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Social Media Strategies and Your Library

Kathleen (Katie) Brown, *Charlotte School of Law*

Information Outlook, March/April 2013

Special Libraries Association

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THE MAGAZINE OF THE SPECIAL LIBRARIES ASSOCIATION

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Many Languages, but a Common Voice

SLA's global reach unites information professionals with different perspectives but a similar vision.

BY JANICE LACHANCE, SLA CEO

Is the world getting smaller? Lately it seems to be. Thanks to our 24-hour news cycle, the (almost) free flow of information, and the development of hand-held devices, I can read about and even see what's going on thousands of miles away, no matter where I am or what I'm doing. And lately there's been plenty to see—demonstrations in Cyprus, the election of a new pope, military tensions on the Korean peninsula, and much, much more. With a smartphone or laptop at my disposal, I feel not only informed about the world, but *connected* to it.

That's also one of the great advantages of SLA—we connect you to the global community of information professionals. More than 15 percent of SLA members live and work outside the United States, and many of them are very active in our association. Kate Arnold, our president-elect, lives in England, while two other board members, Debbie Schachter and Ulla de Stricker, reside in Canada. The chair of the Food, Agriculture and Nutrition Division is Kevin Adams of New Zealand, and the chair-elect of the Education Division is Maya Kucij of Canada. Two of the SLA Fellows we will honor in San Diego, Martha Foote and Dennie Heye, are from outside the United States, as was last year's recipient of the John Cotton Dana Award, Jesus Lau.

Working with these and other members of our global community deepens our understanding and appreciation of the information profession and gives us more (and more interesting) insights into the challenges and opportunities we face. Whether we connect with each other personally at conferences or virtually through discussion lists and social media, we benefit from being part of an association that can bring a wide variety of experiences and perspectives to bear on nearly every facet of librarianship.

These facets can range from the philosophical to the practical. For example, when Bethan Ruddock was looking for contributors to the *New Professional's Toolkit*, she wanted a mix of perspectives from around the world—and found them through her SLA connections. "I got great U.S.-based case studies from Dee Magnoni, Amy Affelt, Reece Dano and Aileen Marshall," she says. "I think Reece's contribution on embedded librarianship has been particularly interesting to readers here in the U.K., where embedded librarianship is just starting to gain ground."

In my travels to SLA chapters outside the United States, I encounter this spirit of mutual support and admiration everywhere I go. During a recent visit to SLA Europe, I participated in a "Meet the CEO" open discussion with SLA members in London, and I was struck by the number of young, enthusiastic members who are eager to learn about issues affecting our profession that know no natural or political boundaries—issues such as copyright and intellectual property. It was clear that these new members want to be a part of a global solution, one that a global organization like SLA can help develop and implement.

Their enthusiasm is all the more remarkable because SLA Europe, like many SLA chapters, is geographically dispersed. This makes it hard to plan chapter meetings, which are one of the key benefits of SLA membership. Yet these chapters are among our most active, which tells me that information professionals in different countries and cultures share a common desire—to be a part of something bigger, something that will help them develop new skills and acquire new knowledge, something that will provide them with global resources to better support their clients and employers.

That something is SLA.

Like information, concepts such as *professionalism* and *value* and *innovation* know no borders or boundaries. SLA connects you to them through a network of information professionals who live and work throughout the world but share a common purpose, who speak dozens of languages but with one voice. By joining together to share our experiences and ideas and focus our energies, we can build a better, stronger information profession.

That is the message I spread wherever I go, from meetings in Washington, D.C. to conferences in places like Japan and Finland. It's the message I'll take to England in July when I deliver a keynote address at the 2013 Umbrella Conference of CILIP, the Chartered Institute of Library and Information Professionals. And I'll share it with other leaders of our profession in Singapore at the 2013 Annual Conference of the International Federation of Library Associations (IFLA).

The more I travel throughout our profession, the more I realize that our strength lies as much in our differences as in our commonalities. Membership in SLA provides opportunities to leverage the best of both. By joining a chapter in another region or reaching out to a member in another country, you'll increase your value and expand not only your network but also your horizons. **SLA**

BOARD CANDIDATES

SLA Announces Candidates for Board of Directors

Ten information professionals will vie for five slots that will become vacant on SLA's Board of Directors in 2014.

The candidates will serve three-year terms on the board if elected. The election will be held electronically in mid-September 2013.

The 10 candidates running for election are as follows:

President-Elect

- Leslie Reynolds, *Texas A&M Libraries, College Station, Texas*
- Jill Strand, *Maslon Edelman Borman Brand LLP, Minneapolis, Minnesota*

Chapter Cabinet Chair-Elect

- James King, *National Institutes of Health, Bethesda, Maryland*
- Valerie Ryder, *Wolper Information Services, Easton, Pennsylvania*

Division Cabinet Chair-Elect

- Pamela Enrici, *University of Minnesota-Duluth Libraries*
- Juliane Schneider, *Countway Library of Medicine, Harvard Medical School, Boston, Massachusetts*

Director (two positions)

- Tony Landolt, *Reprints Desk, Encino, California*
- Moy McIntosh, *Cleary Gottlieb Steen Hamilton LLP, New York, New York*
- Valerie Perry, *University of Kentucky Libraries, Lexington, Kentucky*
- Bethan Ruddock, *Mimas, Manchester, United Kingdom*

The candidates were recruited by the SLA Nominating Committee. The Nominating Committee is responsible for soliciting candidates from SLA's membership and compiling a group that has compelling talent supported by tangible accomplishments, is professionally diverse, and provides regionally balanced representation to the association.

Topics, Authors Selected for Contributed Papers

The agenda for the SLA 2013 Annual Conference will include 12 paper presentations highlighting research on projects and practices in the information profession.

Each year, several papers are chosen through a competitive selection process to be presented by SLA members at the conference. A few of the papers are presented each day of the conference, offering multiple opportunities to hear directly from industry peers.

Following is the schedule of times, topics and presenters at SLA 2013:

Metrics, Ranking, and Discovery
Sunday, 9 June, 1:30-3:00 pm

- Linda Galloway and Anne Rauh, "Social Media and Citation Metrics"
- John Coll, "Outgoogling Google: Connecting Your Users to Content through a Single Search"
- Margaret Carroll, "Determining Value: Using Rank to Identify Library Characteristics that Contribute to the Bottom Line"
- Giovanna Badia, "Comparing the Indexing of Cited Journals to Identify the Premier Database for a Specific Discipline"

Mobile, Remote, and Distributed Information
Monday, 10 June, 4:00-5:30 pm

- William Cook, "Peeking Over Cubicles: An Ethnographic Approach to Knowledge Management"
- Louisa Verma, "Using Mobile Technologies to Connect Face-to-Face"
- Helen Poot and Bill Patterson, "There's an Elephant in the Room, but Your Staff Isn't: Connecting and Collaborating with Your Offshore Team"
- Hildy Dworkin, "After the Storm: Establishing Library and Information Services from a Temporary Location"

University Faculty Issues and Knowledge Management
Tuesday, 11 June, 2:00-3:30 pm

- Merle Rosenzweig and Bethany Harris, "Supporting National Institutes of Health Grantees through a Collaboration between the University of Michigan Taubman Health Sciences Library, the University of Michigan Medical School Office of Research, and the Office of Research and Sponsored Projects"
- Cindy Elliott, Jim Martin, Mary Feeney, and Ricardo Andrade, "A New Approach to Needs Assessment and Communication to Connect and Collaborate with Faculty"
- Robin Dasler, "Beyond the Repository: Rethinking Data Services at the University of Maryland"
- Cindy Romaine, "Modern Tools Solve Ancient Riddle"

SLA Expresses Concern over FOIA Restrictions

On 11 March, SLA joined with more than 30 other organizations in drafting a letter to the U.S. Permanent Select Committee on Intelligence expressing concerns about H.R. 624, a bill introduced in the U.S. House of Representatives that would restrict public access to information about cybersecurity threats.

"In the interest of encouraging private companies to share cybersecurity threat information, the bill unnecessarily cuts off all public access to cyber threat information before the public and Congress have the chance to understand the types of information that are withheld under the bill," the letter states. "The public needs access to some information to be able to assess whether the government is adequately combating cybersecurity threats and, when necessary, hold officials accountable."

Among the organizations that joined SLA in signing the letter are the American Association of Law Libraries and the Association of Research Libraries. **SLA**

LIBRARY PUBLISHING · FEDERAL RESEARCH · ONLINE EDUCATION ·

Project to Promote Library Publishing

Several academic libraries are joining forces to develop a collaborative network that will promote best practices in library publishing and support a diverse range of publishing services.

The two-year project, known as the Library Publishing Coalition, emerged from discussions between Purdue University, the University of North Texas, and Virginia Tech about the need for a community dedicated to advancing library publishing. The discussions were prompted by the rise of the Internet, information and social media technologies, and the open source and open access movements, which together are challenging the traditional framework in which research is conducted and disseminated.

More than 50 academic libraries have agreed to participate in the network, which is being funded with seed money from the Educopia Institute, a nonprofit organization that helps plan, fund and implement cyberinfrastucture projects that promote scholarly communication. During the first stage of the venture, a project team will determine how best to structure the initiative to promote collaboration and knowledge sharing. The team will produce several deliverables, including the following:

- Targeted research (based on existing surveys) that will address topics of particular interest to the library community, including publishing cost and staffing issues and how libraries can finance publishing ventures;
- A directory of existing library publishing services that includes details on staff contacts, types of products produced, and software utilized;
- A forum for networking and sharing communications about library publishing services;
- Virtual training and community-building activities; and
- A foundation for the Library Publishing Coalition to become an ongoing, institutionally owned organization that serves the needs of the academic publishing community.

U.S. to Expand Access to Federal Research

Federal agencies in the United States must develop plans to expand public access to government-funded research and manage the data derived from that research, thanks to a directive issued by the White House Office of Science and Technology Policy.

On 22 February, OSTP Director John Holdren released a letter stating that federal agencies that spend more than $100 million annually on research and development must create plans to make the published results of federally funded research freely available to the public within one year of publication. Under these plans, researchers who receive federal funding will be required to better account for and manage the digital data resulting from their research.

Each agency plan for scientific publications and digital scientific data must contain the following elements:

- A strategy for leveraging existing archives (where appropriate) and fostering public-private partnerships with scientific journals relevant to the agency's research;
- A strategy for improving the public's ability to locate and access digital data resulting from federally funded scientific research;
- An approach for optimizing search, archival and dissemination features;
- Provisions that encourage innovation in accessibility and interoperability while ensuring long-term stewardship of the results of federally funded research; and
- A plan for notifying awardees and other federally funded scientific researchers of their obligations.

"Policies that mobilize these publications and data for re-use through preservation and broader public access also maximize the impact and accountability of the Federal research investment," the letter states. "These policies will accelerate scientific breakthroughs and innovation, promote entrepreneurship, and enhance economic growth."

British Library Joins Online Education Initiative

The British Library has joined with several universities in the United Kingdom to participate in FutureLearn Ltd., a program launched in December that offers free online lectures and courses to students around the globe.

FutureLearn is the first U.K. Mooc, or massive open online course initiative. Such programs are popular in the United States, where companies such as edX and Coursera offer more than 230 Moocs to 3 million-plus students.

The British Library is the first non-university research institution to join the initiative. The library's publicly available digital collections include more than 800 medieval manuscripts, 40,000 19th-century books, and 50,000 sound recordings, and these collections continue to grow each year. Up to 10 million people visit the British Library Website annually.

FutureLearn is a project of the Open University, the largest academic institution in the U.K., with roughly 250,000 current students. More than 70 percent of Open University students are in full-time or part-time jobs, and four-fifths of Britain's 100 largest companies have sponsored staff to take OU courses.

Symposium Nurtures Ties between Publishers, Librarians

Several early-career librarians met with publishers at a symposium in Chicago to help forge closer ties and identify areas of mutual interest and possible collaboration.

The symposium was sponsored by the Committee on Institutional Cooperation

(CIC) and Springer Science+Business Media. Agenda items included social media's place in an academic context, mobile technology, open access, and end-user needs.

The CIC is a consortium of universities in the United States that encourage research by sharing expertise, leveraging resources, and collaborating on innovative programs. Librarians from CIC member universities attended the meeting so they could better understand the expectations and pressures facing publishers and use that knowledge to improve service to their organizations and the wider scientific community.

"The idea for this symposium was born out of a conversation I had with a young and deeply committed Springer editor," said Mark Sandler, director of the CIC. "That chance encounter convinced me that there could be high value in a caucus between some of our early career librarians and folks at a similar career stage at a major publisher. It is my hope that this meeting will result in greater understanding of the roles and aspirations of career professionals in libraries and publishing."

Sequester Could Force Cuts at Library of Congress

Curators might have to be furloughed or laid off and magazine subscriptions cancelled if planned cuts in the budget of the U.S. Library of Congress are not delayed or eliminated.

James Billington, the librarian of Congress, told legislators on Capitol Hill that if the library's 2014 budget is frozen at 2013 levels or, worse, cut by 5 percent as a result of the $85 billion in federal spending reductions mandated by the so-called sequester, the impact would be cumulative in nature.

"Knowledge and creativity never stand still," he testified before members of the House Appropriations Committee. "We cannot stop or severely slow down the library's work without beginning to degrade irreversibly our ability to sustain the nation's intellectual and creative capital."

According to Billington, even a failure to adjust the 2013 budget of $629 million for inflation would result in furloughs or cuts, especially among curators, who are essential to the library's mission of obtaining and archiving a copy of virtually everything published. In addition, magazine subscriptions would be slashed and book binding would be reduced.

"If we had to miss one year's subscription to a scientific publication that we had acquired for 50 years, we would lose not just one fiftieth, but half of its usefulness, and would never fully be recovered in the future," he warned.

Most Social Initiatives Lack Compelling Purpose

Only 1 in 10 social media initiatives succeeds, and those that fail typically do so because they lack a motivating purpose, according to a study of social collaboration efforts at more than 1,000 organizations.

The study by Gartner, a leading information technology research firm, found that 70 percent of organizations use social technologies to try to build community and interact with stakeholders, but most take a "provide and pray" approach, leading to a 10 percent success rate. Those that succeed typically have a clear and compelling purpose, such as a solution to a specific business problem.

"Without a well-crafted and compelling purpose, most social media initiatives will fail to deliver business value," said Anthony Bradley, group vice president at Gartner. "A well-defined purpose identifies who the participants are, what specific issue they are collaborating around, what value they will gain for themselves, and what value will be provided to the organization."

The survey found that all purposes are not equal in terms of their ability to catalyze a community. According to Gartner, a compelling purpose has five characteristics.

Participant magnetism. The purpose should naturally motivate people to participate; that is, it should answer the "what's in it for me" question. Users should easily grasp its importance and the value of participating. If you have to create interest among users, especially through costly incentives, you've chosen the wrong purpose.

Community draw. The purpose must resonate with enough people to catalyze a community and deliver robust, user-generated content. In the best communities, community members contribute far more content than the supporting enterprise.

Organizational value. The purpose should have a clear business outcome; that is, it should have an obvious "what's in it for the organization" characteristic. Choose a purpose that lends itself to easily measuring the organizational value and communicating that value to the community as motivation to continue participating.

Low community risk. Given a choice, choose an initiative with a low risk rather than a high reward, especially early in an organization's social application maturity. Assess the overall risk as a function of these four types of risk:

- Culture risk is the risk that the corporate culture is not conducive to mass collaboration.
- Adoption risk is the risk that people will not be inclined to collaborate on this subject or in this community.
- Information risk is the risk that the community's shared information will be sensitive in nature.
- Result risk is the risk that, even if a community forms, its interactions will not bear fruit.

Promoting evolution. Select purposes that you and the community can build upon. Some purposes have a natural tendency to lead to others and facilitate emergence. Those that have no dependencies but can lead to other purposes are more likely to succeed. **SLA**

New Opportunities for Information Professionals

ONCE THREATENED BY TECHNOLOGIES THAT DELIVERED INFORMATION DIRECTLY TO END USERS, INFORMATION PROFESSIONALS ARE NOW BENEFITING FROM THEM.

BY STUART HALES

What the Internet once taketh away, the Internet now giveth. Call it the revenge of the information economy.

As the Internet and their attendant search engines became fixtures in mass society, information professionals found themselves increasingly under pressure to justify their presence and purpose. That pressure intensified with the growing acceptance of electronic books and journals, then reached a crescendo with the development of self-serve devices that dispense DVDs, books and other materials.

"It's a library as conceived by the Amazon.com generation," wrote Conor Dougherty in *the Wall Street Journal* in October 2010, little more than a year after the *Journal* had closed its own news library and essentially directed its reporters to conduct research themselves. "Faced with layoffs and budget cuts, or simply looking for ways to expand their reach, libraries around the country are replacing traditional, full-service institutions with devices and approaches that may be redefining what it means to have a library."

But the very developments that have threatened the livelihoods of information professionals are now creating new opportunities for them. Because organizations today have vastly more information available to them (thanks to technologies such as the Internet and social media), they are anxious to use it—"mine it," in the parlance of data scientists—to gain a competitive advantage (Ante 2013). That's a task for which information professionals are well suited, and which some of them are already performing.

What can data tell us? To take one example, Google can use data to identify flu outbreaks sooner than the Centers for Disease Control. By monitoring search terms such as *children's cough medicine* and tracking the locations where such searches are being conducted, Google can quickly pinpoint where flu cases are increasing (Crovitz 2013). The Hamilton County (Tenn.) Department of Education, meanwhile, uses attendance, behavior and testing data to determine when and how to conduct interventions with students who may be at risk of dropping out of school (Lamont 2013).

In fact, nearly every sector of the economy can benefit from data mining. Human resources personnel can use health insurance claims data to identify employee uses of medical services and adjust benefits accordingly; manufacturers can scour social media sites for comments about their products and devise new features to suit changing tastes; transportation firms can monitor the activities of their vehicles and drivers and adjust routes and shifts to increase efficiency; and service firms can target their marketing messages to appeal to customers who are most likely to respond to certain offers (Rosenbush and Totty 2013).

Not surprisingly, colleges and universities are interested in mining data as well, and some of them have obtained funding to advance their efforts. The library system at Johns Hopkins University was awarded a five-year, $20 million grant in 2009 from the National Science Foundation to build a "data research infrastructure" to manage the growing volumes of digitized

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research information. The School of Library and Information Science at the University of Illinois was awarded a grant in 2006 from the Institute of Museum and Library Services (IMLS) to develop a data curation curriculum and best practices for the LIS and scientific communities. In the United Kingdom, a consortium of universities launched the Digital Curation Centre in 2004 to support digital preservation and curation activities within the higher education community.

Among academics and librarians, the term *data curation* is preferred to data mining because it connotes ongoing management and preservation. The Data Curation Education Program at the University of Illinois defines data curation as follows:

> Data curation is the active and ongoing management of data through its life cycle of interest and usefulness to scholarly and educational activities across the sciences, social sciences, and the humanities. Data curation activities enable data discovery and retrieval, maintain data quality, add value, and provide for re-use over time.

The theme articles in this issue of *Information Outlook* address two key elements of that definition—(1) adding value to data and (2) enhancing its usefulness to scholarly activities. In "Adding Value through Data Curation," Steve Goldstein of Alacra provides examples of how some organizations are using data to gain a competitive advantage in the marketplace, then describes how information professionals can play a role in this process.

"At a very high level," he writes, "information professionals can do two things to add value: (1) establish closer relationships with individual researchers and (2) offer their organizational skills to groups of researchers at their institutions. In other words, information professionals should 'get in the weeds' of the problems of a single research project, then consider how these problems will rapidly compound when data from multiple research efforts needs to be managed."

Daureen Nesdill, a librarian at the University of Utah, follows up on the challenge of managing research efforts by discussing online research management systems, variously referred to as electronic lab notebooks (ELNs), virtual workspaces, or virtual notebook systems. She describes how they work, discusses projects on which they've been used, and explains how information professionals can play a role in encouraging more researchers to use them.

"Librarians can serve as liaisons between the IT Department and researchers, facilitate the selection of a product or products to be tested, oversee the testing phase, and educate researchers on the benefits of ELNs," she writes. "Librarians can also help build a bridge between developers of ELN software and developers of repository software. ELNs have repositories for managing data as research is being conducted, but they are not for long-term archiving. A technological bridge needs to be built to enable the seamless transferal of research data and its related documentation from ELNs to data repositories. Librarians can play a role in building this bridge by facilitating conversations among the parties involved, pushing for standardization, and even developing the required software."

Whether by building bridges or getting in the weeds, information professionals can play critical roles in helping organizations manage the deluge of data they're collecting. To learn more about these opportunities, turn the page. **SLA**

REFERENCES

Ante, S.E. 2013. Help Wanted: Data, Data Everywhere—and Not Enough People to Decipher It. *The Wall Street Journal*, 11 March, p. R2.

Crovitz, G.L. 2013. Why 'Big Data' Is a Big Deal. *The Wall Street Journal*, 25 March, p. A15.

Dougherty, C. 2010. New Library Technologies Dispense with Librarians. *The Wall Street Journal*, 25 October.

Lamont, J. 2013. In the Realm of Big Data. K*M World*, April, pp. 8-9.

Rosenbush, S., and M. Totty. 2013. How Big Data Is Changing the Whole Equation for Business. *The Wall Street Journal*, 11 March, pp. R1-R2.

Adding Value through Data Curation

ORGANIZATIONS IN ALL SECTORS ARE RECOGNIZING THE NEED TO MANAGE DATA THROUGHOUT ITS LIFE CYCLE, AND PART OF THAT PROCESS INVOLVES ADDING VALUE.

BY STEVEN GOLDSTEIN, MBA

In a recent column in the *Wall Street Journal* titled "Data Crunchers Now the Cool Kids on Campus," Carl Bialik ("The Numbers Guy") discussed the growing interest in statistics courses and majors at U.S. universities, a trend he attributed to two factors: the 1997 launch of an Advanced Placement exam on this subject, and the tremendous increase in data being made available to businesses and organizations. Although some educators Bialik interviewed were skeptical that statistics would remain popular, they expressed no such doubts about the need to interpret and re-purpose data.

As far back as 2009, in fact, Google's chief economist, Hal Varian, had remarked on the ongoing demands posed by data. "Data availability is going to continue to grow," he told the *McKinsey Quarterly*. "To make that data useful is a challenge. It's generally going to require human beings to do it."

Varian was indeed prescient: the dramatic increase in data generated and captured by academic research, government and business is driving a growing need for data crunchers and statisticians. In addition to the rapidly growing number of professionals necessary to analyze this data, entire support teams are now required to store, archive, preserve and curate the data. This is a new source of demand for properly trained information professionals in the public, private and academic sectors.

Curating data is somewhat different that curating your wardrobe or your CD collection. While you might share your clothes or your CDs with friends, the handoff usually requires an in-person visit. A critical component of data curation is facilitating the sharing of data across a wide range of possible consumers, most of whom are never seen. Plus, no matter how messy you are, with time and patience you'll always be able to find that certain pair of sandals or that special Grateful Dead bootleg. With data, a small mess can turn into a big mess pretty quickly, and poorly tagged datasets can be lost forever.

Finally, at some point you might say, "I'm never going to wear that again" or "I'm never going to listen to that again" and donate a coat or CD to charity just to make room in your closet. The shelf life of data is significantly longer, and strategies must be designed and implemented to keep it safe and accessible. Sharing, finding and managing large quantities of digital information are critical to successful data curation.

Knowledge Management 3.0

If we think back 10 or 15 years to the business objectives of knowledge management, we would recognize many similarities with the objectives of data curation. KM had an enlightened, metaphysical flavor—information and expertise within an organization should be widely and easily available. KM also had a number of strategic goals, such as fostering innovation, improving decision

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making, and enhancing efficiency for knowledge workers. Finally, there were the tactical or implementation objectives: by what process are we going to manage all this knowledge, and how are we going to capture, tag, store, distribute and utilize all the knowledge being created each and every day inside our organizations?

Many people had (and still have) a difficult time understanding the concept of *knowledge*, and many knowledge management initiatives were not successful. In some respects, new products and technologies obviated the need for formal KM programs. Yammer, Twitter, SharePoint, Evernote, LinkedIn, Google+ and even Salesforce.com have a knowledge management component to them, and Facebook, for better or worse, has reduced the discomfort many people feel about sharing information. The need for formal knowledge management programs has been, in some ways, assuaged by office evolution.

But the challenges of data curation will not be overcome so easily. While the objectives of knowledge management have been achieved in part with new technologies and a more open attitude toward sharing information, the problems of data curation are significantly more complex.

Whereas knowledge is soft and malleable, data is hard and fragile, and standards for effectively managing data across a large organization are just beginning to emerge. At the front of the curve in this area is the MIT Library System (MIT Libraries), which provides a comprehensive field guide for data management and publishing. After defining the different types of data—observational, experimental, simulation and derived or compiled—MIT outlines the key concepts for the effective management and curation of research data.

Some of MIT's recommendations to researchers are basic, such as the following: "Depositing your data in an archive will facilitate its discovery and preservation. While you can share your data informally by e-mailing it to requestors or posting it to a Website, informal methods of sharing make it difficult for people to find your data and access it in the long-term."

After presenting the basics, MIT provides guidelines for versioning, metadata standards, encryption, storage and backup, and preservation. Whereas knowledge management procedures often vary from implementation to implementation, data management and curation guidelines are much more tangible. Another Wall Street Journal article, "The Financial Bonanza of Big Data," explains why. "The value of information captured today is increasingly in the myriad secondary uses to which it is put—not just the primary purpose for which it was collected," it states. These secondary uses are driving a wave of new jobs in both libraries and industry, where a new set of skills are required for success.

Leading Curation Environments

The data curation challenge is frequently associated with academic and research institutions, where the "long tail" of data is prevalent. These organizations produce a tremendous number of small datasets, but it's difficult to get disparate researchers to understand the value of following data curation protocols, especially when such protocols may not yet be firmly established.

Some financial institutions, however, have established strict data curation procedures, mainly because a tremendous amount of the firm's own money is on the line and the research is being conducted (and the data produced) to support customers. A large bank, trading firm or hedge fund may have hundreds of researchers looking at economic, demographic and market price data, with the goal of creating proprietary trading models. The data they use and generate is extremely valuable, so these firms may mandate that data sets be documented, preserved and properly stored. Research teams may be organized in a matrix—different teams may be working on a portion of a larger problem, so documentation and sharing are critical. (In some organizations, however, sharing is frowned upon because the firm is trying to avoid "groupthink." Everyone is instructed to work individually.)

Wolfram, the company that created Wolfram Mathematica and Wolfram Alpha, makes a number of curated data sets available to Mathematica customers. These data sets include properties of chemical elements and nuclear isotopes; economic, demographic and other properties of countries; and current and historical financial data on stocks, funds, indices, and currencies. Wolfram also makes its proprietary technology and processes available to corporations to curate their data and make it computable. By curating publicly available data sets and offering its technology around corporate data, Wolfram has recognized the value of curated data and staked out a market-leading position in the corporate space.

In academia, as mentioned earlier, MIT Libraries is a leader in developing data curation and data management guidelines and best practices. The University of Illinois Graduate School of Library and Information Science offers a specialization in data curation and has a series a workshops focusing on data curation in the humanities. The Data Conservancy at Johns Hopkins University offers tools and services to "incentivize" scientists and researchers to participate in data curation efforts by "adding value to existing data and allowing the full potential of data integration and discovery to be realized."

How to Add Value?

As discussed earlier, data curation is the active and ongoing management of data through its life cycle of interest and usefulness to scholarship, science and research. While the field is several years old, it is still, in some respects, in its infancy. The need for experience and training in this area is just becoming apparent—because computing power and storage costs are rarely barriers to research today, large-scale research networks are becoming more prevalent.

At a very high level, information professionals can do two things to add value: (1) establish closer relationships with individual researchers and (2) offer their organizational skills to groups of researchers at their institutions. In other words, information professionals should "get in the weeds" of the problems of a single research project, then consider how these problems will rapidly compound when data from multiple research efforts needs to be managed.

A recent paper by Lori Jahnke, Andrew Asher and Spencer Keralis titled "The Problem of Data" summarized the data curation issues facing organizations and made some excellent recommendations that information professionals should consider. Following are the key issues:

- Researchers have not received formal training in data management practices and are not satisfied with their level of expertise. They are learning on the job.
- Few researchers think about the long-term preservation of their data.
- The demands of publication significantly outweigh the long-term considerations of data curation.
- Few researchers are aware of the data services that the library might be able to provide and seem to regard the library as a dispensary of goods (e.g., books and articles) rather than as a locus for real-time research and professional support.

Following are the recommendations:

- There is unlikely to be a single out-of-the-box solution that can be applied to the challenges of data curation. Instead, an approach that emphasizes engagement with researchers and dialogue around identifying or building the appropriate tools for a particular project is likely to be the most productive.
- Researchers must have access to adequate networked storage. Universities should consider revising their access policies to support multi-institutional research projects.
- Educational or other training programs should focus on early intervention in researchers' career paths for the greatest long-term benefit.
- Data curation systems should be integrated with the active research phase (i.e., as a backup and collaboration solution).
- In the areas of privacy and data access control, additional tools should be developed to manage confidential data and provide the necessary security. Most importantly, policies must be developed that support researchers in the use of these technologies.
- Many researchers have expressed concerns about the ethical re-use of research data. Additional work is needed to establish best practices in this area, particularly for qualitative data sets.

Navigating Challenges

With minor modifications, many of these observations and recommendations could have appeared in a knowledge management primer from 10 years ago—for example, the lack of an out-of-the-box solution, the need to start training programs early for maximum benefit, and the advantage of integrating systems during the project as a "collaboration solution." There were concerns within KM about what knowledge could be shared and what knowledge had to remain proprietary, and the alliance between librarians and technologists was fragile.

Information professionals were able to successfully navigate these challenges in a wide range of organizations. Today, they will need to do so again if they are to take advantage of data curation opportunities.

In many industries, the demand for information professionals has been waning for several years. The "big data" phenomenon is now leading to a "big data management" crisis, which information professionals are uniquely qualified to solve. Although the crisis is now most prevalent in academic libraries, it is likely to spread quickly to other sectors, creating a terrific opportunity for librarians. **SLA**

REFERENCES

Bialik, C. 2013. Data Crunchers Now the Cool Kids on Campus. *The Wall Street Journal,* 1 March.

Cukier, K., and V. Mayer-Schönberger. 2013. The Financial Bonanza of Big Data. *The Wall Street Journal.*

Jahnke, L., A. Asher, and S. Keralis. 2012. The Problem of Data. Washington, D.C.: Council on Library and Information Resources.

MIT Libraries. 2013. Data Management and Publishing: Manage Your Data. Research Guide. Cambridge, Mass.: Massachusetts Institute of Technology.

OTHER RESOURCES

Data Curation Profiles Toolkit datacurationprofile.org

Council on Library and Information Resources: Initiatives & Partnerships: Data Curation http://www.clir.org/initiatives-partnerships/data-curation

Role of Libraries in Data Curation. 2011. OCLC Research Library Partnership. Dublin, Ohio: OCLC.

Data Curation. 2013. Yale Digital Collections Center. New Haven, Conn.: Yale University.

Managing Research to Address Data Curation

ELECTRONIC LAB NOTEBOOKS CAN ASSIST LIBRARIANS IN THEIR NEW ROLES ADDRESSING DATA CURATION.

BY DAUREEN NESDILL, MS, MLIS

In recent years, the global research environment has evolved as a result of advances in technology, increasing demand for public access to research findings, the development of cross-border collaborations among researchers, and the forging of new areas of investigation. For example, digital libraries, text mining and text analysis have made it possible to extract new discoveries from centuries-old primary and secondary sources in months rather than years. Research being conducted now involves collaboration among humanists, social scientists, computer scientists and other specialists as needed, and this collaboration is occurring among researchers worldwide. The data used in and generated from the research can be heterogeneous, complex and very large.

The Digging into Data Challenge exemplifies how advancements in technology have initiated fundamental changes in research. Digging into Data encourages the research community to create new techniques to search, analyze and understand the massive databases of materials—ranging from digitized books, newspapers and music to information generated by Internet-based activities and mobile communications to customer databases from private sector organizations—that are available for study in the humanities and the social sciences. An example from the Digging into Data Challenge is the Mining a Year of Speech project, in which researchers from the University of Pennsylvania and the University of Oxford are creating tools to facilitate access to spoken audio files to eventually allow for new methods of linguistic analysis.

Spatial Humanities, a project of the Institute for Enabling Geospatial Scholarship, is another example of how technology has influenced research in the social sciences and humanities. The project incorporates physical space into research by means of geographical information systems (GIS), thereby creating a subdiscipline known as historical GIS. The Association of American Geographers provides a list of historical GIS projects, a good example being the Gough Map of Great Britain project. Researchers at Queen's University, King's College, and the Bodleian Library (University of Oxford) are collaborating to produce a digital Gough Map of Great Britain that incorporates historical, geographical and linguistic information.

In areas such as science, medicine and engineering, advancements in technology have caused changes in research that are as significant as those experienced in the social sciences and humanities. Data streaming from sensors and instrumentation is commonplace in research laboratories in the scientific disciplines, and computational science, simulations and visualizations are supplementing traditional research methods.

An interesting trend in scientific research is to allow the public to assist (yes, public involvement still occurs in the non-digital world). The Audubon Christmas Bird Count is now in its 113th year, while the EarthWatch Institute provides volunteers with the opportunity to work alongside researchers. Projects like Galaxy Zoo, which studies galaxies

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using the Sloan Digital Sky Survey, are piquing the interest of the general public. Zooniverse provides a portal for projects of all scientific disciplines involving the public.

Regardless of the discipline, the increased complexity of research projects and the requirement to share data have led to new roles for librarians, including data curation and the development of data repositories. The Graduate School of Library and Information Science at the University of Illinois defines data curation as follows:

> *Data curation is the active and ongoing management of data through its lifecycle of interest and usefulness to scholarship, science, and education. Data curation enables data discovery and retrieval, maintains data quality, adds value, and provides for re-use over time through activities including authentication, archiving, management, preservation, and representation.*

Librarians are now assisting researchers with the management of their data, from the initiation of the research project through the submission of the data to a repository. Once the data has been submitted, librarians help maintain the repository and assist researchers in discovering data needed for their research.

Virtual Work Environments

As research transitions from print records to electronic records, the best practices for data management will require updating. For instance, electronic data must be backed up, and a standardized file structure and file-naming procedure must be established for individual research projects and involve all collaborators.

Online research management systems have been developed to facilitate these tasks. These systems are also referred to as electronic lab notebooks (ELNs), collaborative tools, virtual workspaces, virtual notebook systems, integrated electronic environments, and so on. For this article, the term *ELN* will be used to cover all such systems.

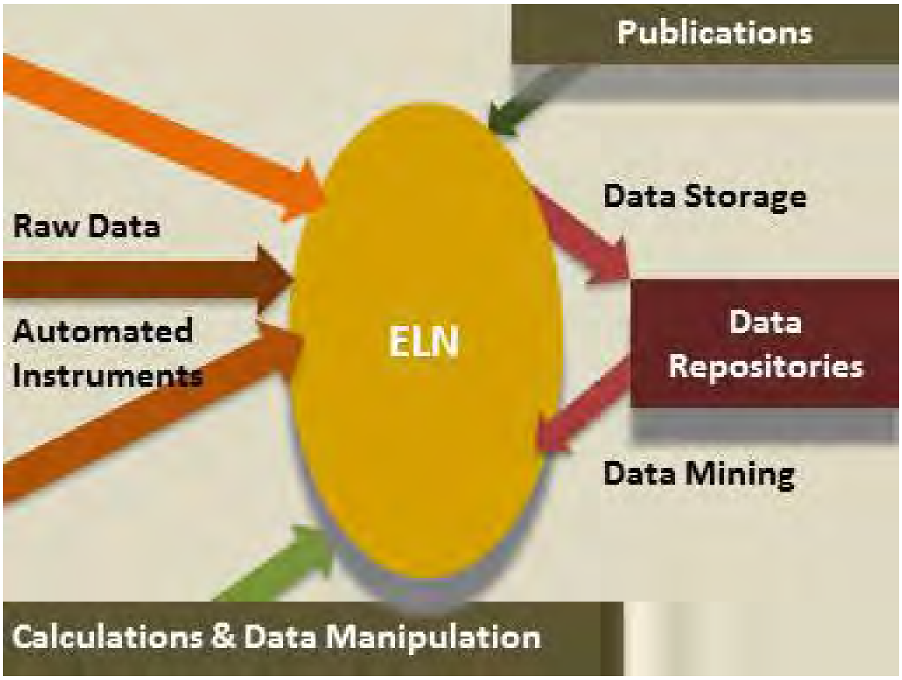

Figure 1: Data Layer of an ELN

Just what are ELNs? They are management systems developed in the corporate world to encourage efficiency. Pharmaceutical and chemical firms were some of the early developers, and a group of them formed the Collaborative Electronic Notebook Systems Association (CENSA) in 1995 (Lysakowski 1997).

CENSA defined an ELN as "a system to create, store, retrieve and share fully electronic records in ways that meet all legal, regulatory, technical and scientific requirements" (Rubacha et al. 2010). The systems were complex, but legislation impeded complete implementation because many nations had not yet accepted electronic documentation (and, more importantly, electronic signatures). Not until 2000 did the United States, Great Britain, and the European Central Court issue new laws granting electronic records and signatures the same legal weight as those in paper format. Other nations soon followed suit (Nehme and Scoffin 2006; Rubacha et al. 2010).

The CENSA definition of ELNs doesn't necessarily cover the systems used in non-science disciplines. Most systems available today are designed specifically for chemistry and biology, but non-subject-specific ELNs have been developed. (For a list, visit http://campusguides.lib.utah.edu/ELNs.) In addition, note management systems have been developed for research that is primarily text-oriented. More than a dozen note and idea management systems are available, and one such system, askSam, has been around since 1985.

Envisioning an ELN

There are two layers to an ELN: the data layer and the people layer. In the data layer (see Figure 1), researchers access and work with raw data (or primary sources), which is streamed into the system. The researchers can also seek information in publications, mine additional data stored in repositories, and develop models and simulations. Ideally, the data and related documentation will be stored in a repository and curated for reuse or repurposing by other researchers.

The people layer (see Figure 2) includes all colleagues in the research

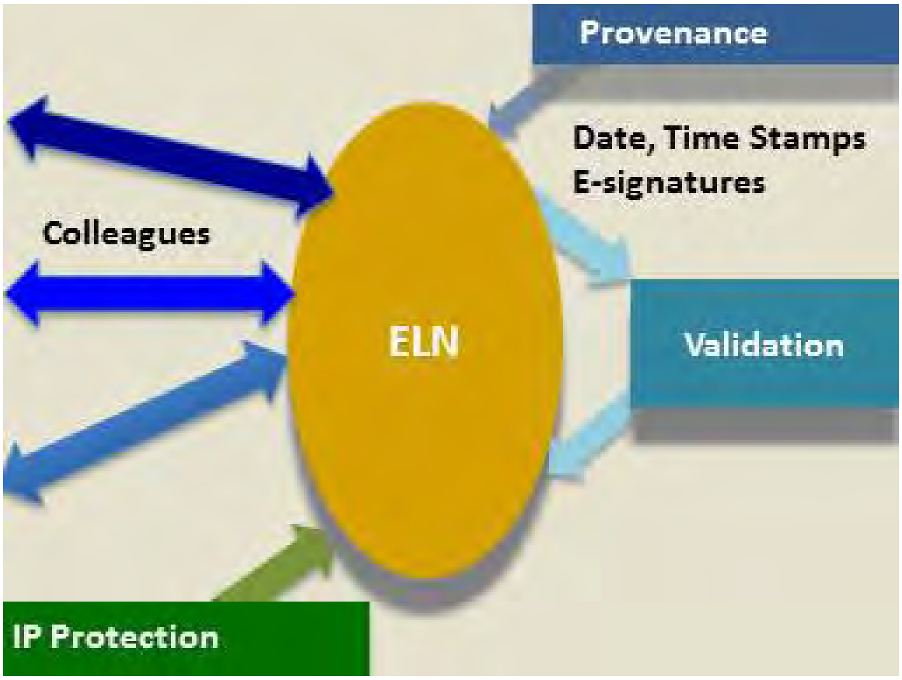

Figure 2: People Layer of an ELN

group, from the principal investigator to the undergraduate student, regardless of location. (The e-science folks refer to this as a *collaboratory*.) In this layer, permissions are set to control access to the various areas of the ELN. Provenance is recorded—that is, how the data was collected, what was done with the data, when things were done, and by whom—to validate that the different steps of each experiment were performed as assigned. The principal investigator is able to monitor the progress of each worker and also the entire project from his or her computer.

All documentation relating to the research is organized and resides in the people layer. Metadata with a subject-specific vocabulary facilitates searching for documents and data files within the ELN.

There are many advantages to implementing an ELN. Used properly, the system should facilitate the acquisition and sharing of data and related information as well as the management of the collaborative work. More specific advantages, depending on the discipline, size and complexity of the research project, can include the following:

- Supporting data curation;
- Providing a means for passive and active communication with colleagues, regardless of time zone;
- Reducing paperwork;
- Incorporating metadata and supporting vocabularies to provide enhanced searching capabilities;
- Addressing regulatory requirements (e.g., drug and medical device regulations, patents, human and animal use protocols, and safety mandates);
- Accepting any type of data needed, and scaling to incorporate very large datasets;
- Tracking the provenance of data;
- Providing user authentication and authorization; and
- Providing libraries for documentation.

Implementing ELNs

Sweden's Karolinska Institute, a medical university, started providing an ELN, iLabber, to its researchers in 2011. Within six months, 500 researchers were using it. The successful implementation of the ELN resulted from not charging for use of the system, offering one-on-one demonstrations of how it would benefit the researchers, choosing a flexible system to accommodate the institute's clinical and epidemiological research, and having someone who understands medical research act as a liaison between the IT Department and the researchers (Bjorkdahl 2011).

In the United States, a pilot study was conducted recently at the University of Wisconsin to compare two ELNs, eCAT and CERF (now Irisnote). Fifty-five researchers (mainly graduate students) from the College of Agriculture & Life Sciences, the School of Engineering, the School of Medicine & Public Health, and the College of Letters & Sciences participated in the three-month study. Training was provided, and surveys were administered before and after the study was conducted. The researchers favored eCAT because they felt it was the easier system to use. The university is developing a business model for ELN use that addresses technical infrastructure, administration and support issues and contains a cost estimate (DoIT Academic Technology 2012).

The U.S. National Institutes of Health (NIH) conducted a similar study using Sparklix, CERF (now Irisnote), and LabArchives. The study participants preferred LabArchives over the two other systems, but those who responded to the post-study survey also indicated that having one ELN system for all types of research within NIH was not appropriate (NIH 2011).

At the University of Utah, a virtual workspace was created for clinical researchers by the Center for High Performance Computing. In addition, REDCap (Research Electronic Data Capture), an ELN developed specifically for clinical studies, was introduced in 2009. As of 2012, approximately 1,100 researchers working in 350 research groups were using REDCap. That same year, a campus-wide survey was conducted to assess researchers' knowledge of, and interest in, ELNs. The overwhelming result was a desire for additional information, but the survey also found that respondents were not willing to pay (or were willing to pay very little) to implement and use an ELN.

In New Zealand, the University of Otago is conducting a pilot study of eCAT in five departments of its Division of Health Sciences. Responders to the pre-study survey said they were not currently using an ELN because they had not found a good product. Most also said they would not pay, or would pay very little, to implement and use an ELN (University of Otago 2012).

Selecting an ELN for researchers can be problematic for a number of reasons. First, there are numerous products available, and new ones are coming on the market daily. Second, different research disciplines do not necessarily require the same features. Additionally, campus-wide implementation requires the involvement of IT personnel, the cost can be significant, and questions about how the cost will be paid and by whom must be resolved. A team to provide support and training may be required as well.

Librarians can play a role in implementing ELNs at their institutions. Librarians can serve as liaisons between the IT Department and researchers, facilitate the selection of a product or products to be tested, oversee the testing phase, and educate researchers on the benefits of ELNs.

Repositories and ELNs

Librarians can also help build a bridge between developers of ELN software and developers of repository software. Librarians started building institutional repositories in response to the high cost of journal subscriptions. Researchers are expected to deposit their publications in their respective institutional repositories (depending on copyright and contracts) for all to access. Both open source and proprietary software have been used in the development of repositories.

With the growing demand to make research data accessible, librarians started restructuring institutional repositories to accept data. In addition, scholarly societies and government agencies have been developing subject-based data repositories. Some have been around for a long time—the Cambridge Crystallographic Data Centre has had a data repository, Cambridge Structural Database, for nearly 50 years, while the Interuniversity Consortium for Political and Social Research (ICPSR) data repository has been in existence even longer.

To facilitate the discovery of subject-based data repositories, librarians at Purdue University and Pennsylvania State University collaborated in the development of a searchable list, Databib, that contains more than 500 data repositories worldwide. Thomson Reuters is collaborating with ICPSR to develop a Data Citation Index, which currently indexes 70 data repositories. It will take time to work with the many repositories in standardizing metadata and technology to integrate with the Thomson Reuters software.

This poses a problem: developers of repository software and ELN software have been working without consideration for interfacing the two systems. ELNs have repositories for managing data as research is being conducted, but they are not for long-term archiving. A technological bridge needs to be built to enable the seamless transfer of research data and its related documentation from ELNs to data repositories. Librarians can play a role in building this bridge by facilitating conversations among the parties involved, pushing for standardization, and even developing the required software. **SLA**

REFERENCES

Bjorkdahl, C. 2011. Three Swedish Universities Adopt Centralized ELN to Advance Academic Research. Case study. San Diego, Calif.: Accelrys.

Do-IT Academic Technology. 2012. Electronic Lab Notebook Pilot Project. Project overview. University of Wisconsin-Madison: Division of Information Technology.

Lysakowski, R. 1997. The Collaborative Electronic Notebook Systems Consortium. Paper presented at the 19th Annual International Conference of the IEEE, Chicago, Illinois.

Nehme, A., and R. A. Scoffin. 2006. Electronic Laboratory Notebooks. In *Computer Applications in Pharmaceutical Research and Development*, ed. S. Ekins and B. Wang. Hoboken, N.J.: Wiley & Sons, Inc., 209-227.

Rubacha, M., A. Rattan, and S. Hosselet. 2011. A Review of Electronic Laboratory Notebooks Available in the Market Today. *Journal of Laboratory Automation,* 16(1): 90-98.

University of Otago. 2012. Electronic Laboratory Notebook Pilot. Project overview. Division of Health, University of Otago, Dunedin, New Zealand.

10 Questions: Joy Banks

THE SOUND OF SILENCE IS MUSIC TO SOME LIBRARIANS' EARS, BUT JOY BANKS GETS TO ENJOY TWO CONCERTS A DAY—AND THE VIEW ISN'T BAD, EITHER.

BY SUZANNE ARIST

Say "Central Florida" to most vacationers, and their thoughts will turn to theme parks—Walt Disney World, SeaWorld, and Busch Gardens, to name just three. But central Florida also boasts a historic garden designed by famed landscape architect Frederick Law Olmsted Jr. that features more than 50 acres of ferns, palms, oaks and pines. These trees form a lush backdrop for spectacular displays of color, as azaleas, camellias, irises and other flowers create an ever-changing landscape of natural art that excites and inspires visitors of all ages.

The garden's many delights include a sunset overlook, bog observatory, Japanese peace lantern, and reflection pool. But the highlight of the garden is a 205-foot tower that houses a research library staffed by SLA member Joy Banks, who describes her position as "one of the coolest jobs in the world."

Oh, and the tower also features a magnificent 60-bell carillon—one of only about 600 carillons in the world—that plays concerts twice each day.

Joy knows full well that the carillon is the main attraction of the tower, but the library is a treasure in its own right. It houses one of the world's largest collections of materials related to carillons, such as recordings on audio reels. In a separate room is an archive with historical items about the garden and its founder, Edward Bok, a Dutch immigrant who wanted to create a place that would "touch the soul with its beauty and quiet."

Information Outlook interviewed Joy in February, as the azaleas in the garden neared their peak blooming season. The interview touched on her job at Bok Tower Gardens, her library and SLA experience, and her advice for new information professionals who want to work in museum settings.

SUZANNE ARIST is a reference librarian in Illinois. She writes for the SLA Illinois Chapter's *Informant* and other publications.

You began volunteering with SLA during library school. What attracted you to SLA, and what did you learn from your volunteer work?

I belonged to both the SLA and ALA student groups at Clarion University of Pennsylvania. I think my decision to run for office with SLA was based purely on timing, but I knew that my career goals were more in line with the tenets and professional makeup of SLA.

I really enjoyed my time serving with the SLA student chapter. We planned a few field trips to local special libraries, and I think those trips really showed me what an open and helpful profession I was entering. When my student memberships were expiring, I had to choose between SLA and ALA, and I went with SLA because I felt members received a better value for the cost of dues—something I was especially cognizant of, since it was coming out of my own pocket.

You've served as president of the Florida & Caribbean Chapter, and last year you ran for a seat on SLA's Board of Directors. Why do you choose leadership roles?

I've been serving in various leadership roles since middle school, so it seemed natural to get involved in leadership with SLA. At first, I was merely looking for ways to boost my annual report in my academic position, thinking ahead toward my potential for promotion. I continued because I realized what an asset SLA was for my professional career.

It actually took me a few years to get plugged into a leadership role in SLA after I made the shift from a student member to a full member, but persistence paid off in the end. I was really honored and rather surprised when I was asked to run for the board, and I found the experience very insightful.

What challenges did you face as chapter president, and which ones do you think you addressed successfully?

Like many chapters and units, the Florida & Caribbean Chapter continues to face challenges engaging our remote members and finding money for programming and outreach to supplement the allocation funds we receive from SLA headquarters. Our chapter covers a vast geographic region containing several time zones and multiple languages, which compounds our issues and complicates potential solutions.

During the last two years, our chapter has been participating in the SLA Loyalty Pilot Project. This has helped us more clearly identify our problems, but we are still working on finding effective solutions for our members. I'm not sure we've completely resolved the engagement and money issues, and it will probably be a number of years before we effect a change in the culture of the chapter to help re-energize our members.

We've been working on fostering relationships with vendors, but until we have a more active and engaged group, we have little to offer for vendor partnerships. Without supplemental income to help us plan relevant events for our remote members, we have little to offer our members to help foster feelings of belonging and purpose for our group.

It's hard to deal with such complex issues in the limited time a president has, but I think we started to build a platform of change for the next several years based on the leaders we recruited. In the meantime, we continue to pursue every member who shows interest in being involved and are trying to organize more low-key regional gatherings to meet our members where they are.

The landscaped trees and flowers of Bok Tower Gardens surround the "singing tower" where Joy Banks spends her days.

For the past two-plus years, you've been the librarian at Bok Tower Gardens, a National Historic Landmark that features a 50-acre landscaped garden, Mediterranean-style mansion, nature trail, tower and carillon. Why did you become interested in this job, and what do you do in a typical day?

I came across this position purely by happenstance. I was giving a presentation for the Florida Association of Museums and found the position listed on their job board. Even though I had been living in central Florida for a number of years, I had no idea that Bok Tower Gardens even had a library. I met all of the qualifications for the position—an accredited master's degree in library science, cataloging experience, a musical background, and knowledge of a foreign language—so I thought I would give it a go. I've always been interested in highly specialized libraries, and this one was just too interesting to overlook.

I'm not sure I've had a typical day since I started. Generally speaking, I oversee the Anton Brees Carillon Library, one of the world's largest collections of carillon-related materials, and the Chao Research Center Archives, a collection of historical items generally related to the gardens and the Bok family. As the first professional librarian at the gardens, I've had my hands full updating the standards that were implemented for the library collection in the 1970s and trying to develop best practices for the archives. Most of the reference questions I receive are by phone or e-mail, but the collections are available by appointment, so I do have the occasional in-person researcher.

I try to serve as a resource for local library students. I often give interviews about working in special libraries, lead tours so the students can see what being a solo in a special collection is like, and offer opportunities to volunteer to gain experience working in collections. I also oversee several volunteers who are assisting with the organizing and processing of materials in both the library and the archives.

I'm responsible for all of the cataloging in the library, most of which is original, and any metadata creation for the archives. I have also been actively seeking grant funding to assist us with several of our larger projects, like digitizing a number of historical carillon recordings on audio reels and processing several of our hidden paper collections. Since the collections are housed in the Singing Tower at Bok Tower Gardens, I also give the occasional tour for special visitors, and I sometimes make unexpected

Peak bloom season at Bok Tower Gradens is February-March, when the flowers explode in color.

appearances in guests' photographs when I leave the tower for lunch. I only work 20 hours per week, so all of this is quite a bit to fit in, but I love the work and the setting is hard to beat.

Can you hear the "singing" in your office, and if so, does it bother you?

This is one of the most common questions I get. I can't really hear the bells in my office—there is quite a bit of rock between me and the bells, so the sound is basically just a faint melody floating through the air. The farther down in the tower you go, the less you hear the bells. When someone is playing live upstairs, I tend to hear the action of the keyboard's foot pedals, which is a bit odd and thumpy sounding.

On a related note, we have a practice carillon in the tower that is basically a replica of the carillon keyboard but attached to a xylophone-type of instrument rather than the bells. (This also answers the question, how do carillonneurs practice without bothering the public?) The practice room is just above me and actually vents into the library space, so I get little "mini concerts," which usually consist of the same three bars of music over and over again as performers perfect their technique. I just try to pretend it's my own personal music box, and that generally eases my nerves so I can enjoy the private concert.

I've heard that the carillon is an acquired taste, but I really do enjoy the sound. I have fun visiting carillons on trips, and last year at SLA 2012 I had the opportunity to visit two of the four in the Chicago area.

Our carillon at Bok Tower Gardens is an exceptional instrument with a wonderful tone. It also helps that we usually invite the best carillonneurs to perform on the instrument. It only gets really annoying when we give tours to local high school students—there are several days of teenagers banging out "Mary Had a Little Lamb" and "Chopsticks."

In your biography for your SLA Board of Directors candidacy, you wrote that you have "one of the coolest jobs in the world." What makes it so cool, and what type of library job do you think might be even cooler?

As far as I know, I'm one of the only librarians in the world who works in a library dedicated to the art and performance of a carillon. I've truly enjoyed becoming somewhat of an expert on our carillon and the other 600 or so carillons in the world and, even more importantly, on those who play and compose for the carillon. But I still have quite a bit to learn, and I rely heavily on the community of carillon professionals, who are always more than happy to regale me with tales from the world of carillons.

I also have the pleasure of working in an amazing setting—a historic carillon tower in the middle of a gorgeous garden and preserve. As a native Floridian, learning more about one of the oldest operational tourist attractions in the state has been wonderful. I've also really enjoyed working with my fellow Bok Tower Gardens employees and sharing the history of our organization with them.

I think it would be tough to beat the "cool" factor of my job, but I imagine there are quite a few special librarians out there who feel the same way. When you can combine work that you love with an interesting topic and an appreciative user group, getting up in the morning becomes quite a bit easier.

Before accepting the job at Bok Tower Gardens, you worked at Florida Southern College. What did you do there, and why did you leave?

I was the catalog librarian at Florida Southern and oversaw the cataloging and physical processing of all items except serials. I also had the opportunity to help lay the groundwork for the metadata standards for the library's digitization program, an experience that was extremely valuable to me as a professional. In addition, I was involved with the Honors Program on campus as chair of the faculty committee for that program. I enjoyed the challenges of my work at FSC, but when I saw the job at Bok Tower, I couldn't resist applying for such a unique opportunity right in my back yard.

Day in and day out, how do you stay informed about library issues? Do you follow any blogs?

I don't really follow any library blogs on a regular basis, though I will read recommended blog posts when I think they may be relevant to my job. I subscribe to a number of discussion lists, which helps me keep up with current cataloging and archival standards. I find that the format of discussion lists fits my work flow a bit better and helps me stay on task while at work.

As a part-time professional, I don't have time at work to do much other than my prescribed tasks, and when I'm at home, I find my interests are drawn to crafting and quilting sites. While I love my job and am passionate about my work, I am also thankful for a position that allows me to leave my work in the office at the end of the day and enjoy the things I love outside of my job.

The estate at Bok Tower Gardens is a popular tourist attraction.

The bio you wrote for your SLA Board of Directors candidacy says that you "always enjoy bringing a little order to chaos." In what areas of life and work have you found it easiest to bring order, and in what areas have you found it hardest?

For me, I think it's always relatively straightforward to bring order to inanimate collections and generally pretty challenging to bring order to anything that involves other people. In the two positions I've had in my professional career, both came with huge initial hurdles. At Florida Southern, I walked into a cataloging backlog that included about three years' worth of unprocessed new book purchases. I truly enjoyed the challenge of organizing a workflow that would effectively process such a large number of items in the least amount of time possible.

At Bok Tower Gardens, I stepped into a position where a library had existed for about 40 years, but I was the first information professional hired to manage the collections. I've been working to develop policies for the collections in both the library and archives so we have a clearer plan for the development of our holdings and the place they have in the future of the organization. The biggest discovery I had from these rather intense experiences is that I really love writing policy, as strange as that may seem to some.

The best part of organizing all of this stuff is that none of it tends to talk back. If I decide to completely rework the organization scheme of a particular collection, the folders generally go back into their boxes or drawers without much complaint. Trying to organize a group of people, however, is much more complicated. They tend to be much more vocal when you are suggesting change.

What advice would you give a library student who wants to work in a museum-type setting like yours?

The best advice I could give any student would be to keep your eyes open for positions in all information arenas, which is one of the reasons I also suggest joining SLA. In finding this position, it was very helpful for me to engage with museum professionals and learn more about the concerns of their field. While there are many similar issues that libraries, archives, and museums face, they all have a slightly different primary focus for their collections.

Generally speaking, libraries often focus on circulation and education, archives are concerned with preservation and conservation, and museums combine tenets of both with the addition of interpretation and display. That's not to say that one field never crosses over into another—libraries often mount exhibits, archives often host educational opportunities, and museums often have lending libraries. By educating yourself about all three fields, you are better able

The bell tower is nestled in rolling hills of citrus.

to bridge the professional lines and offer unique perspectives.

I also think it is extremely valuable to visit as many different types of collection facilities as possible to learn the range of information careers available. Take advantage of online learning experiences that many organizations offer to boost your understanding of an issue not covered in your degree program. Talk to professionals in fields that interest you. Information professionals are a rather close-knit group of individuals, so talking to one of us will often open doors to a dozen more.

That's one of the primary reasons I continue to remain loyal to SLA. It is one of the few associations in which I can meet other information professionals who are involved with just about every type of collection in the world. SLA has one of the broadest networks of professionals who can support me in my day-to-day work. **SLA**

Social Media Strategies and Your Library

GIVING UP CONTROL AND FOCUSING ON CREATING AN AUTHENTIC RELATIONSHIP WITH CLIENTS AND FELLOW LIBRARIANS ARE CENTRAL TO CREATING AN EFFECTIVE SOCIAL MEDIA STRATEGY.

BY KATHLEEN BROWN, JD, MSLIS, STEVE LASTRES, JD, MLS, AND JENNIFER MURRAY, JD, MLS

Social media are now prevalent means of business communication in addition to being popular tools for personal use. Social media such as Facebook, LinkedIn, Twitter, Pinterest, and Ning turn simple dialogue into interactive conversations by allowing us to connect with our clients, patrons and others. Moreover, these conversations can become even more complex because we can use social media for both personal and professional communication.

Information professionals looking to create social media rules for themselves and their organizations will find several sources they can consult. One such source is Charlene Li, author of *Open Leadership: How Social Technology Can Transform the Way You Lead in the Future*. According to Li, the "biggest indicator for success has been an open mind-set—the ability of leaders to let go of control at the right time in the right place and in the right amount."

Using this and other themes from Li's book as well as examples from our own organizations, we will demonstrate how we have successfully participated in an open dialogue with our stakeholders. We hope this information will encourage readers to create and implement a social media participation strategy that embraces the idea of open leadership in a way that suits the needs of both the librarian and the employer.

Practicing Open Leadership

Before applying the concepts of open leadership to social media, it is important to understand this distinct approach to leadership. Li defines open leadership as individuals or organizations "having the confidence and humility to give up the need to be in control while inspiring commitment from people to accomplish goals." To yield maximum benefit from this approach, you must have an authentic relationship with your employees, clients, patrons and followers.

Establishing an open leadership relationship with these stakeholders necessitates practicing five rules of open leadership: (1) respecting the power that your patrons and employees have in their relationship with you and others, (2) sharing content constantly to assist in building trust, (3) nurturing curiosity and humility in yourself as well as in others, (4) holding openness accountable, and (5) forgiving the failures of others and yourself. The budding relationships that will flourish as a result of applying these rules will reward each party involved.

With these principles in mind, you can use social media to empower yourself as a leader. The first step to becoming an open leader through social media is to create your own social media strategy. (Remember, this strategy can be created at both the professional and personal levels.)

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First, **identify your social media goal.** Determine what type of social media user you will be. Will you participate in dialogue, follow, or innovate? The Five Types of Social Media Users chart (Figure 1) can help you learn more and decide what type of user you would like to be. You also can review the Social Media Engagement Pyramid (Figure 2) to aid you in this decision.

Second, **know your audience.** With so many people online, and with so many channels available, you need to know your audience. Fortunately, many social media technologies allow you to see who your audience is. In some cases, it may not be your traditional law library audience.

For example, the PLL-SIS LinkedIn communities are attracting professionals outside of law librarianship who are interested in competitive intelligence, knowledge management, and records and information management. Consequently, these communities are benefiting from several different points of view, thereby enriching their participants with a broader.

Whether you intend it or not, your organization's leaders are part of your audience. As a result, you must know your organization's policies and practices (in addition to its people) if you hope to succeed with social media.

For example, Katie Brown has learned from her work in an academic library that in certain environments, you may be restricted in what you can say through social media channels. Because some academic law librarians tweet as the "voice" of the law library and not under their own name, it is important that the content they provide reflect the views of the university.

Ultimately, the success of your social media strategy relies on organizational support (even if it is a personal strategy). Take care to stay away from subject matter that could be considered taboo by your organization, such as politics, ethics, or confidential matters related to your employer, employees or clients.

Third, **be a leader *and* a follower.** The benefit of following others is that it allows you to gain insights into, and access to, the content they are following. Followers can also benefit from commentary provided by other followers in the audience. Following other social media users will provide you with synergy for your own social media use.

Fourth, **share on a regular basis.** Leaders are accountable to and respect their followers. By sharing frequently with your social media followers, you will gain their trust and loyalty. Understand, however, that failure and errors are inevitable given the instantaneous nature of social networks. It is important to be humble and admit when you are wrong to maintain the trust and loyalty of your followers.

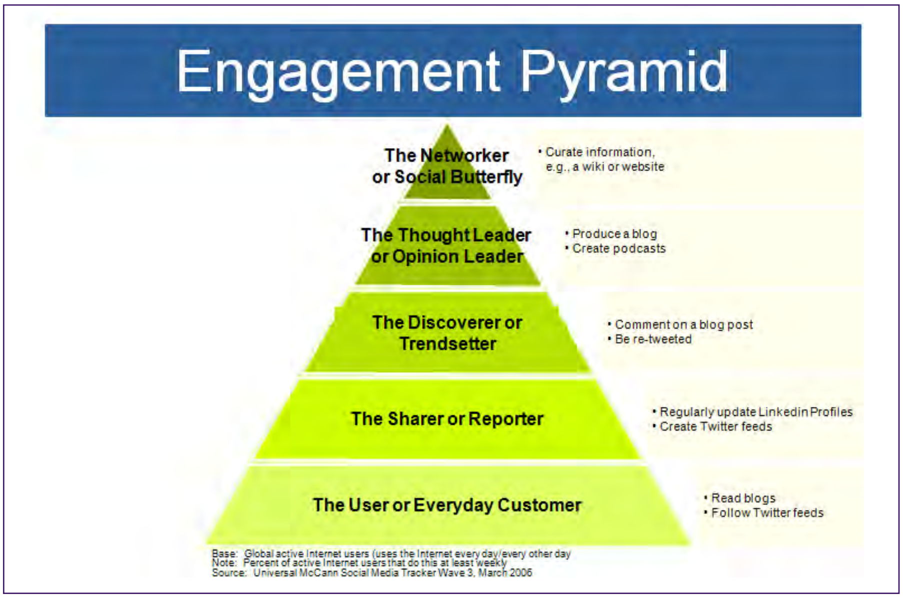
Figure 1

5 Types of Social Media Influencers

The Networker (Social Butterfly)	has the biggest contact list and is found on all platforms. He or she who knows everybody and everybody knows him or her.
The Opinion Leader (Thought Leader)	can become the best ambassador of a brand. He or she has built a strong authority in his or her field through credibility. His or her messages are most often commented on and re-tweeted.
The Discoverer (Trendsetter)	is always the first to use a new platform. Constantly on the lookout for new trends, he/she becomes the "hub" in the sector.
The Sharer (Reporter)	distributes information to the bloggers and journalists through specialized webzines. He or she usually amplifies messages.
The User (Everyday Customer)	represents the regular customer. He or she does not have a network as large as the networker, but his or her network remains equally important.

Footnote: Five Types of Social Media Influencers
http://socialmediatoday.com/iansmith/448280/five-types-social-media-influencers

Figure 2



Overcoming Barriers

At this point, you may feel that a social media policy is not practical for you because of barriers within or outside your institution. If the barriers are within, attempt to educate your internal audiences about social networks, including how they work and the value they can add. Consider providing training that helps your patrons or users develop their own social media contacts and expand their social network. For example, if you are a law firm librarian and your lawyers are following your Twitter presence, educate them about tools such as HootSuite, which enables users to schedule tweets.

Another potential barrier is the possible misuse of information shared through social media. We must be keenly aware of the networks we use, the content we share, the audiences with whom we share information, and the restrictions our workplaces impose. By communicating to your organization that you understand these concerns and intend to abide by any policies, you can go far to quell concerns.

Using an open social media strategy does not mean that you must share all things at all times. What it *does* mean is that you need to be authentic and honest with the comments you share. To fully understand how open leadership through social media can work, consider the following examples of how the authors use social media at their respective libraries.

Katie Brown's organization, the Oklahoma City University School of Law, uses social media tools for communication, instruction and assessment. These tools are very important, as the library is open to students and faculty 24 hours a day. Daytime employees rarely see the library night staff, and vice versa.

To foster important work relationships and communicate information from one shift to the next, library staff members use Gimlet, a reference desk tool. Gimlet allows librarians to track and tag questions, search answers, and run reports.

All library staff have their own login accounts and are expected to contribute to and review Gimlet comments during their shift. The law student reference assistants use Gimlet as a daily learning tool, reading it at the start of each shift. As the student assistants receive questions and add their responses, the librarians who supervise them can identify gaps in the assistants' legal research knowledge and arrange for additional training where needed. Reference librarians also read Gimlet to learn about pending coursework and scholarship projects for the school's primary users. The evening part-time circulation assistants, meanwhile, use the tool to provide guidance to student patrons after the reference librarians have left for the day.

Ning, another social media tool used at the library, allows groups to create a community on a social Website. Ning is used primarily by the Access Services Department as a communication tool between managers and staff who work limited or non-overlapping shifts. Some individuals in the department start work at 7:00 a.m.; others end their shift as late as 11:00 p.m.

Ning aids the department managers by providing them with a central place for sharing instructions with their part-time staff. This saves them a significant amount of time because they do not have to send a series of e-mails or set up meetings with each member of the department. It is also convenient for the staff because they can respond to or ask questions on the platform and know that everyone will receive the same clarification. The search feature in Ning gives night and weekend employees access to instructions for tasks that are not performed regularly, obviating the need to contact a manager because they forgot how to perform the task.

At Steve Lastres' firm, Debevoise & Plimpton, librarians blog internally to demonstrate expertise in their practice areas or technology applications. Externally, some Debevoise librarians tweet under pseudonyms. Their Twitter profiles do not mention Debevoise or their job title, in keeping with the firm's social media policy.

Steve himself tweets under the PLL-SIS handle and contributes to a blog titled *On Firmer Ground*. He generally tweets three times a day using HootSuite, a Web-based tool that enables him to manage all of his social networks through a central dashboard. As a result, he can choose to publish tweets or retweet in multiple social networks and under various handles.

Steve and Jennifer Murray follow people on Twitter, but they only tweet at conferences. They find that tweeting enriches the conference experience and allows them to participate in the dialogue about a particular speaker or event. Sometimes this dialogue can continue well after the event ends.

At the Oklahoma City University Law Library, both reference and access service librarians tweet on behalf of the library about legal issues, court decisions, law school events, instructional training, and the temperature and noise in the library. In keeping with the goal of using Twitter to help build relationships with patrons, they only follow students who follow them. When patrons complain about such things as library noise or temperature, the librarians use Twitter to try to alleviate some of these frustrations and let their followers know about areas in the library that may be more conducive to studying.

The authors realize that these activities are not as easy to perform as they may seem. At the Maricopa County Superior Court Law Library, for example, it took Jennifer Murray more than five years to obtain approval to establish a library blog. After an institutional leadership change occurred, she was able to work with a more technology-friendly administration that supported the creation of a hosted blog, which is now thriving.

Becoming Transparent

Leadership is not crafted by those at the top alone; instead, it is created by everyone involved in the relationship. Practicing open leadership by using social media can create an environment where untraditional leaders can bloom and followers can have the opportunity to teach leaders. While leadership means having followers, you cannot force the issue—you must encourage people to follow you because they find value in what you are communicating.

To be an effective social media leader, become open and transparent so you can immerse yourself in the relationship. Ultimately, being a social media leader is easier than it seems. You just need to be credible, be authentic, and be yourself. **SLA**

Social Information Tools and the Future

LOOKING AT SOME CURRENT TRENDS AND DEVELOPMENTS CAN HELP PROVIDE A SENSE OF HOW SOCIAL TOOLS WILL EVOLVE IN THE YEARS TO COME.

BY SCOTT BROWN, MLIS

Researchers and information professionals are increasingly realizing that social tools are now an integral—and unavoidable—part of our world and work. In my workshops on social tools, however, I continue to find differing levels of familiarity and comfort with them. While those of us who are more knowledgeable about this topic wonder whether tools like LinkedIn will even be around in five years, the most pressing question that seems to come up in my presentations is fairly basic: In an information world where new social tools are released frequently and where even well-known tools like LinkedIn change regularly, how can information professionals keep up with the evolving and changing nature of these resources?

This question is not easily answered, but I can see some trends and patterns that might foretell where social tools are going in the near future. In this article, I'll take a brief look at some of these trends and patterns and the impact they might have on social tools, discuss how new social tools could tie into research, and describe an approach you can use to track social technologies. I'll also provide you with some resources that can help you stay on top of trends and developments in this area.

Current Developments

To get an idea of where social tools might be going, let's look at some current examples that point to possible future trends. What follows are not predictions—I don't claim to have a crystal ball in this space, and I think social tools and their applications are particularly unpredictable.

Content aggregation and proprietary products incorporating relevant social information. Increasingly, proprietary tools are incorporating information available from social tools like LinkedIn and Twitter. One example is FirstRain, which aggregates business news and company intelligence and also pulls in selected tweets and other information on companies, products and competitors. Tools like FirstRain come as a stand-alone product or with the option for integration into a company's customer relationship management (CRM) or SharePoint system. I believe we'll see further integration of social information into both content aggregation tools and proprietary information sources.

Incorporating social functionality into vendor tools. A related trend is the incorporation of social functionality into proprietary information sources.

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By *social functionality,* I'm referring to features such as ratings, comments and tags. Library catalogs and content management systems have been adding these elements and, in some cases, incorporating the information they contain into the knowledge base.

For example, tools like Intelligence Plaza allow an organization to acquire and manage internal and external documents, links, and information and also offer commenting, bookmarking and tagging features. The vendors of such tools recognize the value of these features and understand that users expect this kind of functionality, no matter what tools they are using.

What does this mean for special librarians? I believe social functionality will provide fascinating views of internal data—for example, it will identify the highest- and lowest-rated content in an organization. There will be a variety of ways to mine internal data thanks to social functionality.

Implementing the idea of social capital. Social capital is a term with several definitions. I define it as *gaining recognition as an expert in one or more topic areas within the context of social tools*. Simply put, people who share credible and authoritative information and insight regularly through social tools gain recognition and social capital within the context of those tools. (Does this sound like you?)

There are several different manifestations of social capital. LinkedIn Groups, for example, use the concept of "influencers" and bring to the forefront those people who have been most active in a group over a given time period. On sites like HASTAC, a blogging/posting site focused on the humanities, arts, science, and technology, participants who post often gain social capital, and this capital is viewable by other users of the site. This feature allows users to quickly identify experts in a topic area and boosts the reputation of those experts.

Specialized Social Networks

Tools like Facebook and LinkedIn are all-inclusive—anyone can join and participate in discussions on any topic. The emergence of more focused social networks (such as HASTAC) indicates a desire for smaller and more topic-oriented communities.

While I could cite several examples of specialized social networks, I'll share two that operate in the same industry. CapLinked and AngelList both focus on venture capital and specifically on providing a forum for funders and companies to connect with each other and identify investment opportunities.

I think specialized networks such as these will prove to be excellent, targeted sources of information for researchers. They will be invaluable to people looking for in-depth information on an organization or individual that is active in a particular area. The challenge for researchers will be to find the right specialized social networks for a particular research area.

Developing social products. The concept of crowdsourcing—using a group of people to interact around ideas, problems, and solutions—has been around for many years. Some organizations are adopting the idea of crowdsourcing product development and improvement, using a particular set of social tools to gather and rank ideas for creating new products or making existing ones better.

On the leading edge of this idea are sites like Kaggle, which is based on competitive crowdsourcing. Kaggle specializes in crowdsourced competitions over data science issues. The site allows organizations to post their data and issues they are trying to solve; scientists and teams then compete to provide the best solution. The person or team that submits the preferred solution is awarded a prize, which can run anywhere from $500 to $3 million.

For information professionals, these types of information-gathering mechanisms can be useful for identifying product and industry "pain points." For researchers, these tools create some visibility around leading-edge development practices and next-generation products and challenges. If for no other reason, these types of resources are fascinating to observe.

The Emerging Future

I've offered some insights here, but I will save myself the embarrassment of attempting to use them to predict the future of social tools. I think some of the trends I've discussed will influence what we see in social tools over the next few years, and I think mobile access and mobile applications ("apps") will also have a strong impact on social tools. While you will continue to see more apps for accessing online social tools, I think you'll see more social tools available solely through apps.

One example that exists today is Path. Path is an interesting combination of a limited social network (you only connect with a set number of people), "lifecasting," and a location app like Foursquare. Path is available only as an app; there is no browser-based version.

At this point in time, it's a bit difficult to envision how researchers might mine the increasing amount of information that will be accumulated by social mobile apps in the months and years ahead. I think it will be important to keep a close eye on the apps space and especially on opportunities for finding important business and industry information available through mobile apps. This advice is true for social tools in general.

It's a bit difficult to envision how researchers might mine the increasing amount of information that will be accumulated by social mobile apps in the months and years ahead.

Take a strategic approach. Because social tools change so rapidly (even well-established tools like LinkedIn), it's difficult to develop specific search and mining expertise with any particular social tool. Taking a strategic approach to social tools—understanding how common groups of tools (like social networks) work, and the types of information you might use each tool to find—will help you adapt your skills to any new tools that emerge.

An example of a strategic approach is to look at a tool and understand the specific or unique information it can offer. Who participates in it? What kind of information does it provide, or what kind of information might you try to obtain from it? Asking these kinds of questions will help you understand the tool before you even start and will help inform your search.

Then, dive in. Start playing with it. Try everything and see what you can discover. What kinds of functions and capabilities does the tool offer, and are they what you expected? What's interesting and unique? This kind of "hands-on" approach will help you become acquainted with the tool and evaluate its usefulness.

Check regularly on "old" tools. I highly recommend that you revisit tools you've reviewed in the past, even if you didn't find them very useful. I'm often surprised how much a tool has improved since the last time I looked at it; I am also regularly surprised by new features in tools like LinkedIn. Of course, as you check on old tools, you'll find that some still aren't very good.

It can be easy to search the same tools over and over again. It's also easy to assume that since you're searching the "major" tools like LinkedIn, you're getting the full picture. I encourage you to take a look at other tools, especially those that are popular outside the United States like Mixi, which is being used by millions of people in Japan. Even if you don't know the language of a particular tool, check it out and research it just to see what it offers and how it is being used.

Take a sensible approach. One thing that keeps me from being overwhelmed by the process of tracking social tools is maintaining a common-sense perspective. Here are some questions you should ask yourself to help maintain your sanity:

- Right here, right now, is this tool useful for my research? If the answer is no, then move on.
- For the research I'm doing, do social tools make sense? If the answer is no, then don't include social tools in your research.

Staying Aware of Tool Trends

Although I'm interested in social tools and find them useful in many respects, I'm not one of those people who can keep on top of every new social tool that comes out. I find it helpful to use certain resources (listed later in the article) to keep up with new developments in social tools. I also follow two pieces of advice I will pass on to you:

1. Just as it's almost impossible to keep track of every new social tool that comes out, it's even more impossible to read every single article being written on social media tools. As a result, I've become very good at scanning headlines, sources and articles to identify those I should read further. You, too, will get a sense of this as you become familiar with the resources below and what's being written about social tools.

2. If I see something mentioned a few times, I know I need to check it out. Social media, by its nature, has a way of recirculating news and information that's getting attention. If I see a tool being mentioned in a few different contexts, it's time for me to go take a look. Yes, there are some tools I review on first mention because they're really interesting or unique or they're creating a lot of buzz, but as a general rule, I take a closer look when I see a tool coming back into my "awareness zone" again.

In addition to following these tips, I recommend you subscribe to the resources below. I subscribe to a lot of resources because I find that social tools are being discussed in a lot of different forums. The resources below are not definitive or complete, but I've found them to be particularly valuable.

- SmartBrief on Social Media: I find this to be a good source for keeping up to date on social trends (rather than individual social tools).
- Mashable Social Media: Mashable takes a leading-edge look at the social media space and new and emerging tools. This site often provides great summaries of new tools and new developments in existing tools.
- Social Media Examiner: This resource focuses on the "business" side of social media and how to use it effectively.
- Social Media Today: Social Media Today provides a comprehensive look at the social media space. One of the more helpful features of the site is that it breaks out social topics into sub-topics such as Twitter, strategy, search, and metrics.

There are many other resources out there, but these give me the best news and perspectives on working with social tools. Of course, I also utilize my Social Information Group Twitter feed to share information on developments, case studies, and trends in social tools.

As you spend more time with social tools, you may find (as I did) that you really enjoy using them. At a basic level, I love the experimental and playful nature of them; as a researcher, I am regularly surprised by the information that I find. It's amazing and delightful to discover a new and unique tool or a new and valuable feature of a tool I already know. These are the things that keep me deeply enthusiastic about social tools and excited about how they will continue to evolve. **SLA**

Becoming Partners in Success

By planning, building relationships, and communicating, information professionals can help achieve success for their clients and themselves.

BY DEBBIE SCHACHTER, MLS, MBA

In the work world's new "normal," there is a growing need to focus on actions that will bring us stability and consistency rather than expansion or growth. This is a form of "back to basics" that all of us—from solo information professionals to managers of information centers—can practice. Back to basics includes planning, relationship building, and communication.

Planning will help you focus your activities on what really matters. With a good plan, you can create strategies to address longer-term trends and identify realistic goals to achieve. For example, your plan may call for refocusing through retrenchment, something that has occurred in many information centers over the past few years.

To be effective, you should develop and share your plan with your superiors as well as your staff. The plan should show that you are taking all factors into consideration, including the organization's strategic plan, the external environment, available resources, and evolving user needs.

Plans can also help convey to your users how the value of your services and skills endures through periods of change. This means you need to be at the forefront of emerging trends and demonstrate how you can apply new technology, research and communication to help your organization succeed.

The planning process will allow you to examine carefully where you have been successful and where you have not, whether with relationships, services, or personal development. One key to success is to be brutally honest with yourself about what works and what doesn't. In the work environment, this includes clearly evaluating what you should spend your time doing, based on the return to your users and to the larger organization.

Another imperative of getting back to basics is **building relationships**. Relationship management has been a focus of marketers and sales professionals for years as more products and services have become commoditized, meaning consumers can easily switch brands to find products of similar quality and with comparable features. Product manufacturers began to realize that creating a more favorable perception of their brand meant creating an emotional connection between consumers and their products. For example, when you see an advertisement showing how carefully a food manufacturer selects ingredients, you naturally develop a positive feeling toward that brand.

On an individual level, relationship building is fundamental to all of our work. It begins when you are being hired—a process in which you are selling yourself and also determining whether you want to form a working relationship with the people interviewing you. It continues with your supervisor or manager, your colleagues or staff, and, of course, your customers and users.

Developing professional and positive relationships enables you to create a foundation of broad support and respect that you will need to succeed in any environment. This is, in essence, the process of creating and managing your brand. With this foundation, you can open doors to scarce resources and nurture the goodwill that leads to mutual success. Building good relationships also makes it easier for people to give you the benefit of the doubt should things go awry.

Relationships are built on **communication**. The important thing to remember is that communication is not about reaching an agreement, but about *exchanging ideas* so that all parties understand the message being conveyed.

Communication is critical, whether you are dealing with small numbers of individuals or large groups. The best services or plans are useless if no one knows about them.

Communication is just one area where organizations are getting back to basics. We've seen an interruption in our progress as a profession, but as the dust begins to settle and panic budget-cutting comes to an end, we are witnessing a renewed understanding of our value.

The professionals we serve, from lawyers to engineers, from researchers to accountants, know they need effective partners to achieve success. Let's make it easier for them by listening to their evolving needs, developing plans that connect directly with their objectives, and building the relationships needed to ensure that our contributions to the bottom line are understood and valued. **SLA**

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Librarians: The Next Generation

Information professionals have an obligation to help mentor those who are new to our profession and to learn from them as well.

BY STEPHEN ABRAM, MLS

It's February as I write this column. Over the last few weeks, I have had the wonderful opportunity to speak at four LIS schools that prepare future librarians and information professionals to enter our field. It was such a treat to visit and give lectures or keynotes at the University of Ottawa, University of Toronto, Dalhousie University, and the University of Alberta.

I have also had the privilege to sit on advisory boards over the years at a few other library schools. I have visited and spoken at many more library schools and at a large number of library technician diploma programs. As SLA president, I visited a number of SLA student chapters. I've also been lucky enough to participate in a number of leadership institutes for mid-career librarians.

I mention all of this because I've had the great opportunity to be in the front row as LIS education has evolved to meet the needs of a changing future. At the outset, let me make clear that I am not one who derides new graduates or complains about the quality of LIS education. I am, frankly, very impressed by the vast majority of new students, graduates and teaching faculty. They have diverse foundations in and approaches to librarianship, they're highly committed, and they're ready to join the profession at large.

I cannot understand those who publicly complain about the quality of LIS education, disrespect their own school or education (or other LIS graduates), and provide little substantive input to LIS faculty, directors or deans or to ALISE, the Association of Library and Information Science Educators. And yet, in our profession, I hear and read this so often. Indeed, librarians have an anonymous (sorry, pseudonymous) columnist who regularly publishes evidence of her/his contempt for LIS education and serves up the myth that grads are unemployable or will fail. I know a lot of professionals in other fields—law, nursing, accounting, dentistry, and medicine—and I can't remember a single one ever complaining about being poorly prepared for work because of a substandard education.

I am appalled. From my vantage point as an informed and experienced observer, I see none of this. Indeed, I see people working hard to steer the ship of LIS education while suffering under the burden of an antiquated and less-than-visionary or inflexible accreditation system that limits innovation and experimentation.

Not Your Mother's LIS School

Library school has changed greatly since I graduated in 1980. Then again, so have the worlds of librarianship and the associated information professions. Indeed, library school has changed many times as the world that librarianship inhabits has changed.

Some fret about the evolution of core cataloging courses into a wider range of database design and metadata skills that encompass cataloging as a subset of skills. Some worry that the emerging emphasis on optional courses aligned with a student's particular needs or goals, versus a curriculum with standardized core courses, dilutes librarianship's central mandate and values.

I worry little about these developments; instead, I admire the continuing integration into the master's curricula of innovative discussions, projects, and methods designed to address the many issues that have emerged in recent times. I recall very few deep discussions about ethical quandaries during my library school days (with rarely more than a tip of the hat to confidentiality and privacy), and my technology education was pedestrian since the PC didn't exist yet and the Internet was nascent. As for the key competencies I required at work, I learned them on the job. Things like marketing, advocacy, relationship building, leadership, management—I learned these as I worked, through trial, error, failure, and practice, plus association volunteer activities.

I see all of these things in the modern LIS curricula, sometimes taught as separate courses and other times emphasized across the curriculum. I am always impressed with the students' informed perspectives on everything from social media and Occupy to hackers and Julian Assange.

The Practice of Librarianship

I'm always reminding myself that we *practice* librarianship. We're never fully finished, but every day of practice should make us better.

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Education can teach you skills and competencies, help you frame issues, and provide an environment in which you can develop your professional approach to challenges. As for the soft skills—management, leadership, communication, presenting, planning, advocacy, teaching, and so many more—that's the practice part. We get better at what we practice; what we don't practice can wither.

Education doesn't replace experiential learning. Barring differences in natural talent, those of us who've been practicing longer *should* (note that word) have refined skills. That's the nature of a profession, and professionalism demands that we encourage and mentor new entrants in our field.

The 64-Crayon Box

I use the metaphor of the 64-color box of crayons a lot. (I love the even bigger one with the built-in sharpener.) Librarianship is a very complex discipline, maybe even a science, but labels aren't important. We're a big box and can accommodate many styles and talents in our field.

There is no one route to success or a simple, long-lasting measure of competence. Those who try to build an eight-crayon set of rules for our profession miss the point—and the opportunity. We're so much more than that, and the challenges facing our field cannot be addressed with simple, solo efforts. It takes a team; indeed, it takes a profession.

I am impressed with the diversity of programs and perspectives I see in our schools of LIS education. I'm impressed with the iSchool movement, but I don't think that's the only strategy. I'm impressed with schools that are going fully into e-learning, but I'm also stunned at what happens in those that focus on smaller, on-campus, face-to-face instruction. I am floored by those that focus on certain niches of librarianship in a highly thoughtful and targeted way—from rural librarianship to teacher librarianship to researchers for the private sector to the human-computing interface. I am excited by those offering joint degrees with key graduate programs like business, public administration, law, and journalism. All of these represent a widening of our field and the size of the tent we inhabit and influence.

Back to the Future

So, what has impressed me about the students I've met recently? I find that many can write for purpose in many dimensions—blogs, social media, essays, reports, videos, podcasts, and more. There has been a huge uptick in the ability to present since the days of my graduation, when our skills were limited to essays, bibliographies, viewgraphs and 3x5 cue cards!

I've attended more than my share of student-planned and -run conferences, and these were the equal of anything I've ever seen (and not just in terms of fine organization). I attend a lot of conferences, and these were visionary and stretched the imagination. They all included their local library community and built relationships with it. In addition to showing student projects (more on that later), they featured international speakers that the students wanted to hear on their campus.

At Dalhousie, teams of students delivered a presentation on iPhone and Android apps—not just the concept but ready-for-market apps, approved and available in online stores. These were tools that practicing librarians in the audience wanted to get their hands on right away. What made this more exciting to me was that the project requirements stipulated that the LIS students had to work with students in computer science, as well as with a major external database vendor, to develop the app. They also needed to report on how that went and how the collaboration worked. Doesn't that sound like real life?

One of the students in the Dalhousie program, Michael Groenendyk, and his team are building a 3-D model repository—an open database filled with three-dimensional scans of interesting objects in the university's possession. The files can be freely downloaded in full detail and viewed in most common 3-D modeling applications. The team is using a Makerbot Replicator installation at the university's library, a project that offers cheap 3-D printing to students and faculty. The 3-D repository currently holds only a handful of files, but hints at a future for library collections.

Many LIS schools have adopted a portfolio approach, requiring students to keep an online portfolio of their work—Websites, IOS apps, bibliographies, LibGuides, research papers, marketing studies, focus group reports, and much more. Some of these faculties promote their students in this way, and some students make it part of their résumés. Candidates for LIS schools can see the kind of work that's expected of them in the school.

Lastly, I've been reading some LIS dissertations recently. How geeky is that? Yes, I'm finding PhD candidates' work that is actually current, useful and practical. (As a special librarian, that tends to be my focus, although I do respect the more arcane history of the book and cultural studies in our field. I just don't find them to be as immediately applicable.)

Here are two I found fascinating: One explored what comprises leadership training for librarians and which specific qualities can predict success; the other looked at political decision makers within the library budgeting context—yes, those folks who control so many library budgets—and measured and prioritized the activities and techniques that were the most powerful and successful. I am waiting for these to go online so I can point to them from my blog. If I can, I may devote a future column to each.

These projects and dissertations are evidence of the quality of education in LIS schools today and the remarkable skills of LIS graduates. As SLA members, we have a professional responsibility to build the next generation of librarians and information professionals by supporting and coaching them—and learning from them as well. We gain nothing by taking them down, demotivating them, or slamming our own degrees in an unconstructive way. **SLA**

Developing and Establishing a Good Rapport

Use your marketing skills to build a good rapport and make connections with new clients.

BY CINDY ELLIOTT, MA, AND JENNIFER MARTIN, MA

Before accepting our current positions at the University of Arizona, both of us worked as solo librarians—in fact, we worked at the same diagnostic and life sciences company, though at different times. We managed all of the library and information services for the site, including collection development, reference and research, and resource access and delivery. Our clients included management, legal, medical, clinical, research discovery, marketing, regulatory, and sales personnel, each of whom had different information wants and needs. We continually evaluated our services and resources and aligned our skills to the changing needs of the parent company and individual clients.

Today we are librarians at a large research university. We brought with us to academia all of our corporate skills, particularly our marketing skills. In the corporate world, we had to market ourselves fearlessly to our clients. The marketing skills we learned as solo corporate librarians have been invaluable in our current environment and have provided us some advantages.

For example, one of us (Jennifer) is now an embedded librarian in the College of Pharmacy. When she started her job, she met with leaders of the college, including deans, department heads, and officers, and made it a point to be invited to important department and faculty meetings. Not only did this help her develop relationships with key individuals, it provided her with opportunities to prove her worth.

What else did our corporate marketing experience teach us? Following are some of the key lessons we learned.

Shamelessly promote yourself. Our approach is in keeping with a fundamental marketing tactic: take every opportunity to put yourself in front of key stakeholders, new employees, and workers who never knew the organization even had a librarian (you know the ones). Though they may be difficult to arrange, little interactions add up over time and have a big impact.

Remember, many people come to the workplace with stereotypes of librarians. We need to break out of these stereotypes and show people that, yes, we are nice and easy to work with, but we also have a keen sense of our clients' information needs and the ability to find that information quickly. This will save them time, make them look good to their superiors, and move their research forward. Soon they will be thinking—and saying to their co-workers—"this librarian gets it." More and more clients will seek out your expertise as a result of these recommendations.

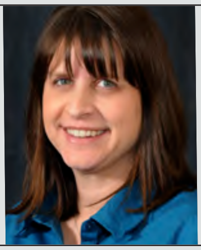
Set up individual meetings. Regardless of how busy you are, take the time to meet people face to face. It helps you (and them) put a name to a face, not just an e-mail address.

During the first meeting, keep it personable. The important thing is to make a connection. You don't have to cover everything about the library—you can fill in the blanks over time.

For now, just get to know the person. Find out what she does. Ask her where she finds information and whether she reads research articles or news as part of her job. Follow up with questions about her research focus. (Write down her answers, as you will be meeting a number of people on a regular basis.) Make sure she knows where the library resources are located, and provide contact information (such as your e-mail address) for any immediate questions she may have.

Keep abreast of changes in leadership and management at the company and introduce yourself to new colleagues during their first week. Meeting with key stakeholders and other people new to the organization can have a profound impact on them. If your manager thinks it is important for new individuals to meet you, and makes all of his/her employees take a meeting with you, consider it a very good thing. You don't want to overwhelm the newbies, but following up after the initial meeting will keep your clients coming back.

Provide an orientation to the library's services. Employee orientations offer an excellent opportunity to make personal contact with new clients. Even if you only have a short amount of time, you



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can still make a big impact. Cindy has a personal example of how to be efficient in introducing new employees to the services you provide.

> It took me two years to get on the schedule of a company orientation. The orientation lasts 8 hours, and I got 15 minutes as the very last speaker. This is not enough time to provide information literacy training, and at that time of day, everyone is thinking about going home. So, instead of going through the resource list, I decided to figure out who my new clients were and who would benefit from library services. I asked specific questions to find out more about the work these folks would be doing: "In what area of the company do you work? Is this a new work area for you? Have you explored any articles or journals or news related to your new work?" I then demonstrated how to find and use the library and shared my office and e-mail addresses.

Once you capture the attention of new employees or stakeholders, you want to keep it, right? Get their attention with your "this is how I can help you" speech, but target it to their needs. Make sure you include the following elements in your speech:

- The key services you offer the company and specifically those that address the client's work areas;
- Information that conveys your value (this is what I can do for you and how I can contribute to your success; here is how I can help you maximize your productivity);
- Concrete examples of how you can save them time (I can do it faster because I do it all day) and money (I may be able to obtain that resource for less money or find a comparable resource that we already have);
- Assurance that you are a team player;
- Summaries of certain projects on which you have worked; and
- Questions about their research and past successes related to their work.

These presentations don't always happen in one-on-one meetings; sometimes they happen spontaneously—in the lunchroom, in walkways between buildings, or after a group meeting. Look for every opportunity to market yourself and demonstrate your value.

Anticipate users' needs. Now that you've met with potential clients, anticipate their needs. Compile and maintain a list of research interests for each team or project you serve and conduct searches that might uncover information that could be useful for someone. Sending key articles or links related to clients' interests is a good way to stay in touch—it keeps the clients abreast of new information and sometimes makes them remember that they need something else from you.

Maintain consistent contact. Be sure to check in with new employees a few weeks after you first meet them. By that point, employees typically will have settled into their jobs and be interested in learning more about resources. Stop by their desk, send them a quick e-mail, or talk to them in the lunchroom. Ask them how their research is going. If you feel comfortable enough, invite them to join you for lunch or coffee.

Whatever you do, stay visible. We have found that visibility is critical to making and maintaining successful connections with clients. That means finding opportunities to talk to clients, even if it's in a hallway or on the way to the parking lot. Take the time to listen to their concerns, and try to provide some insights or suggest a solution. Make it clear that you are available anytime and are willing to help with even the most difficult request.

As information professionals, we must maintain regular contact with our clients and be available at all times. Clients should always feel welcome when they visit us, even if it's for a small request.

Never say *no* to a request. Even if you're swamped with work and multiple requests, do whatever you must to deliver high-quality service. Set a high standard for yourself and your work. This approach will also provide you with more opportunities to collaborate with clients and eventually gain more of them as a result of building rapport.

Becoming Visible and Valued

How do you know whether your marketing efforts are successful? Survey and assess the needs of your clients. If they switch projects or start working on something different, be aware of that and stay on top of their new needs.

When you're working as a solo librarian, it is difficult to keep track of the number of literature searches you complete, but you should try to incorporate some quantitative and qualitative assessments into your workflow. What types of statistics would tell the story of the work you are doing? How can data help demonstrate your value? Consider keeping track of the number of new employees you meet, identifying important company initiatives and projects you've helped move forward, and noting the teams and projects with which you are collaborating.

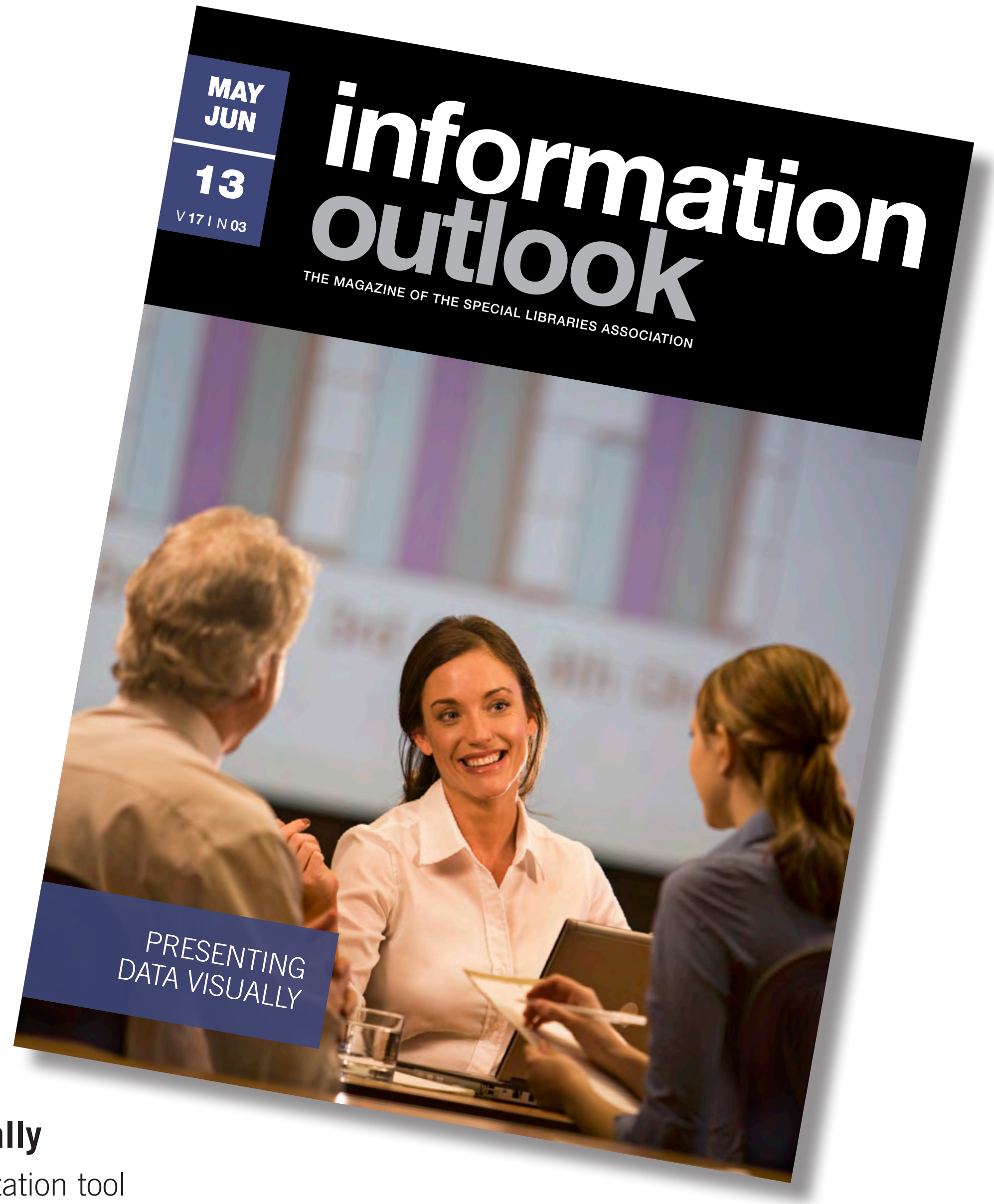
The marketing tactics and strategies we employed during our corporate tenure have helped us become visible and valued as academic librarians. Adding value to your organization starts with regular marketing, both of yourself and your services. Staying ahead of the game and anticipating clients' needs is always valuable, but if you don't market yourself, you may not have the opportunity to do these things. Keep marketing yourself and be sure to put your best foot forward! **SLA**

REFERENCES

Kneale, Ruth. 2012. Marketing in libraries: Yes, It's up to you! ITI Books Blog, 7 Dec.

Ogden, Joan. 2012. Marketing yourself and your library in Special Libraries Association. SLA Legal Division. Alexandria, Va.: Special Libraries Association.

In the next *Information Outlook*:



Presenting Data Visually

- Creating a data visualization tool
- Using infographics to visualize information
- Avoiding common mistakes with graphs and tables

Plus ...

- Moving from a traditional to a virtual library
- Interview with Mike Walsh, SLA 2013 keynote speaker