

San Jose State University
SJSU ScholarWorks

Information Outlook, 2013


Information Outlook, 2010s

6-2013

Information Outlook, May/June 2013

Special Libraries Association

Follow this and additional works at: https://scholarworks.sjsu.edu/sla_io_2013

 Part of the [Cataloging and Metadata Commons](#), [Collection Development and Management Commons](#), [Information Literacy Commons](#), and the [Scholarly Communication Commons](#)

Recommended Citation

Special Libraries Association, "Information Outlook, May/June 2013" (2013). *Information Outlook, 2013*. 3.
https://scholarworks.sjsu.edu/sla_io_2013/3

This Magazine is brought to you for free and open access by the Information Outlook, 2010s at SJSU ScholarWorks. It has been accepted for inclusion in Information Outlook, 2013 by an authorized administrator of SJSU ScholarWorks. For more information, please contact scholarworks@sjsu.edu.

MAY
JUN

13

V 17 | N 03

information outlook

THE MAGAZINE OF THE SPECIAL LIBRARIES ASSOCIATION



PRESENTING
DATA VISUALLY

2012
NEW PRODUCT
OF THE YEAR
AWARD

from the American Association
of Law Libraries

RE-TOOL, RE-THINK, REVEAL

Law Re-Charged. Bloomberg Law has recharged the legal research industry by providing a system that powerfully integrates comprehensive legal content, company and market information, and proprietary news—all searchable in one place. Bloomberg Law arms you with a comprehensive, nuanced understanding of a case, a business or an industry, so you can help your company see trends, opportunities and challenges first.

Leverage the power of integrated legal and business intelligence to find solutions to complex litigation issues.

See for yourself. Call us for a complimentary trial anytime at 1 888 560 BLAW (2529) or visit us at bloomberglaw.com

bloomberglaw.com

©2013 Bloomberg Finance, L.P. All rights reserved. JO9999 0413

Bloomberg
LAW

MAY
JUN

13

V 17 | N 03

information outlook

THE MAGAZINE OF THE SPECIAL LIBRARIES ASSOCIATION



6 **Picturing Good Communications**
STUART HALES

8 **Avoiding Common Mistakes with Graphs and Tables**
NAOMI B. ROBBINS

12 **Infographic Tools for the Non-designer**
SOPHIA GUEVARA AND
MARY-MICHELLE MOORE

15 **Information Intelligence: A Blueprint for Data Visualization**
ASHLEIGH FAITH

INFO VIEW

2 **SLA's Strategic Agenda: Ensuring Future Success**
DEB HUNT

INSIDE INFO

4 **Twitter Chat Offers Advice to Recent Graduates · Survey Results to Inform Panel Presentation at SLA 2013 · Board Approves New Caucus for Football Fans**

INFO NEWS

5 **Firms Favor Data Analytics, but See Little Payback · Cross-Border Collaboration Benefits Dutch Researchers · Faculty More Likely to Own, Use E-readers**

SLA MEMBER INTERVIEW

20 **10 Questions: Mike Walsh**
STUART HALES

LIBRARY SERVICES

22 **Assisting *Pro Se* Patrons in a Non-Law Library**
AUSTIN MARTIN WILLIAMS

VIRTUAL LIBRARIES

25 **Unexpected Advantages of Virtual Libraries**
JILL WILSON, MSIS, AND KEN BOLTON

INFO RIGHTS

29 **Complying with Copyright When Using Social Media**
LESLEY ELLEN HARRIS

SLA's Strategic Agenda: Ensuring Future Success

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

BY DEB HUNT, SLA PRESIDENT



During 2011, the SLA Board of Directors evaluated SLA's long-term goals and objectives and adopted a three-year strategic agenda to guide its decision making for 2012-2014. To supplement the strategic agenda and ensure its fulfillment, the board identified priorities to guide the association's leaders, volunteers, and staff. Each and every SLA member also has an integral role to play—a role that is professionally beneficial and opens up new opportunities each step of the way.

The key areas of focus that form the SLA Strategic Agenda are as follows:

SLA Annual Conference. This is SLA's chief member benefit and its highest priority, and the strategic agenda calls for increasing collaboration across SLA's divisions to provide more focused, refined content. This collaboration will leverage our professional experience and institutional knowledge to ensure greater relevance of programming.

While increasing the specificity of topics is key, the focus is also on broadening opportunities for learning. In this regard, SLA Past President Brent Mai established a Conferencing Task Force to look at short- and long-term trends in conferencing—not just library conferencing, but conferencing trends in general for today's market. Meanwhile, SLA's Virtual Worlds Advisory Council is looking at opportunities for future virtual conferences.

Professional development. SLA can enhance its value to its members not only by improving its in-person development offerings, but by providing them in combination with a year-round

virtual education program. The strategic agenda calls for SLA and its units to provide useful professional development programming comprising both in-person and virtual opportunities. It also calls for SLA to partner with schools of library and information science to develop content for, and manage the delivery of, educational programs.

Creating richer volunteer experiences to develop in-demand skills. What better incentive to become active in the association than the fact that it will benefit your career, both now and down the road? New skills picked up as volunteers in our chapters and divisions may just be the stepping stones to a promotion or recognition at work, a new job, or even a new career.

Opening new markets through collaboration. A bright future for SLA depends on greater collaboration with key partners within the information industry. We are striving to increase opportunities for SLA members by affiliating with schools of library and information science and the vendors who provide products and services to our industry.

Growth through diversity. The information profession is evolving faster than ever thanks to rapid technological change and innovation. In this evolution lie opportunities to grow SLA's offerings to new and nontraditional sectors of the information profession and to enhance SLA as a professional home for these groups. A Demographics Task Force appointed by Brent Mai is working on growth through diversity, and the new SLA Membership Committee

is working with SLA staff and the SLA Board of Directors to recruit a more geographically and vocationally diverse membership. Membership Committee members are available to help each unit's membership chair recruit and retain members.

The Agenda in Action

In line with the strategic agenda, SLA is enhancing its member benefits and opportunities. For example, we recently launched our new Website, which is a valuable resource for us both as information professionals and as SLA leaders and members.

Professional development. Click U and unit professional development are now 24/7/365 opportunities. Former SLA President Anne Caputo is leading a task force to update the SLA professional competencies, and we are re-tooling the Knowledge Management Certificate program as well.

Volunteering in a global association. In an interactive Webinar, 2012 Cabinet chairs Mary Ellen Bates and Liz Blankson-Hemans examined the opportunities available through SLA's volunteer leader programs and discussed how SLA members could leverage them to further their careers. For example, do you want to expand your social media skills through real time/real life experience? Volunteer for the Online Content Advisory Council! Want to be part of a team investigating cutting-edge virtual conferences? Volunteer for the Virtual Worlds Advisory Council! There are many such opportunities from which to choose—just check out the resources in the Governance Section of the SLA Website.

Career Center. The job market is picking up. If you are looking to change jobs or need a job, be sure to upload your résumé and get alerts for jobs that are posted. If you are looking for employees, post your jobs here to alert fellow SLA members to job openings.

Annual conference. We are transforming the annual conference from a learning and networking event to a springboard for professional enrichment. At SLA 2012, for example, we

debuted a panel discussion at the closing ceremony to provide fresh perspectives on topics that were popular with attendees.

For 2013, SLA staff have been working with the Annual Conference Advisory Council to incorporate four 120-minute sessions into the schedule to provide opportunities to dive deeper into relevant topics. Council and staff members reviewed all session proposals to ensure they are relevant and timely, and they urged session planners to use presentation formats that promote interaction between presenters and attendees.

Meanwhile, the Professional Development Advisory Council and SLA staff reviewed proposals and selected 12 continuing education (CE) courses for the 2013 conference that would appeal to a broad audience and offer relevant, practical content. The CEs were vetted against regular conference sessions by SLA staff to minimize content overlap.

As valuable as these changes are, SLA 2013 is worth attending because there is nothing like meeting colleagues and learning face-to-face. The annual conference also enhances skills such as these:

- Reinventing/rebranding yourself for career sustainability;
- Leading change;
- Demonstrating value;
- Empowering yourself and your clients/users;
- Understanding how others perceive you;
- Leveraging skills you've been developing;
- Behaving strategically;
- Adding value;
- Innovating;
- Gaining competitive advantage; and
- Leading others.

Please join me in San Diego at the convention center and on the beach for what promises to be a jam-packed conference of networking, learning and having fun. **SLA**



**ADVANCE REGISTRATION
ENDS 24 MAY**

SLA 2013 Annual Conference & INFO-EXPO

**9 – 11 June
San Diego Convention Center
San Diego, California**

@SLA2013

www.sla.org/SanDiego2013



CONNECT • COLLABORATE • STRATEGIZE

TWITTER CHAT · VALUE SURVEY · NEW CAUCUS

Twitter Chat Offers Advice to Recent Graduates

Students in library school—as well as veteran information professionals seeking to advance their careers—should focus at least as much on increasing their versatility as they do on honing their core skills.

That was the main piece of advice that emerged from SLA's April Twitter chat, titled "What would you tell your past MLIS-student self?" The chats, known as #SLAtalk sessions, are conducted on Twitter on the second Tuesday of each month. They are a project of SLA's Online Content Advisory Council.

During the April chat, dozens of working information professionals reflected on what they wish they'd been told while studying for their library degree, while current MLIS students shared their thoughts about their degree program and asked for advice from more seasoned professionals.

The chat consisted of four questions and lasted one hour. Highlights of the chat follow:

What subjects or skills do you wish you were taught or exposed to more in library school?

- Definitely more finance and accounting, as it specifically relates to a library environment.
- More stuff about project management and usability. The necessity of networking within and without your field.
- Wish I had been exposed to more marketing, business, and competitive intelligence skills.

What was your favorite class or project from your MLIS program, and how have you applied what you learned?

- Best class was definitely Social Informatics. Really made the point that systems are for people and we can't ignore that.
- Government Information was one of the most useful courses. Have used it in all my jobs so far.

- Designing database to track ref question metrics, resources used, etc. Good basics for doing similar project in ZenDesk.

What formal supplemental education, if any, did you pursue after your MLIS program?

- One of the best prof dev activities for me is the conferences etc. that my users attend. Hear what questions they ask each other.
- Mostly have taken vendor and tech courses: drupal, InMagic, ESRI ArcGIS. Aside from that, constant conferences, webinars, etc.
- Lots of asking questions of my users. Buying them coffee and asking, "What's the deal? I'm here to help!"

What recommendation would you give a library school student?

- Become active in professional associations and NOT just the student chapters. Working in a library even as a volunteer also.
- Apply for any job that interests you. DO NOT rule yourself out (that's HR's job).
- Learn about data—how to organize, analyze, and disseminate: useful in any field.

For more information, visit the SLA Blog or see @SLAhq on Twitter. For a full recap of the April chat, visit <http://bit.ly/18b8w3e>.

Survey Results to Inform Panel Presentation at SLA 2013

Several hundred SLA members completed a 15-minute questionnaire earlier this year that will form the basis of a panel presentation on decision making at SLA 2013.

The survey, conducted by the *Financial Times* in partnership with SLA, was administered to employers as well as information professionals. The aim of the survey is to provide examples of, and insights into, how information professionals can boost value as well as methods to measure that value.

The survey results will be compiled

and shared in an in-depth report that will be made available to SLA members. The results also will be discussed at an SLA 2013 Hot Topic session, "Becoming a Decision Enabler: Practical Insights and Strategies," which will feature a panel composed of SLA President-Elect Kate Arnold, Daniel Lee, and Karen Reczek. In addition, the survey results will be made available to *Financial Times* readers, thereby bringing the information profession to the attention of influential decision makers.

Information professionals who participated in the survey were entered into a drawing for a voucher worth £250 (approx. US\$ 380).

Board Approves New Caucus for Football Fans

SLA members who follow the World Cup and Champions League now have a forum in which to share their passion—the SLA World Football Caucus, the association's 11th such interest group.

The SLA Board of Directors approved the caucus at its May meeting. The purpose of the caucus is to provide an organized platform for members to discuss major tournaments, the history of football (known as soccer in the United States), and other aspects of the game. Additional goals of the caucus include the following:

- Creating a means for sharing information about football clubs that members support;
- Developing information resources and data visualizations related to the game;
- Holding regular meetings during the SLA Annual Conference; and
- Establishing a dynamic mailing list and blog.

Kendra Levine, outreach and Web services librarian at the University of California-Berkeley and a fan of Sheffield Wednesday, will serve as the first convener of the caucus. **SLA**

DATA ANALYTICS · COLLABORATIVE RESEARCH · E-BOOK USE

Firms Favor Data Analytics, but See Little Payback

Many businesses are beefing up their data management and analytics capabilities and hiring senior executives to lead them, but few are satisfied with the returns they are getting, according to a recent study.

Accenture, a global management consulting company, polled 600 executives in the United Kingdom and the United States to identify the steps they have taken to integrate analytics into their decision-making processes and determine how satisfied they are with the results. The survey found growing momentum among executives to use data to improve business outcomes, but disappointment with the results thus far.

For example, two-thirds of companies say their senior management is “highly” or “totally” committed to analytics and fact-based decision-making, and a similar share have appointed senior figures to lead data-management initiatives. Compared to 2009, twice as many organizations today feel they are generating new ideas and opportunities from company data “to a great extent” (25 percent versus 12 percent).

On the other hand, only one-fifth of respondents are “very satisfied” with the business outcomes driven by their analytics, and just half say their data is consistent, accurate, and complete. Another 20 percent say they have the technical and human resources to apply analytics regularly with some success, but that the focus tends to be tactical rather than strategic.

Other highlights of the survey include the following:

- Nearly half of the CEOs have asked for a data strategy plan that can be shared across the business.
- Respondents see the greatest value in using analytics to help tailor products and services to customers.
- Communications and technology firms are most likely to use analytics

to analyze their competitors’ activities and performance (68 percent), while sales and marketing are the departments that most frequently set targets based on analytics.

- Despite progress in building their data analytics capabilities, senior executives still prefer to use their intuition and experience to make decisions.
- A combined 45 percent of respondents described their analytical capabilities as either needing improvement, limited, lacking senior management support, or piecemeal.

The study, titled “Analytics in Action: Breakthroughs and Barriers on the Journey to ROI,” was based on telephone interviews with executives in a wide range of industries and business functions. The interviews were conducted in August and September 2012.

Cross-Border Collaboration Benefits Dutch Researchers

Researchers in the Netherlands are much more likely than their peers in other countries to engage in cross-border collaboration when writing papers, and this collaboration heightens the impact and prestige of their publications, according to a recent study.

Elsevier, an Amsterdam-based provider of scientific, technical and medical information services, compared Dutch researchers’ publications with those of researchers from the 10 countries that spend the most money on research and development. The study found that the Netherlands ranks No. 1 in publication impact per article, the level of international collaboration, and citations generated per unit of R&D spending, and No. 2 in publications generated per unit of R&D spending.

An Elsevier executive attributed the findings to the willingness of researchers from the Netherlands to think and act globally when pursuing their work.

“[Nearly 50 percent] of articles written by a Netherlands-based research-

er are written in collaboration with a researcher outside the Netherlands,” said Nick Fowler, Elsevier’s managing director of A&G institutional markets. “International collaboration is generally acknowledged as a positive force driving research impact and prestige. [A] second factor relates to cross-border mobility of researchers. The Netherlands has a history of allowing people to move in and out. No less than 74 percent of authors affiliated with Dutch institutions have also published at an institution in another country at some point in their careers.”

Faculty More Likely to Own, Use E-readers

A study of faculty and students at Wellesley College in Massachusetts found that the former are much more likely to own, or intend to purchase, a device for reading e-books than the latter, though both are equally likely to have read an electronic book.

Slightly more than two-thirds of faculty (73 percent) and students (70 percent) reported having used an e-book, but 41 percent of students said they preferred reading print books, while only 27 percent of faculty agreed. These sentiments were reflected in ownership rates: nearly half of students said they do not own a hand-held e-reading device and have no plans to buy one, whereas 36 percent of faculty own or expect to purchase a tablet and 25 percent own or expect to purchase a Kindle.

Overall, the study revealed a higher rate of e-book use at Wellesley than previous surveys of academic communities have shown. The study authors looked at four studies of college and university audiences conducted between 2008 and 2011 and found usage rates between 52 and 64 percent. A 2012 study of U.S. citizens by the Pew Internet & American Life Project found a usage rate of 21 percent.

The Wellesley study was published by Springer and is available online as a white paper. **SLA**

Picturing Good Communication

VISUAL REPRESENTATIONS OF DATA CAN HELP AUDIENCES BETTER UNDERSTAND AND USE INFORMATION, BUT THEY SHOULD SUPPORT, NOT SUPPLANT, THE OVERALL COMMUNICATION GOALS.

BY STUART HALES

Is a picture really worth a thousand words? What about clip art or charts or tables—how many words are they worth? And are *all* pictures worth a thousand words, or are some worth more than others? Are all charts worth the same? All tables?

If you've ever made a presentation to co-workers or clients, these questions are more than just philosophical exercises. A 1986 study by researchers from the University of Minnesota and the 3M Corporation found that presentations using visual aids are 43 percent more persuasive than presentations that consist solely of spoken words. Other studies have shown that visual aids can promote consensus, boost problem solving and comprehension, assist in decision making, and shorten meeting times.

The benefits of presenting information visually have their foundations in the brain—specifically, in the way it processes information. Rather than operate as a filing system, the brain

stores information in different areas and reconstructs meaning from a mosaic of connections. Information presented visually can be processed faster and more efficiently and requires fewer mental resources to store and recall.

But creating good visual images from scratch is a skill that most people, including information professionals, do not naturally possess. The advent of various software programs such as Excel have made it easy to develop simple graphs, charts and tables, but it has opened a Pandora's box of design problems that have often made information harder rather than easier to comprehend.

For example, different colors send different signals to our brain, and choosing the wrong color can make important data seem inconsequential (and vice versa). "If you fleck a sea of blue with a few red data points, your brain sees the red information as special," wrote Holly Finn in *The Wall Street Journal*. "It had better be."

Two-dimensional images that appear to be three-dimensional can cause difficulties as well. Naomi Robbins, in her article "Avoiding Common Mistakes with Graphs and Tables," cautions information professionals not to use what she calls "pseudo-three-dimensional" charts because "almost no one reads them correctly."

Robbins, who conducts seminars on the effective presentation of data, identifies several problems that can cause confusion when presenting data visually, including the following:

- Not including a zero baseline on a bar chart ("we make visual comparisons based on the length of the bars and are misled when zero is not included");
- Using heavy rules or grids in tables ("using white space as a separator not only results in a cleaner look, but also encourages comparisons by easing the flow of our reading"); and
- Adding unnecessary decimal places in numbers ("studies show that our eyes drift toward the digits at the right, so unnecessary decimal places can cause us to miss important comparisons").

"Too many researchers 'decorate' their figures to grab attention and, in so doing, distort the data or confuse

STUART HALES is senior writer/editor at SLA and editor of *Information Outlook*.



the reader,” she writes. She advocates paying more attention to the *goal*—communicating data clearly and accurately—and using the individual images to support that goal, not overshadow or detract from it.

Her advice forms a cautionary backdrop for the article that follows, “Infographic Tools for the Non-designer,” by Sophia Guevara and Mary-Michelle Moore. The authors discuss Piktochart, Easel.ly, and Infogram, three online tools that allow information professionals to combine data, text and images to create infographics that convey information. The tools are easy to use and the resulting images can pack a powerful visual punch—all the more reason, Guevara and Moore say, to be judicious about using them.

“While the software programs discussed in this article have removed most of the barriers that non-designers might encounter when creating an infographic, they cannot create a game plan to ensure they effectively convey their message to their targeted audience,” they write. “You, the user of these tools, must develop such a plan.”

Guevara and Moore recommend that information professionals ask themselves several questions before creating infographics, including the following:

- Who is your target audience, and how can you best reach them?
- What is your overall communication goal?
- Can your “story” be successfully told visually by an infographic?
- What key ideas or data need to be highlighted to make the infographic effective?
- Which information resources will you use, and how will you cite them? Are they reputable and up to date?
- How can you keep your infographic balanced? Too little information might not tell a convincing story, while too much may unnecessarily complicate it.



Some of these questions also underlie the final theme article, “Information Intelligence: A Blueprint for Data Visualization,” by Ashleigh Faith. Her employer, SAE International, needed a tool that could present a visual “snapshot” of corporate information and data and allow workers to gather insights and business knowledge. Ashleigh served on a team that developed the tool, which, in its latest (third) iteration, provides three different views to users—a taxonomy view, a detailed information view, and an exploration visual portal.

“Because users assimilate and translate visual information in different ways, we decided to use a three-part presentation,” she writes. “The taxonomy view is a listing of our taxonomy terms and products in a grid, where the counts of assigned content are listed. The detailed information view is where search results can be filtered and the information that is retrieved can be accessed in one central location. The exploration visual portal is where, depending on the user’s selection, a search will query

a topic-based cluster analysis or insight layer visuals, such as an overlay map of the world with publication data, trending maps, content bursts for popularity, and cited content. All three of the user interface screens are dynamic, so search and report outputs can be tailored.”

The central message shared by all three articles is that visual representations of data are, first and foremost, means to an end—an audience that understands the information being presented. Whether simple or elaborate, in black and white or a multitude of colors, visual representations of data are intended to make it easier for users to grasp facts, figures and concepts. The three articles in this issue provide a framework for information professionals who want to do just that. **SLA**

REFERENCES

Finn, Holly. 2012. The Rise of Iridescent Information: From charts to Web pages, sophisticated color is crucial. *The Wall Street Journal*, November 17-18, p. C20.

Avoiding Common Mistakes with Graphs and Tables

INFORMATION PROFESSIONALS SHOULD FOCUS ON COMMUNICATING CLEARLY AND EFFECTIVELY RATHER THAN TRYING TO USE DATA TO GAIN ATTENTION.

BY NAOMI B. ROBBINS

The designers of many of the graphs we see daily pay more attention to grabbing the audience's attention than to communicating clearly and accurately. They choose design options that they think look better but are actually graphical mistakes, since they mislead or confuse their readers.

In this article, I'll provide five examples of common mistakes that cause graphs to fail, then follow with three examples of common mistakes with tables. Avoiding these mistakes is a first step toward communicating more effectively with graphs and tables.

Graphs That Fail

Pseudo-three-dimensional bar charts.

A major problem with pseudo-three-

dimensional bar charts (like the one shown in Figure 1) is that almost no one reads them correctly. The numbers plotted are A=1, B=3, and C=5. Most readers, however, will read the A bar as less than 1, perhaps two-thirds or three-quarters.

This happens because the bar does not touch the back wall. I assume that it was designed so that a plane tangential to the top of a bar should look as if it passed through the correct gridline. It doesn't work for me.

This figure was drawn using Microsoft Excel 2010 with the default gap depth. Note that gap depth is an option that can be changed in Excel.

This problem is easily solved by using a two-dimensional bar chart rather than a three-dimensional one. In Excel, that

means sticking with "2-D Column" or "2-D Bar" charts and never using what I call pseudo-three-dimensional charts: the "3-D Column," "3-D Bar," "Cylinder," "Cone," and "Pyramid" options. These are "pseudo" three-dimensional, since they only display two dimensions despite their 3-D appearance.

Data that is truly three-dimensional (with three variables) cannot be displayed in these charts without adding additional rows. This causes other problems, such as hidden bars in the back rows. I often recommend trellis displays for plotting three variables (see Cleveland 1993 or Robbins 2013).

Graphs with unnecessary or inconsistent colors. Many graphs include unnecessary colors. What do I mean by

NAOMI ROBBINS, a consultant and seminar leader who specializes in the graphical display of data, offers training on the effective presentation of data. She also reviews documents and presentations for clients and suggests improvements or alternative presentations as appropriate. She is the author of *Creating More Effective Graphs* (Chart House 2013).

unnecessary? Well, you would laugh in my face if I printed each word in a different color, yet many designers use a different color to illustrate each bar in a bar graph.

There might be a good reason to do this if we use the same categories in multiple graphs. For example, we might want to display a number of different country indicators and choose always to use blue for England, green for France, and so on. Coloring the bars this way helps readers find the countries that interest them quickly.

However, too often we see colored bars when there is no reason for their use, or we see groups of graphs with the same categories but inconsistent use of colors. The use of different colors emphasizes some categories more than others, since some colors attract attention more readily than others. Color can also distract attention from the data, since the reader might try to discern the meaning of the colors when there is no meaning.

Bar charts without a zero baseline.

Whether zero needs to be included on all scales of graphs is a controversial topic. A simple rule to follow is to always include zero in bar charts, since we make visual comparisons based on the length of the bars and are misled when zero is not included.

For example, in Figure 2, zero is not included—which is hard to see since there are no y-axis labels!—so we are led to believe that the number of responses in 1995 was twice as high as in 1993, because the bar for 1995 is twice as high. Looking at the actual data labels, however, we see that the real difference is not so great: 97 to 76. The bars, therefore, mislead when communicating the data.

In contrast, zero generally isn't required on scales for line graphs or scatterplots where audiences can be expected to read the axis labels, since we judge the value of the data by the position of the data marker along a common scale.

Circles are very much in vogue in data visualization, but there are a number of problems with their use.

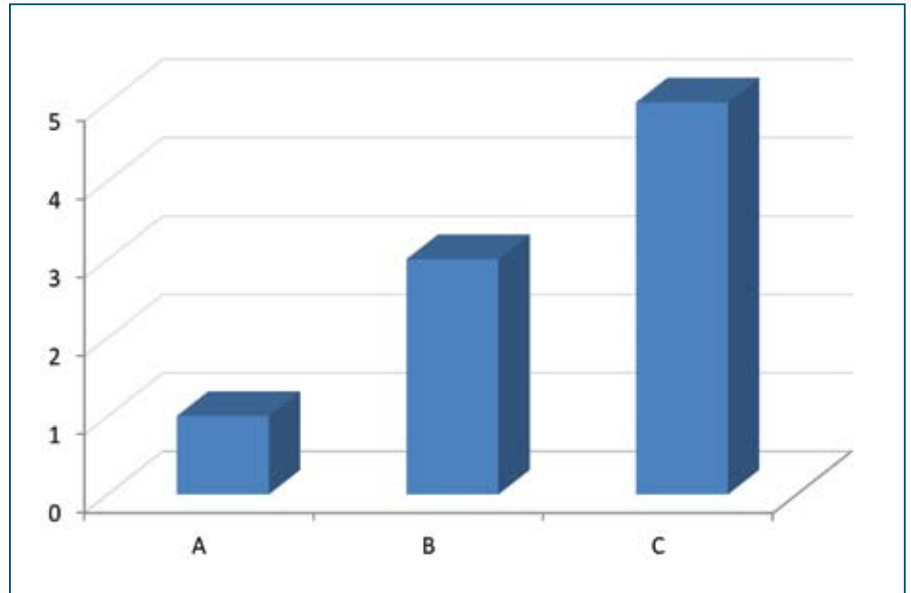


Figure 1. Most readers underestimate the heights of these bars.

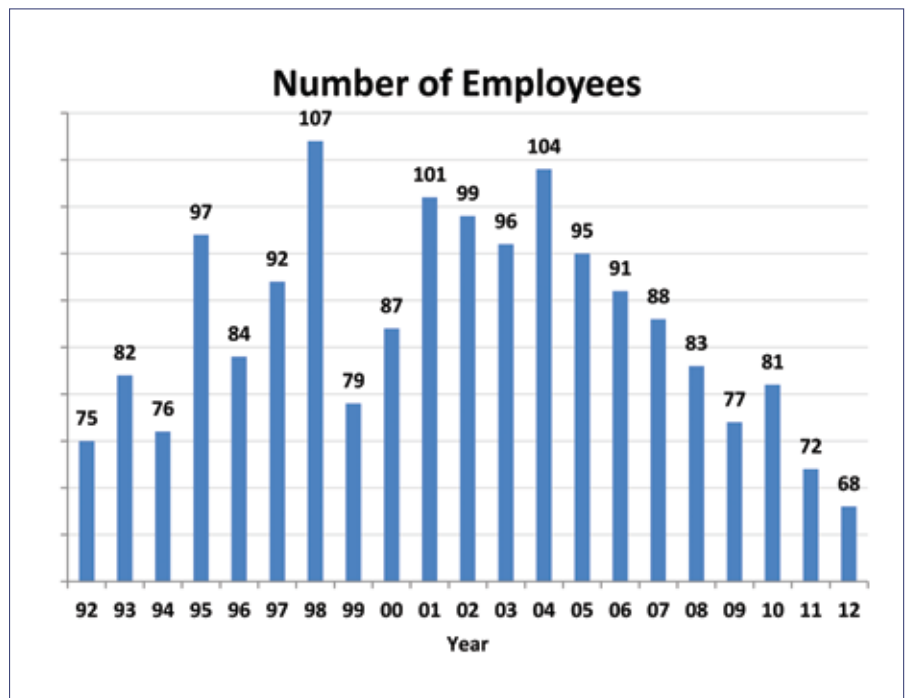


Figure 2. A bar chart with an unspecified, non-zero baseline is a visual lie.

Circle or bubble graphs. Circles are very much in vogue in data visualization, but there are a number of problems with their use. For example, although there are strong similarities between Figures 3 and 4, they create visually different impressions.

Note that in Figure 3, the sales for Hershey are roughly half of those for Cadbury; in Figure 4, the number of prize winners from the United Kingdom is roughly half the number from the United States. From a visual standpoint, however, Hershey's sales appear to be a much smaller percentage of Cadbury's sales than the number of U.K. prize winners relative to those of the United States. That's because the *diameters* of the circles are proportional to the data in Figure 3, whereas the *areas* of the circles are proportional to the data in Figure 4. The reader, however, does not know whether the data reflect the diameter or area when looking at the two charts.

Studies in psychophysics show that people underestimate the areas of circles (Stevens 1975). Therefore, even

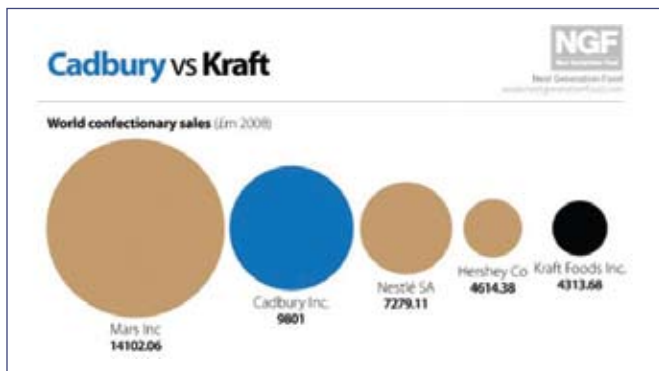


Figure 3. Value encoded by diameter. Source: Next Generation Food (Humphries 2010).

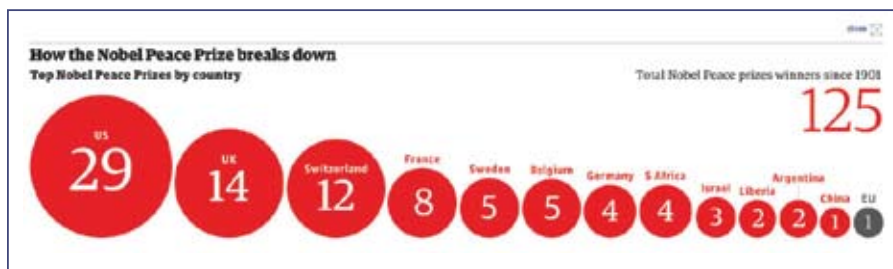


Figure 4. Value encoded by area. Source: The Guardian Datablog (Burn-Murdoch and Rogers 2013).

though we can visualize the area of a circle or bubble, and even though the data is encoded in the area, we don't estimate the values accurately. Also, our perception of the area of a circle is influenced by the area of objects surrounding it.

Colors that some people cannot distinguish. Close to 10 percent of men have color vision deficiencies that make it difficult for them to distinguish certain colors. Figure 5 shows two colors, red and green, that often cause problems. According to www.vischeck.com, Figure 6 is a simulation of how Figure 5 would be viewed by someone with the most common form of color vision deficiency (a deuteranope, commonly called red-green deficiency.)

Notwithstanding the relatively high incidence of color vision deficiencies, it is very common for graphic designers to use green to represent positive results and red for negative ones. Note, however, that not all shades of red and green cause problems—most people can distinguish a dark red from a light green or a dark green from a light red—and that red and green are not the only color combinations that can cause problems. Another current trend in graphs is coloring them orange and green, but this combination can be as problematic as red and green.



Figure 5. These two colors are difficult for many with color vision deficiencies to distinguish.

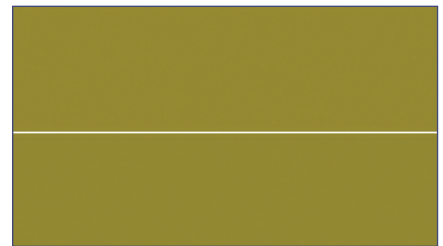


Figure 6. This simulates what a person with a common form of color vision deficiency would see when viewing Figure 5.

Tables that Fail

Heavily ruled tables. We often see tables with heavy rules and grids that hinder our ability to compare quantities of interest. Comparing Table 1 with Table 2 shows how rules and grids can distract.

Using white space as a separator not only results in a cleaner look, but also encourages comparisons by easing the flow of our reading. Rules are still used to separate different kinds of information, such as labels and totals from other values.

Left-justified or centered numbers. Most of the tables I've seen lately have their numerical entries centered or left-justified, as is the case in Table 3. Now, suppose you need to know the total sales for the year. See how much more difficult it is to add numbers that are not right-justified? Even a simple comparison of two months' sales is made more difficult.

Placing a dollar sign with each value makes comparisons even more difficult and clutters the table. Either the table heading should denote dollars, or the dollar sign should only be included in the first row or the total (if totals are included).

stood. Too many researchers “decore” their figures to grab attention and, in so doing, distort the data or confuse the reader. Avoiding these common mistakes when creating graphs and tables will help you communicate data more clearly.

Many resources are available to guide you in presenting data visually. I especially recommend the following books, as well as the Websites with links provided in Robbins (2012). **SLA**

REFERENCES AND RESOURCES

Burn-Murdoch, John, and Simon Rogers. 2013. Nobel Peace Prize Winners—the Full List. *The Guardian Datablog*.

Cleveland, William S. 1994. *The Elements of Graphing Data*. Hobart Press: Summit, New Jersey.

_____. 1993. *Visualizing Data*. Hobart Press: Summit, New Jersey.

Humphries, Jodie. 2010. Cadbury Sale Agreed. *Next Generation Food*, 15(10).

Robbins, Naomi B. 2013. *Creating More Effective Graphs*. Chart House: Wayne, New Jersey.

_____. 2012. Other Resources. Page on author's company Website. Accessed at <http://www.nbr-graphs.com/resources/other-resources/>.

_____. 2011-2013. *Effective Graphs*. Blog on Forbes Website. Accessed at <http://blogs.forbes.com/naomirobins>.

Stevens, Stanley Smith. 1975. *Psychophysics*. Wiley: New York.

State	Jul	Aug	Sep	Oct	Nov	Dec
New York	88,123	76,123	72,581	85,380	92,179	98,467
New Jersey	83,879	67,421	64,377	84,227	83,197	89,412
Connecticut	81,249	69,922	63,907	81,837	79,321	87,542
Massachusetts	77,031	71,331	62,489	77,598	78,254	79,364
Pennsylvania	70,567	65,078	61,358	72,483	69,878	78,945
Total	\$400,849	\$349,875	\$324,712	\$401,525	\$402,829	\$433,730

Table 1. Rules and grids separate the table cells.

State	Jul	Aug	Sep	Oct	Nov	Dec
New York	88,123	76,123	72,581	85,380	92,179	98,467
New Jersey	83,879	67,421	64,377	84,227	83,197	89,412
Connecticut	81,249	69,922	63,907	81,837	79,321	87,542
Massachusetts	77,031	71,331	62,489	77,598	78,254	79,364
Pennsylvania	70,567	65,078	61,358	72,483	69,878	78,945
Total	\$400,849	\$349,875	\$324,712	\$401,525	\$402,829	\$433,730

Table 2. White space is used to separate similar items. Rules are reserved for distinguishing different types of information.

Month	Sales
January	\$5429.37
February	\$47895.15
March	\$12.89
April	\$789456
May	\$21793.48
June	\$5.67
July	\$149.57
August	\$724692.12
September	\$157.95
October	\$22.87
November	\$14978
December	\$987654321

Table 3. Values are centered.

Numbers not rounded. In this age of computer-generated numbers, we often see tables with unnecessary decimal

places. I've seen tables with values to 14 decimal places when one was all that was needed. Studies show that our eyes drift toward the digits at the right, so unnecessary decimal places can cause us to miss important comparisons. The number of decimal places needed depends on the subject matter and data, so it will not be the same in all situations.

Resources to Consider

These common mistakes with graphs and tables underscore the need for information professionals to present data in a manner that is easily under-

Ask the Copyright Expert at SLA 2013

Free confidential consultations with copyright educator and lawyer

Lesley Ellen Harris

Sunday, 9 June

11:00 a.m. – 1:30 p.m.

In the Social Media Lounge in the SLA Registration Center



Infographic Tools for the Non-designer

USING FREE ONLINE TOOLS, INFORMATION PROFESSIONALS CAN CREATE VISUAL ELEMENTS THAT WILL HELP THEM SHARE DATA WITH AUDIENCES.

BY SOPHIA GUEVARA, MLIS, AND MARY-MICHELLE MOORE

In this age of information overload, many people are looking for innovative ways to share data, concepts and ideas within their organizations, with colleagues in the field, and with the public at large. Many of the tried-and-true methods of communicating with large audiences, such as writing long reports and giving “talking head” presentations, are more likely to bore than inform readers and attendees.

To better educate and influence their audiences, many professionals have begun to use visual representations of the data they want to present. In the past, this has meant including pie charts, bar graphs and color-coded Excel spreadsheets in reports or presentation packages. But creative professionals are going beyond the tra-

ditional approach and using images, unique content, and design elements to tell visual stories that engage their audiences.

Infographics, which can provide audiences with information at just a glance, are a key element of this new approach to communication. In this article, we intend to briefly explain what infographics are and what they do, describe three online tools that were developed to help non-designers create infographics, and suggest ideas for using infographics in an information environment.

What is an Infographic?

Infographics blend text and data to visualize trends and patterns in a way that allows the audience to quickly grasp the information being presented. Infographics appeal to our sense of

visual recognition by using icons or other images of varying size or number to represent data.

Infographics are usually colorful and depend on color coordination or contrast to help tell their story. Since infographics are visually appealing and simple to understand, they can easily be shared through social media and can be incorporated into presentations of many kinds.

Until recently, creating infographics required advanced graphic design skills. Graphic artists applied their knowledge of design principles and elements and used specialized software programs such as Adobe Illustrator, Microsoft Publisher, and Scribus. These programs were very complex and expensive and required designers to scale a steep learning curve to produce polished results.

With the advent of new online tools, infographics can now be created using simple drag-and-drop interfaces, raw data from Excel spreadsheets, and clip art. These tools allow non-designers such as information professionals to create custom infographics that fit their data visualization needs.

SOPHIA GUEVARA is the chair of the Consortium of Foundation Libraries and a regular contributor to the Council on Foundations' RE:Philanthropy blog. She can be reached at sophiaguevara@gmail.com. **MARY-MICHELLE MOORE** is an MLIS candidate at Rutgers University and interlibrary loan assistant at the University of California-Irvine's Langson Library. She maintains a personal blog at www.universalbookdrop.wordpress.com and can be reached at mary.michelle.moore@gmail.com.

Three Infographic Tools

Piktochart. Piktochart offers users a canvas on which to view their selected theme. Themes are templates that are designed with a general focus in mind, such as health, transportation, or education. You can add, change or delete icons and images within your theme. If these items don't fulfill your needs, you can upload your own images.

Piktochart allows you to add hyperlinks in the online version of an infographic to enable your audience to jump to another Web page, if necessary. You can also edit the color, size and fonts of the text to better suit your needs. In addition, you can use charts or interactive tabs to better communicate information within the infographic you create.

Piktochart users can sign up for either a free or paid account. The free version of Piktochart provides access to 6 themes and 400 stock images. If you cannot find an image you want within the stock images Piktochart provides, you can upload up to 10 image files of your own.

The simple drag-and-drop interface allows you to begin designing your infographic as soon as you create an account. Design tools include image manipulation and access to basic shapes, graphics and text. Graphics are arranged by theme for easy access and searching. The color and rotation of any image or text object in the infographic can be customized easily using the toolbar menu.

Piktochart allows you to create graphs within the program rather than having to save a graph as a JPEG file. You simply save your data set as a CSV (comma separated values) file and upload it, and Piktochart walks you through the process of creating your graph. The infographics you create can be shared immediately after completion or downloaded for use at a later time. The free version of Piktochart will place a small watermark in the lower corner of all of the infographics you create.

The paid version of Piktochart offers three different account options. The first option is an educational account,

Now that you have a feel for some of the online tools that can be used to create them, what factors should you consider before designing infographics?

payable on an annual basis, that allows students and educators to create infographics. The second option is a monthly payment plan for professional users who are not yet ready to commit to an annual subscription. The third option allows professionals, agencies and brands to pay an annual subscription fee to create their infographics. The paid accounts provide access to almost 100 themes and allow users to export their images without the Piktochart watermark.

Easel.ly. Easel.ly is a free infographic creation tool that, like Piktochart, has a simple drag-and-drop interface that allows you to arrange and manipulate the elements within an infographic. You can start from a blank slate or draw from one of 15 available themes. You can upload your own artwork or make use of Easel.ly's extensive clip art collection.

Easel.ly allows you to create infographics on a variety of backgrounds, including themes designed for viewing on mobile devices. Another useful feature in Easel.ly is a grid that allows you to measure and design important elements.

Although charts and graphs from Excel or other workbooks can be uploaded as images, you cannot upload data to create a chart within Easel.ly. Easel.ly has a toolbar shortcut for easy duplication of text and images within an infographic.

The color, size and opacity of all items in an infographic can be customized, and the order of the layers of images in an infographic can be controlled using the toolbar. All graphics created in Easel.ly can be easily and quickly downloaded as a JPEG file, shared using a Web link, or embedded using the code provided by the Easel.ly site.

Infogr.am. Launched fairly recently, Infogr.am is an online tool that allows

you to create infographics and publish them on the Web or distribute them through social media. The site offers free and "pro" versions of the tool; those who sign up for the pro version can download their creations as either PDF or PNG files.

As of this writing, you can choose from among six templates to create an infographic. Once you choose a template, you can select from among several chart or graph designs. You can include a chart or graph in your infographic or publish it as a stand-alone image. You can also change the text in the theme and add pictures.

Two of the more innovative features of this tool are the options to include a digital timer within infographics published online and to embed a video that is hosted on YouTube or Vimeo. While infographics are auto-saved in Infogr.am, you cannot undo a change as easily as you can in Piktochart.

Developing a Game Plan

Now that you know what infographics are and have a feel for some of the online tools that can be used to create them, what factors should you consider before designing infographics? While the tools discussed in this article have made it easy for non-designers to create infographics, they cannot create a game plan to ensure they effectively convey their message to their targeted audience. You, the user of these tools, must develop such a plan.

With this in mind, here are some questions you should ask yourself before starting your work:

- Who is your target audience, and how can you best reach them?
- What is your overall communication goal?
- Can your "story" successfully be told visually by an infographic?

information outlook

The Magazine of the Special Libraries Association
Vol. 17, No. 03
May/June 2013

Editorial and Production:

Information Outlook Advisory Council:

Wei Wei (chair), Pamela Louderback, Brenda Myc, Valerie Ryder, Erik Schwarz, Jennifer Swanson, Gloria Zamora

Editor: Stuart Hales

Graphic Design: Thought Word & Deed

Publisher:

Special Libraries Association,
331 South Patrick Street
Alexandria, Virginia 22314,
Phone: +1.703.647.4900
Fax: +1.703.647.4901
magazine@sla.org

Frequency:

Information Outlook® (ISSN 1091-0808) is published 6 times a year (January/February, March/April, May/June, July/August, September/October, November/December)

Advertising:

Acceptance of an advertisement does not constitute endorsement of the product by the Special Libraries Association. For ad specifications and rates, visit www.sla.org. To advertise, contact:

John Walsh

SLA
331 S. Patrick Street
Alexandria, Virginia 22314
Phone: +1.703.647.4917
Fax: +1.703.647.4901
jwalsh@sla.org

Subscriptions:

Annual subscriptions to *Information Outlook* cost US\$ 180. Subscribers receive access to a digital online version. Access is through IP address authentication. For details, contact editor@sla.org.

Writing for Information Outlook:

Information Outlook welcomes queries from authors about articles of interest to information professionals. For writer's guidelines and a current editorial calendar, visit www.sla.org or write to editor@sla.org.

Letters to the Editor:

Comments about articles or columns published in *Information Outlook* may be submitted as letters to the editor. Letters should be sent to editor@sla.org with a subject line of "Letter to Editor." All letters should include the following: writer's name, SLA volunteer title (if applicable), city and state/province, and e-mail address. Letters may be edited for brevity or clarity or to conform to the publication's style. Letters may be rejected for any reason.

Copyright and Permissions:

© 2013 by the Special Libraries Association. Material protected by this copyright may be photocopied for the non-commercial purpose of scholarship or research. Authors may distribute their articles as photocopies or post them to corporate intranets or personal Websites without advance permission provided they are used for educational purposes only. In all cases, the reprinted or republished articles must include a complete citation and also reference SLA's Website address (www.sla.org). For permission to reprint *Information Outlook* articles in other publications, write to editor@sla.org. Include the issue in which the article was published, the title of the article, and a description of how the article will be used.

Information Outlook® is a registered trademark of the Special Libraries Association.

PRESENTING DATA VISUALLY

- Which infographic themes will best fit your project?
- What changes will you need to make to the theme, if any?
- How will you properly introduce the topic to your audience using an infographic?
- What key ideas or data need to be highlighted to make the infographic effective?
- What information details should be included to improve your data visualization efforts?
- Which graphics will work best for your data visualization purposes? Which graphics might you need to upload? Where will you find these graphics?
- Which information resources will you use, and how will you cite them? Are they reputable and up to date?
- How can you keep your infographic balanced? Too little information might not tell a convincing story, while too much may unnecessarily complicate it.

Helping Data Come Alive

Information professionals who use the preceding questions to help themselves develop a strong communication plan will often find that infographics can be used to great effect in many aspects of their profession. Almost any project, presentation or results set that involves data can be enhanced with the use of these powerful visual aids. Situations where infographics can be used effectively by information professionals might include the following:

Reference statistics. Visually display your library's usage and/or reference question statistics, with each type of query represented by its own dedicated icon or color.

Timelines. Create a timeline of important events or projects in your library. You can use clip art images to depict the number of books moved, databases added, or computers made available over time.

Maps. Show the distribution of your

library's patrons on a map.

Lesson plans. Have students create an infographic to describe what they've learned, or create an infographic to describe a project you want them to undertake.

Annual reports. How many blog posts did you create this year? How many tweets? How many articles did your patrons receive? The answers to these questions are ripe subject matter for infographics.

How-to projects. Create a tutorial to help answer frequently asked questions in a fun and visually attractive way.

Lists. Develop an infographic that lists your favorite resources, tools or accomplishments.

These are just some of the many ways you can combine numeric, textual and graphical information to create an easily digestible, complete picture of the story you wish to tell. By providing your audience with information at a glance, you can ensure that your data stand out when you present your findings or project.

Infographics help your data come alive in meaningful ways, and using the tools discussed in this article ensures the data will engage your audience more effectively than if you use only words or a chart or graph. In the past, creating infographics has been the domain of graphic designers, but with online tools such as Piktochart, Infogr.am and Easel.ly, information professionals can now develop strong visual images using their own data. Any of the free or paid versions of these tools can be used to great effect to meet your communication needs. **SLA**

REFERENCES

Lampe, Nicole. 2013. "Draw Me a Story: A Recipe for Effective Infographics." Blog post, 12 February. Nonprofit Technology Network.

Lepi, Katie. 2012. "10 Fun Tools to Easily Make Your Own Infographics." Blog post, 19 August. Edudemic.

Piktochart. "Structuring a Story for Your Infographic." Web page.

Smiciklas, Mark. 2012. *The Power of Infographics: Using Pictures to Communicate and Connect with Your Audiences*. Indianapolis, Ind: Que Publishing.

Information Intelligence: A Blueprint for Data Visualization

DEVELOPING A TOOL TO ENABLE DYNAMIC VISUALIZATION OF DATA INCREASED KNOWLEDGE, INTELLIGENCE AND INSIGHT AMONG A FIRM'S EMPLOYEES.

BY ASHLEIGH FAITH, MLIS

The amount of data is growing exponentially, and information professionals and others who work with data are being challenged to find ways to analyze and leverage this data. Data visualization has come to the forefront of potential tools to address this challenge and guide business and product development decisions. By representing information visually, users can better understand their assets and repurpose it to meet their needs.

Visualization tools create an “atmosphere of opportunity” wherein data relationships can be transformed into knowledge and business decisions can be supported with empirical validation. Within the digital ecosystem, visualization tools are the equivalent of an information blueprint, a way of connecting data on a grand scale to continuously map information and add new levels of insight.

Project Parameters and Scope

In 2011, SAE International, an engineering mobility society and publisher, faced a dilemma: Our CEO and staff needed a fast and easy way of getting a snapshot of our content, business statistics, and technological strengths and areas in which we could expand. Cobbling together reports and analyses by scanning lines of information was no longer feasible with the amount of data we had. (SAE's content dates from 1906 and covers more than 700 different mobility engineering technologies and eight different product types.)

It became obvious that all facets of our business could benefit from a tool that could gather key metadata, analyze it, and present a visual image of all our information. We concluded that we needed to create a tool that would present a portrait of our assets in addition to providing self-service, or dynamic, analysis for the entire organization. Using digitized content tagged with metadata, this tool would render information into

user-specified visual arrangements.

A cost-benefit analysis projected that this tool would increase productivity and serviceability in all areas of the organization, so acquiring the funds and resources to develop the tool quickly became high priorities. A project team was assembled consisting of two information technology specialists, a taxonomy and visualization specialist, and a computer programmer.

The team first analyzed SAE's metadata warehouse to determine whether the data was primarily statistical, temporal, geospatial, topical, network, or a combination of data types. The team decided that, initially, a cross between network and topical data was the best way to give users the intelligence they were seeking. We also agreed that it was essential to analyze all metadata to determine two things: first, whether the data was clean and accurate, and second, whether the architecture for data visualization was in place.

Technology was the common thread



ASHLEIGH FAITH is lead taxonomist at SAE International and is pursuing a PhD in library and information science (with a focus on ontological visualization) at the University of Pittsburgh. She is also serving in an advisory capacity on the NATO Terminology Program reorganization project. She has been indexing in archives, museums and libraries for five-plus years and has been a taxonomist for two years. She can be contacted by e-mail at afaith@sae.org and through LinkedIn at www.linkedin.com/in/ashleighfaith/.

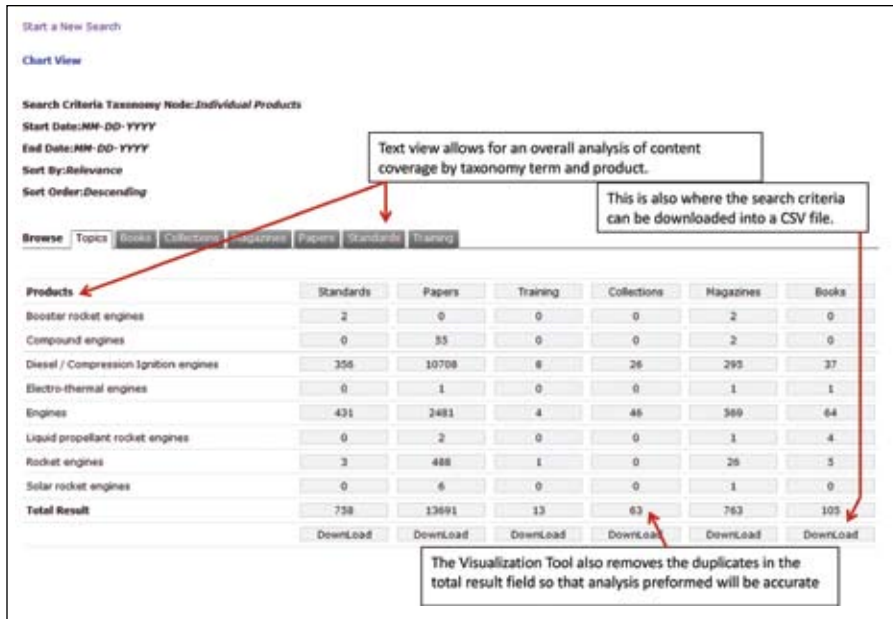


Figure 1. Iteration 1 platform.

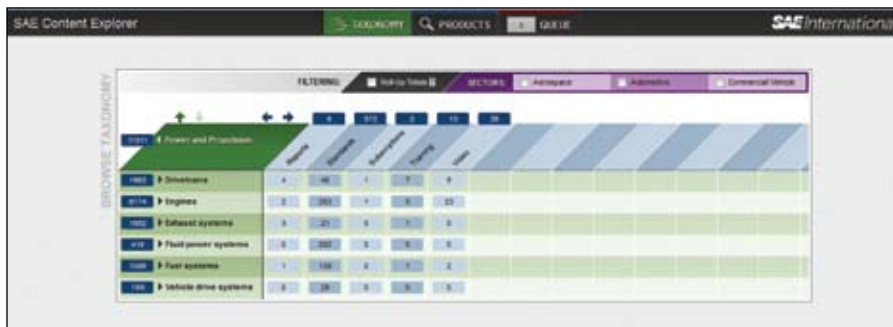


Figure 2. Iteration 2 taxonomy exploration screen.

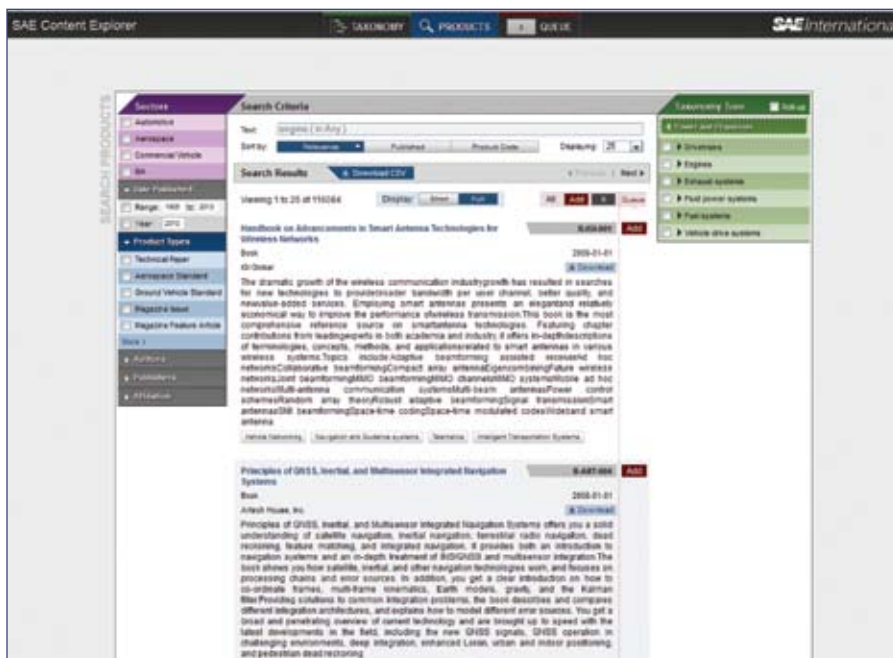


Figure 3. Iteration 2 content search and discover screen.

linking SAE’s data and business information. We had already established a concise way of categorizing our content using a technical vocabulary. With this vocabulary in place, SAE went through a metadata cleansing process that verified that our data was clean and led to a taxonomy that would serve as the cornerstone for data visualization. This cleansing process also incorporated a fresh production workflow that included a new content management system (CMS).

The CMS and production workflow established the architecture needed to start the visualization project. With our metadata clean and ready for utilization, we began to strategize how the taxonomy and data discovery would be implemented. Our metadata was housed in one major repository, which the tool would pull from when a search query was entered and that it later would draw upon for visualization and analytic reports.

Our next step was to decide whether we had the ability to make our visualization interactive and elevate it past a static, two-dimensional display. Data configuration features would add a level of customization and enable greater freedom of interpretation and creativity in solving problems on a self-service platform. Moreover, creating interactive data is always advisable when dealing with complex information blueprints.

Tool Iterations

As a test, the team created Iteration 1 of our tool, which consisted of a dashboard with a listing of content counts that could be tagged with one term in the vocabulary (see Figure 1). Any term could be selected based on content tags. In theory, Iteration 1 would have worked if only a certain amount of technology-based content was needed. The tool was cumbersome to use, however, and even though we had a consistent dataset, there was no training for staff on tool functionality. The tool also did not evolve with the new content types and terms that were being added to SAE’s content.

Launching the first iteration did have

at least one positive effect—it created a baseline for improvement and a working model for users to explore how they might use the tool. After a three-month testing period, we surveyed all staff to record their thoughts about what worked, what didn't work, and what functions could be added. A laundry list emerged that was refined according to feasibility, scope, and the impact on the overall body of users. The team took the suggestions that were applicable and developed requirements for the next iteration of the tool.

Ultimately, there were four overarching issues that made a second iteration necessary. First, the original iteration did not offer concept-building capabilities, just single-term universes; second, the data consisted of a list of statistical numbers that did not effectively represent content; third, after the data visualization was generated, the information could not be archived, explored, or exported; and fourth, the tool did not provide enough business intelligence.

Over the next month, the team worked on Iteration 2 of the tool. Translating what the users wanted into a workable technology was the goal of the second iteration. Interestingly, none of the users we polled expressed a desire for visual intelligence; instead, they were concerned with finding content based on metadata because they wanted the freedom to search internally for content. This was yet another hurdle we had to face—getting staff to understand and appreciate the use of visualization in gathering intelligence as opposed to creating an enhanced internal search engine.

Iteration 2 soon launched, and the reviews were extremely positive. Many users reported doing less work to achieve a better product, experiencing greater ease in finding accurate information, and making better business decisions.

Iteration 2 resolved the user interface issues and stagnant nature of Iteration 1 with a taxonomy exploration screen (see Figure 2) that provided rudimentary business intelligence. It also introduced a content search and discover screen

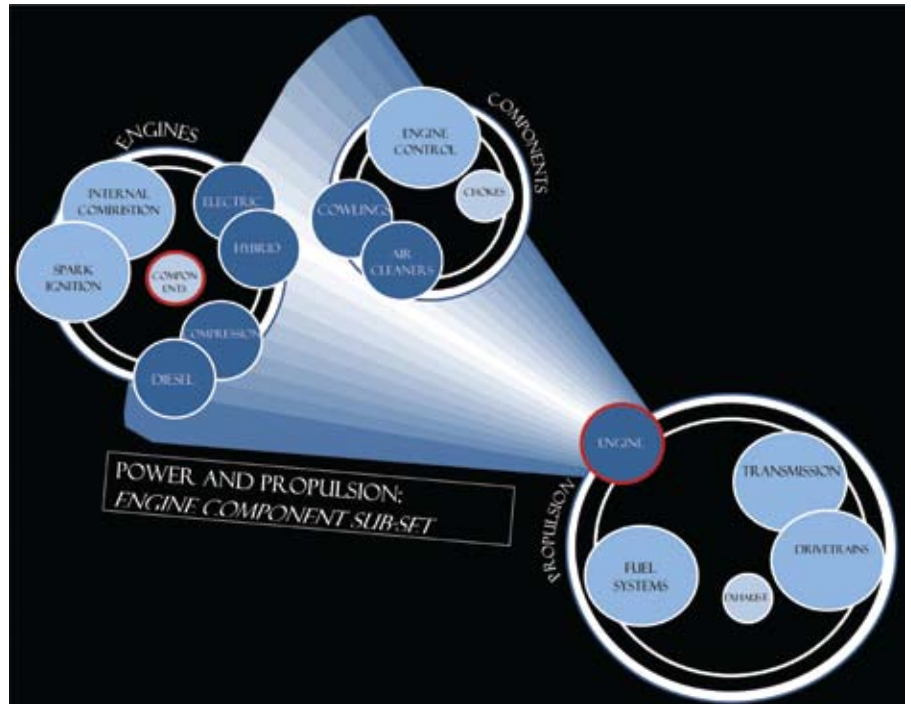


Figure 4. Iteration 3 subgroup concept map demonstrating content strengths and weaknesses.

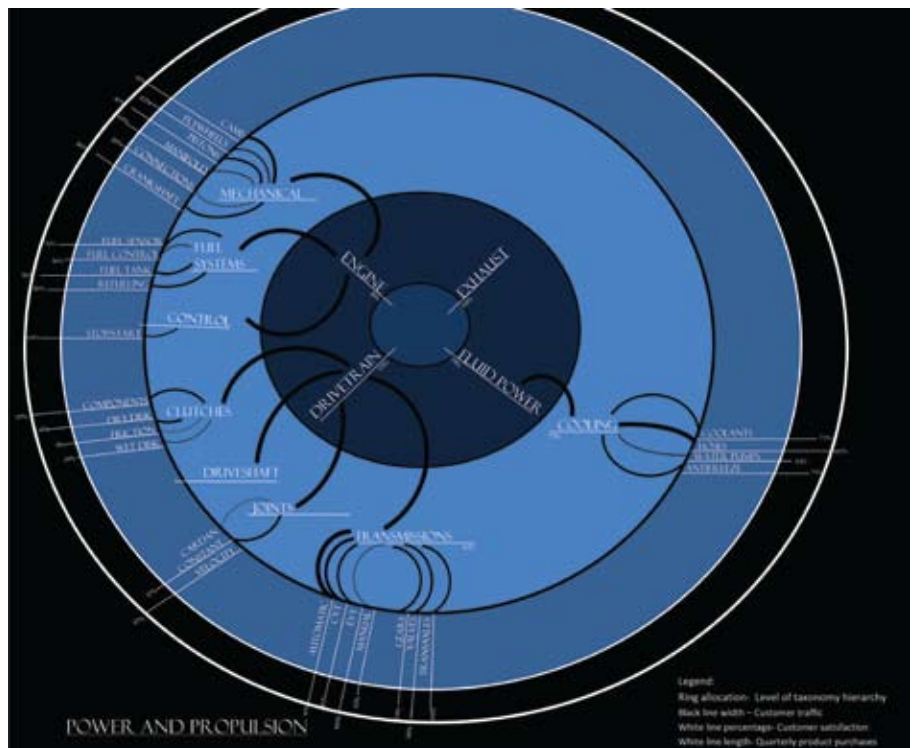


Figure 5. Iteration 3 subgroup concept map demonstrating business intelligence on customer purchasing trends and satisfaction.

(see Figure 3) to expand staff productivity in areas such as product development and knowledge enhancement. Additionally, it opened up further possibilities for statistical, temporal, topical and network visualization for business

and content intelligence.

With the release and testing of Iteration 2, users found they wanted the ability not only to find content but also to leverage the data to develop insights and increase knowledge. The result:

Iteration 3, which took the taxonomy metadata from previous iterations and expanded it to include more business analytics and specialized datasets.

To create Iteration 3, we ran a cluster analysis on all of our content. SAE uses software for vector space analysis (see Salton, Wong, and Yang 1975) to create clusters, but there is also open source software, such as CiteSeer and Databionic ESOM tools, that provides comparable data mining capabilities. What emerged was a spider web of connections, links, and peripheral concepts that formed our blueprint for Iteration 3 (see Figure 4). Forming data into valuable connections and having the ability to dynamically manipulate the data for individual needs was a start, but in the realm of “big data,” the network web needed to be refined into a blueprint for intelligence gathering. Iteration 3 would meet that need by building more insight into the visualizations.

In addition to the cluster analysis, we included exploration of term frequency, hierarchical weighting, and topic subgroupings, among other functions. In Iteration 2 these were only filters, but with Iteration 3 they became dynamic data to be manipulated and visually mapped. Iteration 3 used data that was already available, and the team only had to apply the new dataset to the visualization platform architecture to produce visuals for an even greater snapshot of our information. (SAE used licensed software, but there are many open source resources available, such as OpenDX, VPython, and the Hozo Ontology Editor, that aid in the visualization of information architecture and metadata.)

Because users assimilate and translate visual information in different ways, we decided to use a three-part presentation in Iteration 3—a taxonomy view, a detailed information view, and an exploration visual portal. The taxonomy view is a listing of our taxonomy terms and products in a grid, where the counts of assigned content are listed (similar to Figure 2). The detailed information view is where search results can be filtered and the information that is retrieved

can be accessed in one central location (similar to Figure 3). The exploration visual portal is where, depending on the user’s selection, a search will query a topic-based cluster analysis or insight layer visuals, such as an overlay map of the world with publication data, trending maps, content bursts for popularity, and cited content. Examples can be seen in Figures 4 and 5.

All three of the user interface screens are dynamic, so search and report outputs can be tailored. All search results, whether they are information matrixes, information lists or data visuals, can be exported as CSV files.

Lessons Learned

Looking back at the project, we had to overcome many difficulties, but most of the issues we encountered were with the dataset tags and metadata. We were lucky that our datasets were as clean as they were, but even so we found products that were not classified or indexed correctly and incomplete data records. Having standards for metadata was essential for the project workflow to function properly.

Meeting the needs of users was a key objective; however, fulfilling too many requests (including some from team members) was something we had to overcome with a lot of discussions. Establishing the scope and parameters before the project launch helped, but during the development of Iteration 2 we found that we needed a way of modifying the parameters as we grew to better understand what the project entailed.

In spite of these difficulties, the tool was received favorably, with an 86 percent satisfaction level for Iteration 2 (increases in satisfaction are expected for Iteration 3). The baseline created from Iteration 1 feedback was helpful in gauging the success rate of the project, and user satisfaction will be monitored as future iterations are launched.

Having an updated and working taxonomy was crucial because it created a common language for users to access the information they needed. In our project, a thesaurus was also created


so that staff had a working definition of information and business intelligence. The content itself created issues we had to address—for example, we had to verify we had the rights to certain content, extract incompatible content such as event records and images, and normalize content to avoid redundant data. Each of these issues would have skewed the visualization if we had not taken the time to check the datasets.

The age of our content also had to be taken into consideration. We created a weighting system in our metadata to give greater weight to the newest data. The visual representations also got thrown off by many common words mentioned in the content, such as *engine* and *fuel*, so a stop-words list was needed as well as a monitoring system to make sure the issues we manually fixed during the iterations would automatically be included in the workflow. We found that the stop-words list and workflow corrections needed constant updating to keep the tool running efficiently and effectively.

The crucial decisions we made on this project were creating a baseline, developing the tool in iterations, and understanding what kind of data we had and how best to leverage it for business intelligence. The end result was a tool that enabled dynamic data visualization and elevated the level of intelligence, knowledge and insight among staff. The tool has been very successful and can be emulated in many information repositories by following the information intelligence-gathering blueprint outlined here. **SLA**

REFERENCES

- Salton, G., A. Wong, and C.S. Yang. 1975. A Vector Space Model for Automatic Indexing. *Communications of the ACM*, 18(11): 613-620.



Invest in yourself...
and gain knowledge, insight,
and a career boost!

SLA Copyright and Knowledge Management Certificate Programs

SLA's certificate programs will give you the education and skills you need to enhance your career.

Take a course at SLA 2013 in San Diego!

Certificate in Copyright Management

- CCM700 Teaching Others About Copyright and Licensing – Friday, June 7
- CCM600 Copyright Compliance and Management – Saturday, June 8

Knowledge Management/Knowledge Services Certificate

- KMKS102 The Knowledge Audit: Evaluating Intellectual Capital Use – Friday, June 7
- KMKS101 Fundamentals of Knowledge Management and Knowledge Services – Saturday, June 8

Visit <http://sla.org/learn/certificate-programs/> to learn more!

For a full list of SLA 2013 continuing education courses, visit <http://bit.ly/sla2013ce>.

www.sla.org/SanDiego2013

10 Questions: Mike Walsh

TO LOOK INTO THE FUTURE, MIKE WALSH SETS HIS SIGHTS SQUARELY ON THE PEOPLE AND PATTERNS OF THE PRESENT.

BY STUART HALES

Where can you see the future taking shape? In a research center or think tank? In a tech company in Silicon Valley, a digital communications firm in India, or a green energy start-up in China? Or is it hiding in plain sight on the streets of Tokyo, in the subways of New York, and in the cafés and shops of Paris?

For Mike Walsh, the future is everywhere—and that's where he is as well. A self-described “global nomad,” he travels around the globe watching people work, play, shop, eat, talk, and do everything else they do on a daily basis. One week he'll be in Indonesia watching people use social networks; the next week he'll be in Istanbul observing the interaction between different cultures and religious beliefs; and the following week he'll be in Mexico watching what he calls “the industrial re-revolution” continue to unfold.

On Sunday, 9 June, he'll be in San Diego to present the keynote address at the SLA 2013 Annual Conference & INFO-EXPO. He'll talk about new ideas that will change the future, but those ideas will be firmly grounded in the things he sees and people he meets during his frequent travels.

“To be a futurist, your most important skill is not crystal ball gazing, but observing and trying to understand the present,” he says. “For me, traveling, observing people and cultures, interviewing crazy scientists and inspired entrepreneurs, and just hanging out in strange places—they're all part of the way I build context for the changes we're seeing in the world.”

When he's not traveling, Mike runs an innovation research lab, Tomorrow, writes a weekly newsletter, and speaks to groups interested in how people will think, act and interact in the years ahead. He took time from his busy schedule in April to answer questions about his work and ideas.

You're a futurist with a particular interest in consumer behavior. How did you get interested in the future, and what special knowledge or skills do you think you bring to the conversation about the future?

I'd been working in the digital space since the very beginnings of the Web in the mid-1990s, but the penny really dropped for me when I moved to Hong Kong and started traveling and working in the fast-paced markets of Japan, China and Korea. It was peering through a window into the near future. Long before the iPhone or Facebook arrived in the West, I saw Asian consumers creating entirely new ways of living and working through their mobile devices. It was a lesson I never forgot. To be a futurist, your most important skill is not crystal ball gazing, but observing and trying to understand the present.

You say that to understand the future, we need to focus on anthropology—in essence, humans and their culture and behavior—rather than technology. What specific human traits or behaviors do you think provide the best window on the future?

Many of the most disruptive forces in business today are coming from new digital platforms and services that were actually designed to appeal to our most basic human drives—the need to com-

STUART HALES is senior writer/editor at SLA and editor of *Information Outlook*.



municate and connect, to make sense of the world, to learn by mimicking the people around us, and to search for answers to our questions. Whether it's a mobile game or a massive Web platform, the essential characteristics of what makes something engaging and addictive to us, as human beings, are actually very similar.

In your experience, what do we think we know about humans and human behavior that we really don't?

In my view, we tend to wildly overestimate the short-term impact of new technologies. Equally as dramatically, we tend to understate their true long-term impact.

You describe yourself as a “global nomad” who travels the world searching for the best new ideas and insights. In an age where the latest news and ideas can be delivered to you on your cellphone, is the concept of a “global nomad” an anachronism?

If only that were so, I might actually get to spend some time at home! The truth is, the overwhelming abundance of information today obscures what's important and what we should pay attention to. Google may have the answer to every question you might ask, but how do you find the right questions to ask?

For me, traveling, observing people and cultures, interviewing crazy scientists and inspired entrepreneurs, and just hanging out in strange places—they're all part of the way I build context for the changes we're seeing in the world. When you have context, you know what questions to ask.

You previously worked for a market research firm covering the Australia-New Zealand region, and you specialize in identifying future trends in emerging markets. What will be the next big emerging market, and why?

I'm fascinated by Turkey right now. It has one of the world's fastest-growing middle classes and is, itself, a blend of Asian and European influences. The population is young, very mobile savvy, and hungry to absorb new ideas and ways of working.



Your recent book, *Futuretainment*, says we've moved from an era of broadcast networks to an era of audience networks. What do you mean by this, and what are the implications of this shift?

Quite simply, as a content creator or even a company, you can no longer hope to simply buy people's attention. Traditional media is fragmenting, and increasingly the only way to get your message out is by relying on the networks that connect your audience or customers.

Sometimes it's enough to simply invest in doing great work that people are willing to share. But in a world where every piece of content is available to anyone, wherever they are, you have to combine a strong content strategy with a very tactical understanding of data and the science of networks if you want to influence the penetration and distribution of your messages.

What kinds of businesses and organizations have best responded to the shift to audience networks, and what lessons can a professional association like SLA learn from their success stories?

Over the last decade, media—whether it is TV, music or film—has been a petri dish for the evolution of new business models and ways to engage audiences. If you can understand how consumers have changed the way they discover, consume and share content for entertainment purposes, you will also gain an insight into how this may affect the content they need for profes-

sional reasons.

The audience for your presentation at the SLA 2013 Annual Conference consists of librarians and information professionals who work in businesses, government agencies, academic institutions, law firms, medical centers, and other specialized settings. What key message(s) do you want them to take away from your presentation?

I don't want to give too much away, except that I'm hoping to take the audience on a fast-paced tour of new ideas that will challenge the way they think about what's happening—not just in their day-to-day work, but in their broader, daily lives as well.

The theme of the SLA 2013 Annual Conference is “Connect. Collaborate. Strategize.” Do you think these concepts are still relevant in 2013, or do you think newer ideas are crowding them out?

Those three concepts are about as close as you can get to the basic mental toolkit that the earliest people relied on to make sense of the world and their place in it. So I think that, for now at least, you are pretty safe with that as an evergreen set of themes.

What's the best question someone has asked you after a presentation, and what was your answer?

Someone asked me once, “So, if everything you say is true, what advice should I give my kids?” And I replied, “Play more video games.” **SLA**

Assisting *Pro Se* Patrons in a Non-Law Library

INFORMATION PROFESSIONALS CAN BE OF CONSIDERABLE HELP TO PEOPLE LOOKING TO REPRESENT THEMSELVES IN COURT.

BY AUSTIN MARTIN WILLIAMS, MLS, JD

Over the past decade, courts have witnessed a steady growth in *pro se*, or self-represented, litigants. In 2010, the American Bar Association's Coalition for Justice found that fewer parties are obtaining legal counsel as a result of the economic downturn, a trend that has had a negative impact on the court system and on outcomes for the self-represented.

Librarians of all disciplines must take note of this troubling development and do our part to help those in need of reference assistance. More than ever, *pro se* litigants are seeking assistance with complex legal research, but many do not have access to a law library and are left with no other option but to seek out a non-law library for help. For librarians who are not familiar with legal research, assisting *pro se* patrons may seem like a daunting task. Nevertheless, as a profession that acts as a gateway to information, we owe it to our communi-

ties to assist these individuals.

While librarians cannot represent *pro se* litigants in court or offer legal advice, they can provide *pro se* patrons with much-needed reference support. The practices laid out in this article will guide librarians in assisting *pro se* patrons. The article discusses steps a librarian can take, from gaining the necessary background knowledge to collecting legal resources, learning about alternatives, possessing the right mental state, and conducting the reference interview. The suggestions and insights offered are based on conversations with the following reference librarians:

- **Amy Hale-Janeke**, head of reference, Fifth Circuit Court of Appeals Library, New Orleans, Louisiana;
- **Lisa Rush**, law library manager, Travis County Law Library, Austin, Texas;
- **Ann Hemmens**, head of reference,

Georgetown University Law Library, Washington, D.C.; and

- **Sara Galligan**, director, Ramsey County Law Library, St. Paul, Minnesota.

Gaining Background Knowledge

Generally speaking, librarians are more effective if they possess a little knowledge of the subject matter in question. Librarians working with *pro se* patrons may be tempted to try to learn "the law," or what is known in the legal community as "black letter law." The elements of a crime and the number of days permitted to answer a complaint are examples of black letter law.

Sara Galligan recommends that librarians avoid studying black letter law when preparing to assist *pro se* patrons. "A librarian focusing on black letter law may unknowingly provide a *pro se* patron with legal advice, which is unlawful unless you are a licensed attorney in your state," she says.

But the caution against giving legal advice should not deter librarians from providing reference assistance. "There is a fear that has been put into librarians that if they say anything at all, it's unauthorized practice of law," says Lisa Rush. "There is quite a lot of help that doesn't reach the point of unauthorized

AUSTIN WILLIAMS is the reference/student services librarian at the Georgia State University College of Law Library. He can be reached at austin@gsu.edu.



practice of law. You can show them how to use an index, you can refer them to legal aid, [and] you can provide forms that they ask for.”

To answer legal reference questions without crossing the line, Ann Hemmens suggests that librarians try to become familiar with the legal process and the types of materials used in legal research. Understanding the legal process, Galligan says, includes knowing the differences between civil and criminal matters, being able to distinguish between types of legal documents, and learning the sources of law. Additionally, knowledge of basic legal research techniques and strategies will help a librarian identify the sources of law and know where to locate them.

There is no limit to the number of resources available for those who wish to learn about legal research and the legal process. Numerous academic law libraries and law library associations have created online research guides that provide a basic overview of legal research and describe where to locate print and online resources. A great starting point for non-law librarians is the American Association of Law Libraries' (AALL) Web book, *Locating the Law: A Handbook for Non-Law Librarians*. There are also quite a few print books on the market that provide a good introduction to legal research and the legal system.

Those who desire live instruction will find that many law libraries conduct outreach programs with public libraries to offer legal reference for non-law librarians. An example of this, says Hemmens, is the Circuit Riders Program sponsored by the Coleman Karesh Law Library at the University of South Carolina School of Law. The program sends reference librarians throughout the state to teach basic legal research skills to non-law librarians.

Many law and public libraries also partner with courts and legal aid organizations as part of the “Access to Justice” movement in many states. Through this initiative, libraries are making the public aware of do-it-yourself materials that courts and legal aid organizations have

created for *pro se* patrons.

Rush suggests that non-law librarians consider inviting legal aid providers to speak at their library. “They want to come and teach people about what they do, and they give a really good basic overview of legal issues,” she says. These presentations complement books, online guides, and live instruction and provide librarians with numerous opportunities to gain a foundation in legal research.

Collecting Legal Resources

Once you have acquired a general understanding of legal research, you can begin thinking about which legal resources your library should include in its collection. Before investing any money, consider the types of questions you are likely to receive and the resources that will be most useful for answering them. Rush and Galligan note that while each patron base is different, *pro se* patrons often conduct research in the areas of family law (e.g., marriage, divorce, and child custody/support), landlord-tenant relationships, wills and estates, civil procedure, and criminal law and procedure.

While your collection may start off broad in scope, you may well find yourself concentrating on just a couple of areas of law over time. This is where it becomes critical to understand your patron base and listen to their needs. You should also consider the types of resources your *pro se* patrons will need to use, such as cases, statutes, secondary sources, and forms.

In addition to subject area and resource type, you need to consider the format (print or electronic) in which you will provide legal materials to *pro se* patrons. Hemmens says that some *pro se* patrons will only want books, while others will prefer “the Google-like nature” of products from Westlaw and LexisNexis. Although electronic public access versions of Westlaw and Lexis materials can be quite expensive, print is not always the more affordable option. As Rush notes, purchasing primary sources in print can be very expensive because they require continuous

updates to maintain their value.

Providing patrons with a good starting point without breaking the bank takes planning and a little creativity. To get the most out of a tight budget, consider offering a mix of primary and secondary sources in both print and electronic formats. AALL has an excellent public library toolkit that provides state-specific collection development suggestions. You should also consider adding a few general resources to your collection.

Print secondary sources, such as Nolo books, the Nutshell series by Thomson/West, the Carolina Academic Press Legal Research Series, and *Black's Law Dictionary*, are relatively inexpensive and provide great starting points for *pro se* patrons. While not the actual law, secondary sources can define key terms, provide a general overview of an area of law, address source location, and outline research strategies.

Libraries can acquire legal and court forms from a variety of vendors in both print and electronic formats. Form books and databases provide *pro se* patrons with sample legal documents they can use as models for their own documents or even to “fill in the blanks.”

Each of the librarians interviewed stated that *pro se* patrons request forms more than any other type of item. The importance of forms cannot be stressed too much—they are, in Rush's words, “the key to the court house.” If you can't find a form database or form book that satisfies your needs or budget, Galligan and Rush suggest contacting your local courts and ask if they have forms you can distribute to patrons.

To access primary law, such as cases, statutes, and regulations, all you really need is a computer and Internet connection. There are several Websites you can use to access federal, state, and local laws. Cornell Law's Legal Information Institute (“LII”) is a free gateway for accessing federal and state law. Users can search U.S. Supreme Court cases, the United States Code, and the Code of Federal Regulations. Using LII's state law resources, users can freely access state codes, regulations, and other legal materials.

If you're just searching for case law, Google Scholar has a sizable collection of federal and state cases. Court Websites are also good places to look for recent court opinions, forms, and court rules. Lastly, Amy Hale-Janeke notes that LawHelp is a highly touted free resource that helps low- and moderate-income people find free legal aid programs in their communities and answers questions about their legal rights. Becoming familiar with each of these resources can help you get the most out of your budget.

Informal Means of Assistance

Assisting *pro se* patrons can be challenging, so the four librarians interviewed for this article suggest using research guides to help answer complex questions. Research guides can aid the librarian as much as they can the end user. For librarians, they provide a platform for aggregating information on a topic, thus eliminating the need for librarians to remember every single resource available for that topic. For patrons, they provide a starting point and roadmap for research. Patron preference will determine if you should create print and/or electronic guides.

For help getting started, look at research guides created by academic law libraries and the Law Library of Congress. You can also bookmark these guides and direct patrons to them. Either way, research guides are an invaluable tool that any library working with *pro se* patrons should include in its offerings.

Contact or referral lists are also great tools to develop when you are working with *pro se* patrons. For example, a list of legal aid organizations and providers of low-cost legal assistance is useful for helping patrons who are seeking legal advice instead of reference assistance. A list of attorneys or organizations that *pro se* patrons can contact will allow you to provide some assistance without stepping over the line.

Additionally, a contact list of law libraries can be very useful when dealing with complex research queries. With

a prepared list, you can quickly call up a legal reference librarian for advice or use the list to refer *pro se* patrons to a law library for additional research assistance. All libraries, no matter their type or mission, should consider developing a contact list so they have something on hand if the need arises.

Keeping Your Sanity

Perhaps the most important resource librarians should possess when working with *pro se* patrons is a healthy mental state. Hale-Janeke, who worked full time with the public for six years at a county law library and a public library before joining the judiciary, says librarians will hear “awful, heartbreaking stories, and they are going to want to help very badly.” In these situations, she says, “librarians may be tempted to go way beyond what they would normally do for a regular patron.”

Hale-Janeke learned from experience that librarians must keep a healthy emotional distance and remember that they are not at fault for a patron's situation. “Emotional boundaries are important for both your sake and the patron's sake,” she says. “You are not there to interpret the law for them or solve their problems. Don't become entangled in all the drama.”

Interviewing the Patron

The reference interview is where you finally put your background knowledge, resources, and emotional distance to work. If you have taken the steps discussed in this article, a reference interview with a *pro se* patron will be similar to one you would conduct with any other type of patron.

The one difference, Hemmens notes, is that you may feel a greater need to “tease out” information from them. Sometimes, *pro se* patrons withhold necessary information, either knowingly or unknowingly. For example, they may not provide enough details about their situation because of embarrassment; other times, they may not provide adequate information because they simply cannot articulate their query

accurately.

Knowing about legal research and the legal process will enable you to steer *pro se* patrons in the right direction and help them, say, distinguish between a federal or state action and civil or criminal matters. Following are questions you might consider asking to help you identify the best approach to providing assistance:

- What are you trying to do/accomplish?
- Are you dealing with a criminal or civil matter?
- Is your issue in state or federal court?
- Have you spoken to an attorney? Would you like a referral sheet for legal aid and low-cost attorneys?
- Would you like to see a book that provides an overview of your topic?
- Are you looking for cases or statutes?
- What type of form are you looking for?
- Is this your first time conducting legal research?
- Would you like to see print or electronic materials?

Remember, you're not providing legal advice, just helping patrons articulate their needs. By clarifying their situation, you can better determine what they want, whether you have what they want, and, if not, where you can direct them for further assistance. A large portion of the reference interview is figuring out what a patron is really looking to find. Once you know what he or she needs, the rest of the interview falls on you to determine how to locate that resource.

Bringing It All Together

While legal research may be outside of your library's mission, we as librarians owe it to our communities and patrons to possess some basic knowledge of legal research. Your library may never receive legal inquiries, but you are

Continued on page 30

Unexpected Advantages of Virtual Libraries

STAFF AT TWO UNIVERSITY LIBRARIES FOUND THAT LOSING THEIR PHYSICAL COLLECTIONS MEANT GAINING NEW PERSPECTIVES ON OUTREACH AND SERVICE.

BY JILL WILSON, MSIS, AND KEN BOLTON, MLIS

Beginning in 2009, four libraries at Cornell University transitioned from a physical space to a virtual presence. Amid the ensuing outcry over libraries without books, both librarians and patrons began to notice some positive (and sometimes unexpected) outcomes resulting from these changes. In two cases—those of the Physical Sciences Library and the School of Hotel Administration Library—new opportunities arose from the transition.

Going Virtual at Cornell

When the subprime mortgage crisis led to the bursting of real estate bubbles in 2008, the resulting economic problems spread to the Cornell campus. Facing a significant operating deficit, administrators at Cornell announced an initiative called Reimagining Cornell, a university-wide strategic planning pro-

cess designed to eliminate administrative redundancies and consolidate academic units and programs. One of the areas targeted for restructuring was the library system.

The Cornell Library System has always been very decentralized, with 20 unit libraries spread out across the campus. This highly distributed model made the library system an ideal candidate for consolidation and compaction.

In December 2009, the Physical Sciences Library (PSL) moved its collection of printed materials to other campus libraries and left the remaining space open for quiet study. Subject matter specialists continued to offer research and instruction services onsite in their remaining offices and provided support for electronic resources. In 2011, the Engineering Library underwent a similar transition to a virtual presence, followed by the Entomology Library and the

School of Hotel Administration Library.

The “reimagined” library system created significant changes and challenges for the four virtual unit libraries. Notwithstanding the physical closures and staff reductions, patron demands and expectations remained high. It quickly became apparent to the staff supporting the four virtual libraries that fundamental changes were needed.

Outreach by Librarians

The Physical Sciences Library was the first to close its stacks, leaving several users upset (although many of them were prolific online researchers). Faculty and graduate students, the two largest user groups, wondered how they were going to access collections and services and what would happen to their study space. The physical sciences librarians began speaking with concerned users about the closure, and their dialogue helped



JILL WILSON is the outreach coordinator for the Engineering, Math, and Physical Sciences Libraries at Cornell University. She has worked in libraries for nearly 15 years. **KEN BOLTON** is a librarian at Cornell University's School of Hotel Administration. He also teaches a two-credit course in the school that focuses on many areas of information retrieval and management.



shape our new outreach efforts. Users revealed gaps in the library concerning research and other needs beyond scholarly communication.

To remain relevant and visible to users and truly operate as a virtual library, the PSL needed to figure out how to conduct business differently. Many services and concepts would remain, such as research consultations and requests for materials. Study space would still exist in the former stacks space in Clark Hall. However, outreach efforts started to take center stage in re-defining the library and getting the word out about a new library model.

Since the Internet would become the main gateway for library users, the PSL redesigned its Webpage to include dynamic and collaborative finding tools. The site includes only physical sciences materials and offers easy access to the most popular resources (see Figure 1). PSL librarians are currently developing more sophisticated tools for accessing e-journals and e-book collections pertaining to the physical sciences.

The site includes a feedback forum for users to post comments or questions that anyone (including other users) can answer. Social media outlets are displayed on the home page, which also includes information about new PSL events and resources. Finally, the site offers a virtual shelf that users

can browse to discover other materials related to found items. The virtual shelf contains both printed and electronic materials.

The initial crowdsourced answers to questions and comments contributed to the collaborative spirit of the site and encouraged the PSL librarians to act on what they were learning from users. Using their connections outside the library, the PSL librarians investigated bringing a dynamic program called ACS on Campus to Cornell in April 2012. ACS (the American Chemical Society) participates in library outreach programs to educate graduate students about matters such as how to publish scholarly articles and what the peer review process for ACS journals entails.

When PSL staff decided to bring this program to campus, they enlisted graduate chemistry students to help shape presentations. The graduate students and librarians partnered to create unique, new sessions for ACS on campus, including modules on SciFinder, National Science Foundation grant requirements, and communicating science issues to the public.

ACS on Campus was a huge success and created enthusiasm for the virtual PSL that is still being felt today, as evidenced by continued graduate student interest in library-sponsored programs. Earlier this year, the library partnered

with the Communications Department at Cornell to offer a two-day workshop for graduate students in the sciences on developing an “elevator speech.” Many graduate students lament being unable to communicate what they do in layman’s terms. PSL staff recognized this gap and offered the workshops, which have helped the library remain visible and relevant to users.

To build on the interest in developing public speaking skills, PSL staff (in partnership with other librarians on campus) are sponsoring another program for graduate students in June 2013, but this time they are opening it up to other disciplines as well. The mini-conference, called PubCon, will contain presentations by librarians and other faculty on topics ranging from presenting effective posters to using improvisational/comedy skills during presentations to dressing for success. This topic is also being incorporated into the students’ lunch hour by creating an etiquette lesson that will teach graduate students how to eat and network in professional settings. As with ACS on Campus, PubCon is the result of collaborations among graduate students, librarians and other department staff within Cornell.

The outreach efforts go above and beyond the information and research literacy tactics that librarians often teach. PSL staff view teaching communication skills as part of the scholarly communication process, one that goes beyond publishing the occasional article or paper. Also, when the library partners with other departments on campus, it demonstrates the visibility and relevancy of the library, despite the absence of an onsite print collection. Finally, the virtual library is putting ownership in the users’ hands. PSL-sponsored programs are offered for the purpose of meeting users’ needs and desires, which continue to emerge during these unique partnership opportunities.

Social Learning Space

Just as the PSL staff discovered new opportunities for outreach to their community, the transition to a virtual pres-

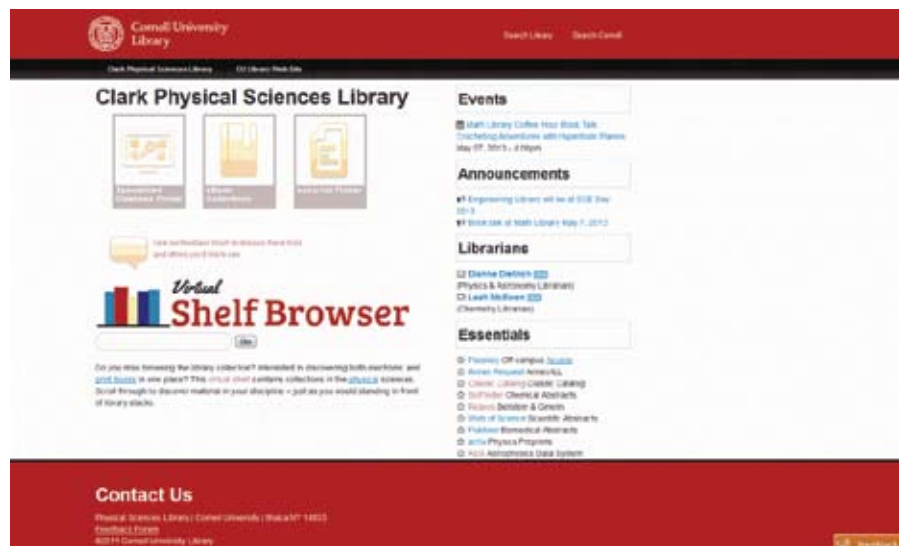


Figure 1. Cornell’s new Physical Sciences Library Website contains specialized finders for discipline-specific materials, a virtual shelf browser, and easy access to essential research tools.

ence also provided staff at the School of Hotel Administration Library with a chance to rethink the use of library physical spaces.

One of the goals of the Reimagining Cornell initiative was to find avenues for collaboration among some of the individual libraries at Cornell. As a result, the libraries for the School of Hotel Administration, the Industrial and Labor Relations School and the Johnson Graduate School of Management were consolidated into one unit. As part of this consolidation, the School of Hotel Administration Library underwent a transition from a traditional library to a virtual presence. (Similarly, the PSL is now under an umbrella with the Engineering Library and Math Library.)

The School of Hotel Administration decided to take advantage of this transition by re-thinking the physical space formerly occupied by the library. As the result of a fundraising campaign (spearheaded by a donation from the J. Willard and Alice S. Marriott Foundation), the school opened the Marriott Student Learning Center in August 2012. The center houses the library as well as a student lounge and atrium.

From the beginning, one of the objectives of the Marriott Foundation was to create a learning environment that mirrored the hospitality industry. As J.W. “Bill” Marriott, Jr. said during the opening ceremony for the center, “The most important thing in the hospitality industry is communication—talking to people, listening to people, getting their ideas, interacting, serving people—and that’s what this center helps to do, bring people together to communicate and work together.”

The School of Hotel Administration took Mr. Marriott’s ideas to heart and set out to create a learning center that focuses on the concept of social learning. The library as a social learning space revolves around the idea that people learn better together. Plans for the library within the Marriott Student Learning Center centered on themes of collaboration, interaction, and the



The School of Hotel Administration Library was designed with the idea that a library space can function as an excellent social learning space.

exchange of ideas, as the following examples illustrate:

Group learning spaces. The library has five rooms equipped with whiteboards and movable furniture to allow groups to adapt the space to their needs. The rooms have proven to be so popular that a reservation system was put in place to limit access to students enrolled in the School of Hotel Administration.

Adaptable furniture patterns. Traditional carrels and tables were replaced by a variety of seating options. Clusters of large, comfortable chairs, small group tables, and portable stools all allow for social learning to take place in different areas of the library.

Increased digital access to library resources. With the books moved to another library on campus, collection development efforts began to focus on acquiring access to digital resources. Digital access allows patrons to share the same resources more easily and effectively, contributing to the ability to learn together.

Embedded library staff. The staff are prominent in the space in new ways. Previously, library offices were located in a back hallway; in the new library space, staff are centered in the library in glass-lined offices. As a result, they are much more visible, which encourages interaction with patrons and among themselves.

As a result of the library’s transition to a social learning space, patrons aren’t

just learning from books, journals, databases, and librarians—they are also learning from each other. Granted, at the beginning, patrons would sometimes lament the loss of the book stacks from the library space. But when asked how often they used the books, the answer was hardly ever—they just missed being in the presence of books.

It’s clear that even today’s digital natives have an emotional attachment to books. Librarians must respect that attachment and recognize the role that the traditional library (with its books, carrels, and reference desks) plays while also looking for possibilities that new library spaces present as learning environments. With its virtual transition complete, the library at the School of Hotel Administration has embraced its new role as a social learning space and is helping to create a community of learners.

Virtual Reflections

Both the Physical Sciences Library and the School of Hotel Administration Library are successful examples of a modern library. The transition from traditional stacks-based libraries to virtual libraries with completely online collections was not easy on either the users or the librarians, but it helped both groups see new advantages and opportunities. The librarians respected the changing learning patterns of our communities and are adapting accordingly. Our users, while missing the books, appreciate our services, online collections and support of social learning.

Librarians in the digital age are being recognized as stewards of information, even more so within the virtual realm. They are learning that virtual libraries are not the death knell of libraries, but rather an opportunity to foster growth within our communities and change the way libraries are seen and used in a research setting. **SLA**



Educate. Enable. Achieve.

IEEE Xplore® Digital Library

Driving research at the world's leading universities and institutions

- Increase scholarly output and research development with access to over 3 million full-text IEEE articles
- IEEE publishes 17 of the top 20 journals in electrical engineering and is the most-cited publisher in new patents*
- Customize subscription options to your degree program

*Thomson Reuters Journal Citation Reports; 1790 Analytics, LLC

"IEEE is the umbrella that allows us all to stay current with technology trends."

Dr. Mathukumalli Vidyasagar
Head, Bioengineering Dept.
University of Texas, Dallas



Visit our booth # 908 at the SLA Conference and see a demo!

Request a Free Trial

See how IEEE Xplore can power your research.

www.ieee.org/academic



Complying with Copyright When Using Social Media

Your social media guidelines or policy should address copyright and be revised regularly to stay up to date.

BY LESLEY ELLEN HARRIS

Social media is new and uncertain territory for many of us, but one thing that is certain is that social media involves communicating and/or sharing a variety of content in a variety of formats and forums. With the rapid growth of social media, more and more libraries and organizations are developing guidelines and policies that tell employees how to conduct themselves when using Facebook, YouTube, Twitter, blogs, wikis, virtual worlds, and other channels.

This column focuses on one particular aspect of social media guidelines: respecting copyright. IBM's Social Computing Guidelines address copyright in a provision that states, in part, the following:

“Respect copyright and fair use laws.

For IBM's protection as well as your own, it is critical that you show proper respect for the laws governing copyright and fair use of copyrighted material owned by others, including IBM's own copyrights and brands. You should never quote more than short excerpts of someone else's copyrighted work. And it is good general blogging practice to link to others' work. Keep in mind

that laws will be different depending on where you live and work.”

As you can see, the preceding paragraph incorporates many copyright-related issues that you may want to consider for your own policy. The issues are as follows:

- Determining ownership of content;
- Understanding fair use and its application;
- Obtaining permission to use copyright-protected content;
- Linking to content;
- International copyright law; and
- Record keeping.

Let's look at each of these issues individually.

Determining ownership of content.

Determining ownership of content may take some investigation, time and creativity. If you are lucky, the copyright owner's name will be clearly marked on the content. In many cases, however, you will need to contact a publisher or Website owner or initiate some online searches to determine who owns the content. Websites often post content

owned by others and may not be able to provide you with permission, but they can sometimes guide you to the correct copyright owner.

Obtaining permission to use copyright-protected content. Always assume that the content you wish to use is protected by copyright, even if that content is found through a search engine or does not contain the copyright symbol (©). Unless you have reason to believe otherwise, you should obtain permission before you use the content. Doing your best to obtain permission without successfully obtaining it does not permit you to use the content—you will need to use alternative content or, if the content is text, summarize the text in your own words.

Similar to using copyright-protected content in any other manner, using content in social media requires asking and answering a series of questions. Questions to ask include the following:

- Is the content protected by copyright?
- Are you using the content in a copyright-compliant manner?
- Is there an exception to the use?
- Does fair use apply, or is there implied consent?
- Do you already have permission to use the content through a previous permission or license agreement?

These questions are pertinent regardless of whether the content you are using consists of text, music or images. Images from stock agencies can be a wonderful way to enhance a blog or other social media, and stock agencies generally have plain-language licenses stipulating how licensed images may be used. The use of images in social media is generally allowed, but always check the specific license terms of the stock agency with which you are working. This same approach applies to the use

LESLEY ELLEN HARRIS is a copyright lawyer who consults on legal, business and strategic issues. She is editor of a newsletter, *The Copyright & New Media Law Newsletter*, which is available at www.copyrightlaws.com. She also teaches SLA's Certificate in Copyright Management program and maintains a blog on copyright questions and answers.



Once you have put your social media policy or guidelines in writing, your job has only just begun.

of music in social media.

Understanding fair use. Fair use is an often-misunderstood concept in the U.S. Copyright Act. It is intentionally ambiguous and is always based on the particular facts of a given circumstance. Fair use applies to social media, so you need to consider the four fair use factors set out in the Copyright Act.

Linking to content. The legality of linking to internal pages of Websites varies from country to country. Although linking is generally permissible in the United States, the use of “deep (direct) links” is sometimes prohibited, though for non-copyright reasons. For example, a Website may bar the use of a deep link in its terms of use or in a “Legal Notices” or similar section.

The “framing” of copyright-protected content on your Website or on a social media site is not the same thing as linking to content. Framing can be viewed as a violation of copyright; in fact, most Websites specifically state that framing their content on another Website is strictly prohibited.

International copyright law. Copyright laws vary from country to country. As a best practice, follow the copyright laws in your own country. U.S. organizations may want to go a step further and protect moral rights (rights of attribution and integrity belonging to authors) in their social media guidelines and policies, since most countries protect moral rights to a greater degree than the United States.

Keeping a record of permissions. You should keep a record of all of your communications with a copyright holder. These records are important elements of the copyright process and also provide evidence of the permission and the terms of use for that permis-

sion. Records include e-mail messages, phone calls, letters, and any communication relating to obtaining permission to use content in social media.

Unfinished Business

Your organization’s treatment of copyright in its social media policy or guidelines may take no more than a sentence or paragraph or run several pages. Know your audience and the level of information they can absorb and the guidelines they can and will follow.

Once you have put your social media policy or guidelines in writing, your job has only just begun. Next, you need to educate your organization about copyright and make sure everyone is aware of, and familiar with, the guidelines or policy. You may also need to amend them every year or two, as both the law and social media can change rapidly. **SLA**

Assisting *Pro Se* Patrons

Continued from page 24

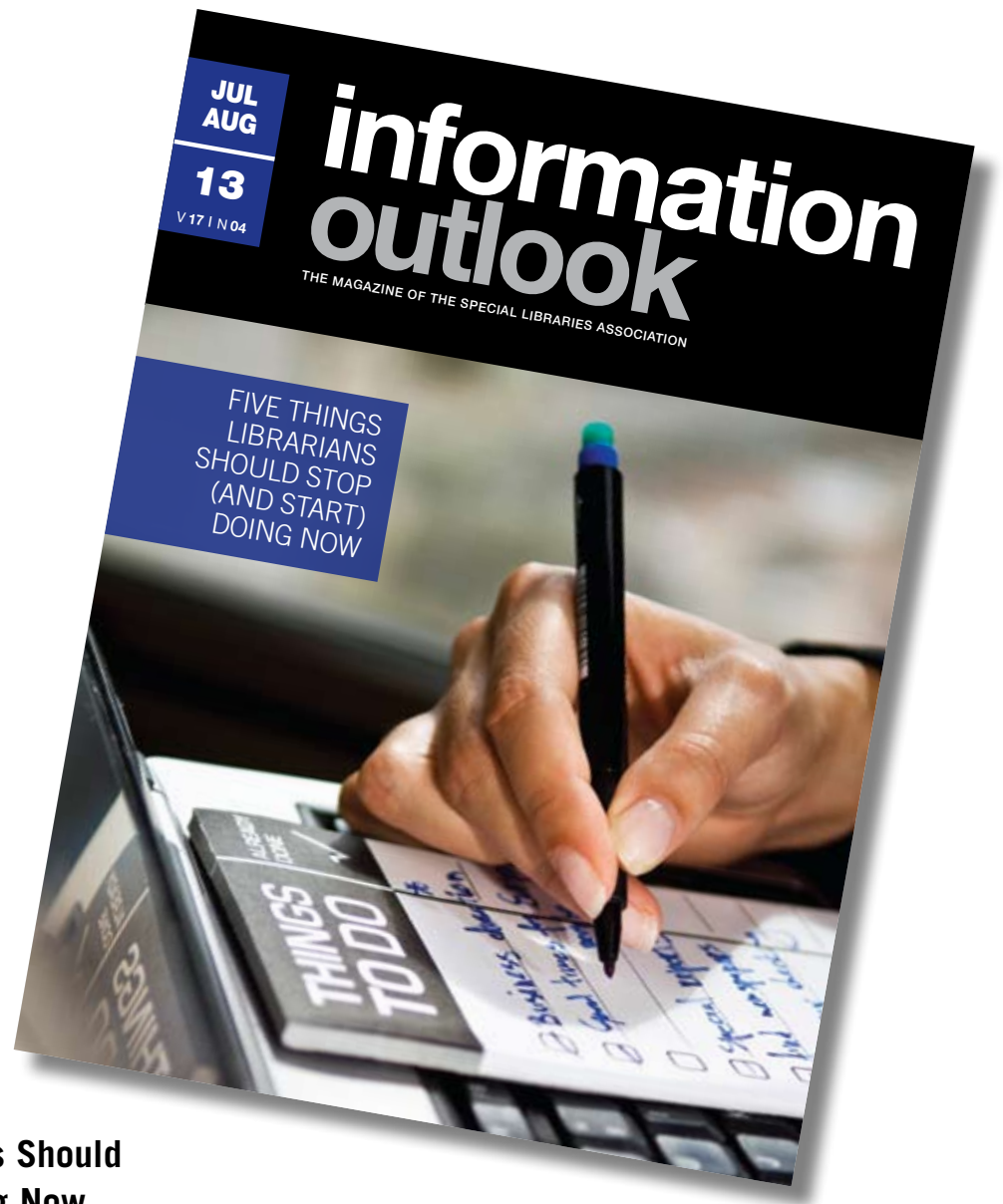
bound to know a library or librarian who has or someone who has sought legal research assistance.

To provide effective legal reference assistance, you must first take an interest in the subject and make a commitment to study the craft. While a thorough knowledge of the subject takes time, librarians can provide valuable assistance with just a basic knowledge of legal research. Fortunately, there are several print and electronic resources that librarians can use to gain a solid foundation in legal research. With the right mix of a knowledgeable staff and basic legal materials, even a small library can provide users with adequate research assistance. **SLA**

RESOURCES

- American Bar Association. 2008. *Complete Personal Legal Guide: the Essential Reference for Every Household*. 4th ed. New York: Random House Reference.
- Bergman, Paul, and Sara Berman-Barrett. 2010. *Represent Yourself in Court: How to Prepare and Try a Winning Case*. Berkeley, Calif.: Nolo.
- Bonfield, Lloyd. 2006. *American Law and the American Legal System in a Nutshell*. St. Paul, Minn.: Thomson/West.
- Carson, Bryan M. 2011. *Finding the Law: Legal Research for Librarians and Paralegals*. Lanham, Md.: Scarecrow Press.
- Elias, Stephen. 2012. *Legal Research: How to Find & Understand the Law*. Berkeley, Calif.: Nolo.
- Irving, Shae. 2011. *Nolo’s Encyclopedia of Everyday Law: Answers to Your Most Frequently Asked Legal Questions*. Berkeley, Calif.: Nolo.
- Warner, Ralph, and Robin Leonard. 2011. *101 Law Forms for Personal Use*. Berkeley, Calif.: Nolo.

In the next *Information Outlook*:



Five Things Librarians Should Stop (and Start) Doing Now

- Learn project management skills
- Turn your focus outward
- Stop trying to serve everyone

Plus ...

- Overseeing a Web project in Istanbul
- Member interview with Ned Potter, “The Wikiman”