and internet-related materials, and either awards them to the applicant or rejects them. A variety of indexes and databases serve the public by helping them learn whether an idea, invention, or other kind of intellectual property has been patented or trademarked, or has been applied for. (Another major component of intellectual property, copyright, is handled by the U.S. Copyright Office, which is administered by the Library of Congress, not the USPTO.)

National Archives and Records Administration

The National Archives and Records Administration (NARA) archives the permanent holdings of the federal government. It is perhaps most widely known as the government's custodian of historically significant documents such as the Constitution, Bill of Rights, and Declaration of Independence, which are on public display at its headquarters in Washington, D.C. NARA ensures that agencies do not delete important communications that should be considered "official" and may be historically

significant. (The controversy in early 2015 surrounding former secretary of state Hillary Rodham Clinton's emails is a case in point.) NARA also maintains the Presidential Libraries and Museums system.

Library of Congress

The Library of Congress (LC; see Chapter 5) is foremost a library for the members of Congress, but it is also the country's national public library. Moreover, its role is not just to serve as a book depository but also to produce guidelines for all of the country's libraries, publishers, and bookstores explaining how to catalog and classify information products and services such as books and serials.

The Census Bureau

The Census Bureau (see Chapter 11) and the major statistical agencies form a cluster of affiliated organizations that produce most of the major demographic data widely used by the media, researchers, investors, think tanks, businesses, and public policymakers at all levels.

Perhaps 15 or 20 separate statistical agencies cover the subject matter of virtually all of the major government functions—energy, the environment, the economy, justice, education, health and human services, agriculture, and so on. In addition, a continuous stream of largely numerical and forecast data is produced by these agencies. The Census Bureau's main mission is to periodically count and classify all U.S. inhabitants and provide demographically significant profiles of important social, cultural, language, and other distinctions. It is also responsible for conducting the decennial population census mandated by the Constitution.

Defense Technical Information Center and DISA

The Defense Technical Information Center (DTIC) and DISA (Defense Information Systems Agency) are two specialized agencies responsible for information used by the Department of Defense (DOD), some of which is of public interest, especially to defense contractors. DTIC provides primarily nonsensitive information on the operations of DOD; DISA belongs to the intelligence community, and therefore its

information is primarily classified and limited to audiences with security clearances that have the need to know.

ERIC

ERIC (Education Resources Information Center) is a helpful public resource for finding information that can be used in the classroom. Its database is comprehensive and provides information on a wide range of topics of interest to teachers and researchers. ERIC offers specialized research services on a priority basis; it frequently charges requesters for these services.

National Institute of Standards and Technology

The National Institute of Standards and Technology (NIST) is a research arm of the government that officially represents it at the meetings of the major national and international standards organizations such as NISO (National Information Standards Organization) and ISO (International Organization for Standardization). NIST also coordinates the country's official position on standards of all kinds with various stakeholder groups (private industry, professional, and so on). NIST maintains information such as reference values of physical data constants and standard weights and measures, and it also does its own research.

National Telecommunications and Information Administration

The National Telecommunications and Information Administration (NTIA) is responsible for planning, managing, and controlling how information and telecommunications services are used by the federal government, as well as nationally by both the public and private sectors. It is concerned with the internet and works closely with the Federal CIO Council on internal government information and communication technology matters.

Science Policy Agencies

The National Science Foundation (NSF) is an official government agency composed of distinguished scientists whom the entire government uses as expert resources on a wide variety of matters during its

early stages of issues formulation. It also supports fundamental research and education in all fields except the medical sciences (which fall within the purview of the National Institutes of Health).

The National Academy of Sciences (NAS) is a nonprofit organization of distinguished elected scientists who are consulted by government agencies on various matters of national importance. It is an honorary organization and elected members consider it an honor to be elected to this body.

The Office of Science and Technology Policy (OSTP) is an element of the Executive Office of the President and therefore provides advice to, and disseminates official science and technology information from, the White House staffers and the president.

Regulatory Information Service Center

The Regulatory Information Service Center is a relatively new agency that primarily alerts businesses to new regulations that will impact their operations in some way. It works closely with the regulatory commissions (such as the U.S. Securities and Exchange Commission, Federal Communications Commission, and Federal Trade Commission) to keep abreast of the continuous flow of new, revised, and updated rules and regulations.

Transition From Ink-on-Paper to Electronic Media

The transition from print to digital media has had the most immediate, dramatic, and profound impact on how government information products and services are being produced, stored, and provided to the public. Some of the most important considerations that have been involved in this transition are as follows:

- There is a tremendously diverse and wide range of computer, media, and information literacy skills and tools among PI audiences.
- There are still questions about how many years back to go to capture information electronically.

- There is a fear that investing too heavily in newer hardware and software will render the older versions obsolete. The highly publicized "paperless office," as well as microfilm, floppy disks, and other early digital technologies still haunt us.

Younger generations are able to effectively employ the newest information and communications technologies (ICTs) to explore, learn, discover, and play games for fun, both in the classroom and at home while online. But there are many debates going on about problems and challenges to young students, so by no means are electronic technologies an unchallenged blessing. Parents, teachers, and professional experts continue to debate the downside of using ICTs, especially for school-age children.

Absence of a Single, Central PI Management Agency

There is still no single PI management agency charged with planning, managing, and controlling the federal government's overall PI policies, programs, and projects. Even today, incompatible agency systems and data element definitions make the use of PI difficult, if not impossible, for ordinary citizens, and there is a great deal of unnecessary overlap and duplication. Coordination is the key and thus far informal coordinating bodies such as the Federal Library and Information Center Committee (FLICC) and the Federal CIO Council, while useful and often effective, have not been fully efficient because they lack authority. Therefore, there should be a single, central Public Information Management Administration in the Executive Office of the President with the overall authority and responsibility to oversee, plan, manage, and control the government's multiple PI programs and projects. The main mission of such an agency should be service to "ordinary" citizens to help them cope with their basic everyday needs: health, employment, education, safety, security, citizenship, financial matters, and so on. The head of such an agency should be a professional and distinguished individual with the qualifications of those who are considered for positions such as librarian of Congress and archivist of the United States. There

will certainly be loud howls from some quarters complaining that in establishing such an agency we would in effect be trying to create a "Ministry of Information" like some countries have done, with missions that are more propaganda-driven than aiming for true and useful information services for the public. But I say, "Let the debate begin!"

The unfortunate historical experience with a former director-general of the United Nations Organization for Education, Science and Culture (UNESCO), Amadou-Mahtar M'Bow, and the "new world information and communication order" idea was one of the factors that caused the U.S. to withdraw from UNESCO several decades ago, and is but only one bit of historical evidence attesting to how important it is for the mission and laws of such an organization to be very carefully written and carried out, and then monitored by watchdog agencies such as GAO. These are crucial considerations, but they are not unreasonable and are faced by many other agencies.

Updating USA.gov With Simple Online Tutorials

The USA.gov site should have links to simple online tutorials for each of its major public audience categories (job seekers, students, seniors, people with disabilities, and so on) explaining in simple terms and with examples how to take the next steps in their searches. (It may be prudent to start with elementary-level tutorials and later move on to a three-tiered scheme of elementary, intermediate, and advanced.) Representatives from the USA.gov website, the Federal CIO Council, FLICC, and professional associations could team up as a task force to develop, test, and implement this suggestion.

In addition, the current list of public audience categories is too limited. For example, people could be searching for health and wellness information, but no such category currently exists. Librarians working in health-related libraries and information centers such as the National Institutes of Health (NIH) who are skilled in this area could be helpful in suggesting tags and terms. And the same principle can be used in other areas.

PI Outside the U.S.

This book largely addresses the situation in the U.S. But what about in other countries? How do their government information production, public availability, and public accessibility policies and practices differ from those of the U.S., and how does the role of PI literacy compare among them? This section comments on a few of the major strategic differences and issues. (The aim is to highlight significant differences between the situation in the U.S. and in other countries, not to assess which country is the "best." These observations are purely personal and anecdotal, not scientific, and are based on the author's experiences visiting, living, and working overseas in nearly 150 countries in all major geographic regions during a 60-year period.)

Public Expectations

It may seem strange to readers to address public expectations in the context of this book, but it is very important and relevant. In the U.S., we demand that our government should regularly provide us with useful PI. We expect our government to respond to our needs and are highly critical if it does not, or if information is not produced on time or with the necessary degree of high quality to enable its wide availability and easy accessibility. In most other countries, there is a far lower PI expectation threshold. The private sector and the general public are accustomed to being provided with very few PI resources from their government agencies, and when they are produced, they are often difficult to access and are available and affordable to only the privileged few or well-heeled groups. People and businesses have therefore had to learn to be much more self-reliant in finding ways to generate the data they need for business or personal reasons, sometimes paying high prices for it or falling back on creative scheming in order to access it. The following shows the reasons why:

- In other countries, a higher value is placed on personal and business privacy and confidentiality, with the belief that if the government tried to collect more information to enable

it to produce more PI, it would be tantamount to implicitly authorizing a massive invasion of privacy.

- The public generally regards government information-rich agencies as self-aggrandizing entities that use the information they collect and generate largely for their own partisan and propaganda purposes.
- The value of information to the private sector and the general public is far less than the American valuation because much of the data is woefully outdated, inaccurate, incomplete, uncorrelatable, and irrelevant to users' needs.

Information and Communication Culture

Unfortunately, the fascinating area of information and communication culture has not been studied very well. For example, in many countries there is still a strong tradition of distrust of written information, especially if it has been produced by entities outside of one's personal sphere of colleagues, friends, and family. Orally delivered information is heavily preferred over written information, even in cities and sophisticated contexts such as schools and commerce. In much of Africa, for example, radio and TV channels broadcast to local communities in indigenous local languages, partly because the news and entertainment are more family and locally oriented, and partly because there is a dearth of written, conventional printed materials in those native languages. There is also a much fuzzier line between the media and the channels employed to communicate information than in our country. The public is generally resigned to expecting the media, both public and private, to tailor and sometimes even distort its messages to meet its own narrow self-interests, rather than the public's broad interests.

The Public Interest

The American idea of "what is fair and in the public's best interests" is significantly different from that of other countries. Information ethics, transparency, and fairness are all quite dissimilar from the American

idea of them. For example, a government minister proudly passed out his business card, which read: "Ministry for Corruption and Transparency"! Many ministries with that sort of mission seem to outsiders to have been established in response to internationally acceptable social norms rather than to a desire to truly cope with deep-seated information problems.

Agency Missions

Most countries do not consider it an important mission for government agencies to provide research results to the public for projects the government has funded, such as results from NIH, the National Aeronautics and Space Administration (NASA), and EPA research in the U.S. Government services in most countries do not extend very far beyond national security, public safety, education, health, and a few other critical functions necessary for the general welfare. R&D is expected to be conducted largely, or even exclusively, by the private sector, including universities. As a result, new industries are frequently much slower to start up and grow because research has been undertaken from a much narrower funding and investment baseline.

Open Access

Open access, open education, and massive open online courses (MOOCs) are having a positive impact on PI policies and programs. As more and more institutions of higher learning move to launch online courses at no cost to the user (or priced very modestly), more countries are coming to rely on these initiatives as an important way to reduce their overall educational budgets. While there is still some controversy and debate concerning the quality of these programs, there can be no doubt that they are providing a strong counterweight to dramatically rising conventional educational costs, especially in the higher education arena.

Information Literacy

Information literacy, while by now fairly widespread, is still in its infancy in developing countries because of disparities in global information

and communication cultures. While there is a general understanding of what the concept means, there is no agreement on what the practice of it should be and how it should be taught and learned. Nevertheless, there is a consensus that we are now living in a 21st-century global information society and that knowledge itself is becoming the strategic political and economic good. Therefore, learning new ways to handle information is essential.

Predictably, as the demand for accurate, reliable, current, and useful information grows, governments will be forced to respond by creating conditions, policies, and programs that produce PI resources in more widely available and easily accessible ways. The relatively few ministries that already exist to prepare for the "information society" are at the moment touting egovernment as the solution.

The long-held but still unfulfilled dream of a "paperless society" is a worthy aspiration in this digital age, but the mere transformation of information from analog to digital formats will not, by itself, suddenly and magically allow people to learn how to search for, organize, and use the information found for problem solving and decision making, which is why information literacy is so important. By offering various online educational opportunities for free or at a nominal cost, they are implicitly entering the "public goods" domain.

Recommendations

The following is a list of recommendations for improving worldwide access to government information:

- The U.S. should strongly support the efforts of international intergovernmental organizations (IGOs), nongovernmental organizations (NGOs), and other bodies that are heavily involved in advancing enlightened government information availability and accessibility guidelines, standards, policies, projects, and other initiatives that are designed to help their populations find and use PI resources for their personal and business-related problem solving and decision making.

Notable among these international groups are UNESCO, International Federation of Library Associations and Institutions (IFLA), WHO (World Health Organization), ITU, ISO, ICOM (International Council of Museums), and the International Communication Association (ICA).

- Countries that still have not established ministries for the global information society should do so as soon as possible. Their agendas should extend beyond egovernment initiatives to information literacy and innovative online educational opportunities.
- Governments should study their national information and communication infrastructures and identify areas needing strengthening from the standpoint of making their PI programs more effective. For example, all ministry missions should have a PI program component.
- Information professionals from all countries should meet at an annual conference to exchange ideas and draft a working agenda listing steps their country needs to take to improve its national information and communications infrastructure.
- We need much more research on information and communication culture to study why, how, and in what respects country cultures differ, and how they might be harmonized to facilitate improved intercountry information interchange.

Conclusion

The world of federal government information is very complex, formidable to even approach, and therefore daunting indeed. But if approached as an adventure, it can be highly rewarding! Learning information literacy skills is the key to its successful navigation.

About the Editors

Miriam A. Drake

Dec. 27, 1936–Dec. 24, 2014

Miriam A. ("Mimi") Drake died on Dec. 24, 2014, 3 days before her 78th birthday, of complications caused by lung cancer. Born Miriam Anna Engleman, she was the younger of two sisters and lived in Boston. She studied at Simmons College, where she later became a trustee, and at Harvard. She worked on many political campaigns, was a member of the staff of Senator Edward Brooke, and was also a producer for the WGBH radio and television station in Boston.

In 1974, she joined Purdue University as assistant director for library support services, and in 1984, she became director of the library at Georgia Institute of Technology, where she went on to become dean of libraries—the first female academic dean in the university system of Georgia. Her accomplishments included the planning and implementation of the Georgia Tech Electronic Library, innovative uses of U.S. government information, and implementation of full-text information systems and specialized services for faculty and students.

Mimi was the author or editor of more than 100 articles and four books (including this one) and was editor of the *Encyclopedia of Library and Information Science* (2nd Edition). She was the recipient of several industry awards, including the American Library Association's (ALA) 1992 Hugh C. Atkinson Memorial Award for innovation and risk taking,

the 2002 John Cotton Dana Award—the Special Libraries Association's (SLA) highest honor—and the 1994 Allen Kent/Mecklermedia Award for lifetime achievement. She presented the prestigious Follett Lecture for Jisc (formerly known as the Joint Information Systems Committee) in 1996. In 2001, she became an Honorary Fellow of the National Federation of Advanced Information Services (NFAIS). She was also awarded honorary doctorates from Indiana University-Purdue University–Indianapolis (IUPUI) and Simmons College. A memorial resolution in her honor was adopted by the ALA Council in February 2015.

She served as chairwoman of the OCLC board, president of SLA, and president of the Association of Information and Dissemination Centers (ASIDIC). She retired from Georgia Tech as professor emerita in 2001, and became a journalist and painter. She was a patron of museums and opera, and supported several organizations.

Mimi was a special person and was devoted to her work and her profession. She took a keen interest in other people and was known for her kindness and humility. She will be greatly missed. She is survived by her son, two nephews, a niece, and a cat named Panda.

(This obituary was compiled by Donald T. Hawkins. The assistance of Robert Drake and Kathy Tomajko, associate dean of the Georgia Tech Library, is gratefully acknowledged.)

Donald T. Hawkins

Donald T. Hawkins, Ph.D., is a freelance conference blogger, writer, and editor. He blogs about conferences organized by Information Today, Inc. (ITI) and The Charleston Group and writes conference reports for *Information Today* and *Against the Grain.* He maintains the ITI website's Events Calendar (infotoday.com/calendar.asp)

and has developed databases, participated in other special projects at ITI, and is the editor of *Personal Archiving: Preserving Our Digital Heritage* (books.infotoday.com/books/Personal-Archiving.shtml), published by ITI in 2013.

Dr. Hawkins had a distinguished career with AT&T for more than 24 years, retiring in 1996 to start his own consulting business, InfoResources. At AT&T, he was the content manager for several electronic information projects. He began his career in 1971, the dawn of the online information industry, in the AT&T Bell Laboratories Library Network and spent 15 years there, developing and managing its information retrieval and current awareness services, and conducting several pioneering studies in online searching, bibliometrics, and other related areas. Following his career in the Library Network, he served in the business units of AT&T on projects related to the R&D of econtent products.

He joined ITI in 1998 upon its purchase of *Information Science & Technology Abstracts* (*ISTA*) and became the editor-in-chief of *ISTA* and, upon its purchase by ITI, *Fulltext Sources Online*. Dr. Hawkins led the development of a new production process for *ISTA* that was based on the Microsoft Access database platform, updated and revised its thesaurus, and improved its quality and coverage of the information science literature. When ITI sold ISTA and *Internet and Personal Computing Abstracts* (*IPCA*) to EBSCO Publishing, he worked with EBSCO to help integrate the two databases into EBSCO's production system and developed the information and computer science component of EBSCO's thesaurus and controlled vocabulary, which is used to index the two databases.

Dr. Hawkins was appointed Distinguished Member of Technical Staff at AT&T Bell Laboratories in 1986 in recognition of his pioneering work in introducing end-user searching into the Library Network. He won the prestigious UMI/Data Courier Award for excellence in writing in the online information industry in 1987 for his two articles on artificial intelligence and online searching, and again in 1992 for his article on intelligent agents for information retrieval. He is a frequent

contributor to the literature, with more than 340 publications, and he has spoken frequently at industry conferences. In June 1996, he keynoted an international conference on electronic publishing in Japan, and he has delivered plenary presentations in the U.S., as well as internationally at conferences in Australia, New Zealand, South Africa, and Israel. He contributed a chapter on the AT&T Bell Laboratories Library Network to *Special Libraries: A Survival Guide* (ABC-CLIO, LLC, 2013).

Before it merged with the National Federation of Advanced Information Services (NFAIS), Dr. Hawkins was the secretariat for the Association of Information and Dissemination Centers (ASIDIC) and editor of the *ASIDIC Newsletter*. He received his B.S., M.S., and Ph.D. degrees from the University of California–Berkeley. He resides in Ambler, Pennsylvania, with his wife and near his son, daughter-in-law, and four grandchildren.

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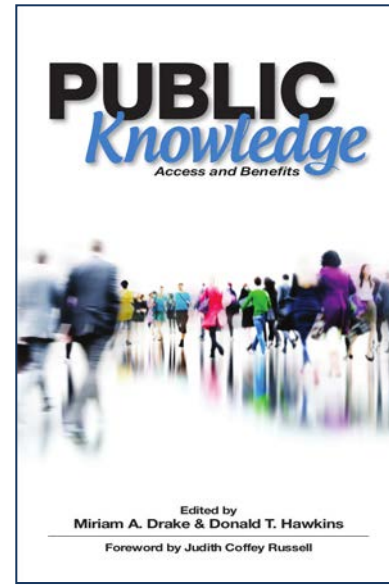

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