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# The Impact of Information Technology on Public Libraries

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## ABSTRACT

In the real world of library service, librarians have to keep up with change by answering specific questions. They need training because technology, the character of populations, and local economics all are changing. Recognizing that technology is a catalyst of change, the author shows how librarians can and do work to help libraries harness the power of technology to navigate the changing reading and information needs of their communities. This article examines useful behaviors as librarians approach their work tasks, relying on new technology to help meet customers' reading and information needs.

## Introduction

> The mission of public librarians is to provide equal access to a curated collection of high-quality information and a safe environment in which people learn to effectively access and assess that information.

The above mission statement doesn't necessarily encapsulate all that librarians do, and it isn't what every librarian does, but I submit that it comes pretty close to describing the core purpose of the profession.

This work is essential to the creation and support of an informed citizenry, which political thinkers from Thomas Jefferson to Angela Davis have considered the basis of a democratic society. The public library is essential because it provides access to high-quality information, which becomes a form of personal capital, and because it does so for everyone, regardless of means and class. One might say that public librarians power democracy, insofar as they provide every American an opportunity to become an informed voter, a skilled employee, an entrepreneur, an activist, or a political leader.

Information technology and the Internet revolution have changed the way people access and use information, both for better and for worse. Before the Internet, information was scarce. We got information from newspapers, television, books, teachers, and librarians. We got it in small, discrete portions, and not necessarily when we wanted it. By comparison, today we are

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assaulted with information even when we don't necessarily ask for it. Today we use Google to quickly get a "fact" and Wikipedia to get a little background on something. We also contend with a steady stream of cable news, tweets, and live video feeds that often reinforce our opinions and biases. While the amount of information available and the ease with which we access it can be liberating and empowering, it can also lead to a failure to evaluate information for quality and accuracy.

Every librarian has heard, in one form or another, the idea that "We don't need libraries now that we have Google." This idea has been debunked widely and thoroughly, but persists nevertheless. There are two misunderstandings inherent in the idea: one, that everyone in fact "has Google", and two, that the information found on Google is correct and useful. These misunderstandings are the reason that public librarians still have an important role to play, and that the mission referred to above is more essential than ever. Just as technology has changed how we access and use information, technology also changes how public librarians fulfill their mission.

## Access: A new kind of literacy

The challenge people face today is less one of basic access to information and more one of being wealthy enough to have the tools of access and information evaluation and being sophisticated enough to use them. The tools of access and the medium of the resources have changed. And while public libraries have long been committed to literacy services, given the new information landscape, our definition of literacy must change as well. It isn't enough to have a book and to be able to read the book. Our patrons also need to be able to use computer technology (digital literacy), to evaluate information in various forms (information literacy), and to negotiate the online world (Internet literacy). All of these literacies are required to effectively access and use information.

As more and more important information resources go digital, it is important to recognize that being available online doesn't automatically make them accessible to everyone. Accessing information online requires a device and bandwidth. The digital divide, the gap between people who have access to the Internet and those who do not, still exists. Most people have online access from home or work or their smartphone; often, all of the above. For many of us, it is impossible to imagine a world in which we are not connected to the Internet 24/7. But some people cannot afford the device or the bandwidth.

In many libraries, what was once a "Reference Desk" is now a "Help Desk," and it is situated near the public access computers so that librarians can help people with those tools of access and help them evaluate what they find. When public computers first began appearing in public libraries, many

librarians objected to having to play a "tech support" role. Some librarians didn't see themselves as computer people but as book people. Today's librarian cannot afford to be just a book person. The job of today's librarian involves the search, retrieval, and evaluation of information in multiple formats including print, digital, and broadcast media as well as helping people who come in with their own devices for access to the Internet and printing services.

## Moving from equal access to equitable access

The library is the one place that people can go that is welcoming to all, that supports knowledge creation without promoting any particular point of view, and that offers a safe space to be with people, to study and learn, and for quiet reflection. The library is a community commons and a model of democracy.

Libraries provide services equally to everyone, and that goes for Internet access too. Libraries have stepped up by providing more ways for people to get connected at the library. Most libraries make an attempt to provide adaptive technology solutions to patrons with disabilities, to represent several target languages among their librarians, and to provide computer help and training focused on different age groups. There are now Internet drops, power outlets, and Wi-Fi readily available at most libraries.

But equal service does not mean equitable service. A patron who has never used a computer or accessed the Internet may have equal access to a public computer but may need training and support in order to have equitable access.

Provision of services to diverse populations—often in multiple languages, often with different cultural expectations, and certainly with a wide variation in technology adoption and experience—requires superhuman librarians, or enough librarians to allow specialization and differentiation of services—in order to effectively provide equitable access.

## From equitable access to effective assessment

Whereas public libraries have taken on the task of ensuring everyone gets access to the Internet, we have not stepped up when it comes to helping our communities *assess* the information they find there.

The Internet is the world's primary source of information, and it is mostly uncurated. Anyone can post, upload, or stream information for public consumption. Blogs and personal websites can present false or misleading information as fact, and there is no editorial process to override it. Without an understanding of how to evaluate websites, conduct a search,

interpret search engine results, or fact-check online, many are left to the vagaries of whatever search portal and search terms they choose when they begin their exploration.

Before the Internet revolution, a librarian's job was focused on curating a print collection. These print collections were already curated to some extent. Libraries selected material from reputable newspapers and books from reputable publishers. Publishers took on some of the responsibility of sifting through the data to present the facts. Before the days of citizen journalism and entertainment presented as news, journalists also helped with curation. But these systems have largely broken down in a world where anyone can publish a book and anyone can post anything that pops into their head and there's a website out there to support every conspiracy theory no matter how outlandish. Because of this breakdown, it is more important than ever for librarians to take on the responsibility of teaching information and Internet literacy.

Without literacy, including digital, information, and Internet literacy, it is extremely difficult to tell fact from fiction, accuracy from dissemblance, even satire from hyperbole when browsing the Web or watching TV. Teaching information and Internet literacy and helping people understand the difference between fact and opinion is a very important role for public librarians to play and one that still is not embraced in every library.

Our public libraries have largely reduced professional services instead of expanding offerings that should naturally arise from the education and training of an information professional. When the number of "reference questions" began declining and DVD circulations went up, public libraries cut back on professional staff and increased circulation staff. Many libraries largely gave up on traditional reference services and focused more on circulation of popular material, especially multimedia. For many libraries, movie DVDs represent as much as half of all circulations. And while some argue that it is important to provide the community whatever it wants, it is also important to acknowledge what has been abandoned in this process.

Public libraries risk giving up on their commitment to help build an informed citizenry unless we address all the literacies that are needed to truly have equitable access. We need the professional services of librarians to help patrons effectively negotiate our information-rich but knowledge-poor society and address the challenges of accessing digital information in the wild as well as print and digital information that has been curated by the library.

## Leverage materials handling and self-service technologies

One way to both keep up with circulation of popular material and to increase our ability to provide these much needed professional services is to use

materials handling and self-service technologies. Materials handling technologies reduce the amount of handling and transporting of material that is necessary to maintain our physical collections. Self-service technologies, including self check-out and self check-in systems, allow patrons to handle the transaction work of circulation so library staff can focus on other needs of patrons.

Aside from reducing staff time spent on repetitive manual tasks, self-service circulation systems provide benefits to libraries and patrons alike. Self check-in systems allow patrons to check-in their own materials immediately so that items are cleared from their account before they begin browsing. Checked-in materials are conveyed and sorted instantly and with no handling so the return-to-shelf process is optimized. With RFID, some of the labor-intensive work of verifying discs inside DVD cases can also be eliminated. These technologies reduce transaction and sorting errors resulting in better service. Materials get back on the shelves more quickly with less staff effort, allowing libraries to better leverage the physical materials available for circulation while reducing the staff time spent managing inventory.

While many patrons value the personal interaction with staff, reducing circulation interactions allows the library to increase other, potentially more meaningful interactions. Patrons who do not crave human interaction can skip the line, complete their check-outs, and be on their way. Many also appreciate the privacy that self check-out provides.

Self-service allows libraries to extend their evolution to include more flexible public spaces, creative and technology spaces, community meeting and performance spaces, and whatever other spaces a library conceives to meet the needs of its community. It gives the library a new look, one that appeals to a diverse audience and represents the breadth and depth of services available.

Self-service doesn't eliminate the need for clerical staff. As long as we have physical items on a shelf, we need people shelving them. And even with high rates of self-service including check-in and check-out, a library still needs a service point for circulation functions such as applying for a library card, setting up family accounts, and certain financial matters. Depending on the size of the library, some libraries offer a single service desk with someone from the reference department and someone from the circulation department so that patrons can go to one location and get whatever help they need.

Larger, busier libraries might choose to dedicate a service point to accounts services so that the professional staff have a service point that is flexible enough to handle the range of services being offered, or multiple service points that allow them to get closer to the patrons where they are, or even roving professional staff that move throughout the library.

## We need more librarians

Today, and even more so tomorrow, finding and using information requires more equipment, more skills and expertise, more training and coaching, and more time from our professionals. As the largest publicly available information repository in the world, librarians should be at the forefront of curating and structuring the Internet. But that mandate is for other librarians, not public librarians. What is critical for public librarians is to support their communities and empower them with the literacies needed to negotiate today's informational ecosystem.

We need more librarians, not only to provide access, but to empower patrons to use the tools of access. We need more librarians to teach people to evaluate information and recognize what is and what is not reliable. We need more librarians available to deliver information and digital literacy programs on a regular basis, work with patrons on projects, and actively seek ways to build a more informed citizenry starting with our local communities.

Patrons need help using Word to write a resume so they can apply for a job. They need help navigating complex websites so they can download tax forms. They need help setting up an email account so they can communicate with their families. They need help improving their skills so they can get a job that requires computer literacy. They need to learn how to conduct a search so they don't just reinforce their own opinions and biases. They need help selecting sources and evaluating their reliability. They need to know how to use the Internet safely, in order to avoid unwanted attention, solicitation, and malware.

We need more librarians because we need them to go out into the community and bring library services to the point of need and raise awareness about what the library has to offer. Everyone knows the library has free books and DVDs, but they don't know about all the programs and one-on-one help the library provides—and how much more would be available if we had more librarians. Moving library staff out of the library and into the community also gives our professional staff an opportunity to learn more about what our communities need so the suite of collections and services are customized for the people who need them.

Our country's democracy is effective only if citizens are equipped with knowledge. But instead of reliable and diverse sources of knowledge, we increasingly form opinions based on other opinions and the country becomes more polarized. Popular views of race, religion, climate change, vaccination, and many social issues are so fractured as to lead to impasse on school boards and ballot measures. It is largely a result of how we use and evaluate information resources. We watch the channels and read the blogs that support our beliefs and prejudices. We use the Internet to reinforce what we think we know instead of using it to test our assumptions.

We need the library's safe, public space so that our communities can come together to exchange ideas and consider opposing points of view. We need libraries to provide equal access to technology and to help patrons who need to use it equitably. And we need librarians to tend to that safe space, manage the technology access, and teach the skills needed to evaluate and interpret information.

## Notes on contributor

**Lori Bowen Ayre** is the Principal Consultant of The Galecia Group, which she established in 2000 after a career as an IT Director in the private sector. She earned her MLIS degree in 2006 from San Jose State University. Lori brought her IT expertise to the public sector because she believes in the transformational power of libraries. She works to help libraries leverage technology to streamline back office functions, reduce operating costs, and improve and expand customer services. Her expertise is in RFID and automated materials handling, self-service technologies, and open source library system software and the library communities that use them. Her company also provides Drupal support and development services. Lori is a columnist for *Collaborative Librarianship* and has written reports for *Library Technology Reports*.