Since 2008, the Colorado State Library's Library Research Service (LRS) has been keeping an eye on public library websites and the kinds of web technologies public libraries use to interact with patrons through our biennial longitudinal study, "U.S. Public Libraries and the Use of Web Technologies." LRS shared its 2008 and 2010 results with you in the October 2009 and September 2011 issues of Computers in Libraries, and now we're back with the newest data from our 2012 study.

As you might imagine, the results for 2012 look different than in 2008 and 2010: Not only have some of the web tools themselves changed, but libraries' usage of the tools has changed as well. In 2008, we were looking at Myspace, catalog tags, and podcasting. Today, it's all about mobile strategies, using social media effectively, and meeting patrons in
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the (virtual) spaces they’re already using. Even the smallest libraries are on board with these shifts: For example, 17% of libraries serving less than 10,000 people offered a mobile-friendly site in 2012; none did in 2010.

With the proliferation of social media, the use of web technologies has become as much about building relationships as it is about providing resources. To that end, we added a new component to our 2012 study: We interviewed several libraries that we identified as heavy users of social media to find out more about their social networking strategies, best practices, and lessons learned.

Background and Methodology

We began this study in 2008 in response to the growing trend of libraries adopting web tools such as blogs, virtual reference, and social networking to increase interaction with
their users. At that time, there was rich discussion about how to use these tools effectively, but no information about how many libraries were actually adopting them. Our study sought to answer this question by documenting the presence of these tools in a sample of U.S. public library websites. From the outset, the plan was to make this a longitudinal study. The results of the 2008 study set a baseline for the adoption of web technologies nationwide. The study was repeated in both 2010 and 2012, and these iterations expanded on the 2008 findings by tracking the trends in U.S. public libraries' use of web technologies over time as well as by examining new technologies as they emerged.

In 2008, we pulled a random sample of 483 U.S. public libraries from IMLS's (Institute of Museum and Library Services) annual "Public Libraries Survey," which includes all public libraries in the U.S. Because libraries of various sizes are likely to implement web technologies in different ways, we stratified the sample by size of the population served: less than 10,000; 10,000 to 24,999; 25,000 to 99,999; 100,000 to 499,999; and more than 500,000. In 2010, we added a few more libraries to our sample, for a total of 584 (125 from each population group and all 84 libraries serving more than 500,000). In 2012, we used this same sample.

The study is conducted as a content analysis. LRS staff members visited the websites of each public library in the sample, checking for the presence of features such as RSS feeds, virtual reference, social networking, and mobile websites. Our findings illuminate how widespread the adoption of these features is and how the patterns have changed over time.

Current Findings

Our study started with the basics: Does the library even have a website? As you would expect, in 2012, the vast majority of our sample did. All libraries serving 25,000 or more had websites, as did all but two of those serving 10,000 to 24,999. The smallest libraries (serving less than 10,000) lagged a bit in this area, with a little more than 4 in 5 (83%) having a web presence, although this was up from 71% in 2010. Four of the smallest libraries without websites did maintain Facebook pages.

Next, we looked for several web features that enable interactivity with users: online account access, blogs, RSS feeds, a catalog search box embedded on the homepage, virtual reference, email newsletters, online library card sign-up options, and sharing interfaces such as Share This/Add This. For features including online account access, blogs, RSS feeds, and catalog search boxes, we found that the biggest increases in terms of adoption occurred in the smallest libraries. In contrast, in larger libraries, these features decreased from 2010 to 2012. For example, the number of the smallest libraries with RSS feeds doubled from 10% to 20% between 2010 and 2012, whereas in the largest libraries (serving 500,000-plus), RSS feeds dropped from 89% to 63%. In most libraries, regardless of size, text reference and Share This/Add This features increased, email newsletters and online library card sign-up features held relatively constant, and chat reference availability dropped between 2010 and 2012. Text reference services showed particularly big gains from 2010 to 2012, increasing from 13% to 43% in the largest libraries and from 4% to 19% in libraries serving 100,000 to 499,999.

We next turned our attention to mobile-friendly website access, checking to see whether the libraries offered any of the following:

- Mobile apps: A software application is downloaded by users to run on their smartphones or other mobile devices.
- Mobile version of website: The URL redirects to a mobile site (for example, m.citylibrary.org) when viewed on a mobile device.
- Responsive design: The website is designed in a way that is accessible to a wide range of devices—from smartphones to desktop liquid-crystal displays—through the use of fluid, proportion-based grids, as well as flexible images and media queries.

Since 2010, the number of libraries that cater to mobile devices has increased dramatically (see Chart 1). In 2012, some type of mobile-friendly website access was offered by three-fourths of the largest libraries; about three-fifths of the libraries serving between
25,000 and 499,999; one-third of libraries serving between 10,000 and 24,999; and 17% of the smallest libraries. In contrast, in 2010, just 12% of the largest libraries; 3% of libraries serving between 100,000 and 499,999; and no libraries serving less than 100,000 offered mobile-friendly website access. Some other findings include the following:

- Mobile apps were the most common type of mobile access that was found to be offered in 2012. Three in 5 of the largest libraries, about half (48% to 52%) of libraries serving between 25,000 and 499,999; 1 in 5 (19%) of the libraries serving between 10,000 and 24,999; and 2% of the smallest libraries offered apps.

- In contrast, mobile websites were found in only about 2 in 5 (41%) of the largest libraries, about one-fourth (23% to 25%) of libraries serving between 25,000 and 499,999; 1 in 5 libraries serving between 10,000 and 24,000; and 14% of the smallest libraries.

- Furthermore, responsive web design was very uncommon. We found that just nine libraries in our sample had responsive sites.

Finally, we focused on libraries’ use of social media. We examined whether the libraries had accounts on any of these nine social media networks: Facebook, Twitter, YouTube, Flickr, Foursquare, Tumblr, Pinterest, Google+, and Vimeo. We found that the majority of libraries in all population groups had at least one social media account, including almost all (93%) of the largest libraries, a little more than 4 in 5 (83%) libraries serving between 25,000 and 499,999; 7 in 10 (69%) of those serving 10,000 to 24,999; and more than half (54%) of the smallest libraries. The largest libraries were on an average of about three and a half social networks out of the nine included in the analysis, whereas the smallest libraries averaged less than one (see Chart 2).

As might be expected, libraries were most likely to be on Facebook (93% of the largest libraries; 82% of libraries serving between 25,000 and 499,999; 68% of libraries serving between 10,000 and 24,999; and 54% of the smallest libraries). In comparison, in 2008, just 1 in 10 (11%) of the largest libraries and between 1% and 5% of libraries serving all other population groups were on Facebook. From 2010 to 2012, the smallest libraries had the biggest jump in adoption of this social network, from 18% to 54% (see Chart 3).

Other commonly used social networks were Twitter (84% of the largest libraries were on this network) and YouTube (60% of the largest libraries). Foursquare was also common; however, it decreased in all population groups from 2010 to 2012. For example, 63% of the largest libraries used this social network in 2010 versus 42% in 2012.

Foursquare, Pinterest, Tumblr, and Google+ were new additions to the 2012 study. Far fewer libraries used these social media sites than Facebook or Twitter, but it is interesting to consider how these sites were used, given the various purposes of each tool, as well as to establish a baseline for future iterations of the study. Among these new additions, Foursquare was most common, with close to one-third (31%) of the largest libraries and 8% of the smallest libraries having accounts. Almost 1 in 4 (23%) of the largest libraries and 15% of libraries serving 25,000 to 499,999 used Pinterest. Neither Google+ nor Tumblr had large followings, with just 8% of the largest libraries having accounts.
In 2012, the survey included additional questions about each social networking site to assess the libraries’ activity on these sites. In terms of how recently libraries had posted on social media sites, they were most current on Facebook and Twitter. The largest libraries had typically posted on both of these networks the same day the researcher reviewed them. In contrast, a median of 18 days had elapsed since the largest libraries posted content on Flickr and 36.5 days since they posted a video on YouTube. The Flickr and YouTube content for libraries serving between 25,000 and 99,999 was actually more current than that of libraries serving between 100,000 and 499,999; however, it is possible this was because larger libraries were discontinuing or cutting back on their use of these networks. We also looked at each library’s number of followers on Facebook and Twitter in relation to the size of the populations they serve. Smaller libraries had more followers relative to their populations being served (see Table 1).

Using the 2008 results as a baseline, the 2010 and 2012 studies served as opportunities to identify new web technologies and track changes in how public libraries are adopting social media technologies.

### How Are Public Libraries Using Social Media?

To delve deeper into our social media findings, we identified those libraries in our sample that were the most active social media users, based on their number of Facebook and Twitter followers relative to their populations served, as well as how frequent and recent their postings were. Then, we interviewed the social media directors at four of these libraries—Arlington Public Library (Va.), Columbus Metropolitan Library (Ohio), The New York Public Library (N.Y.), and Westerville Public Library (Ohio)—to learn about their social networking strategies, best practices, and lessons learned. Here are some highlights from these interviews.

**New York Public Library (NYPL)** commented that NYPL chooses content that supports its mission statement.

So what types of content do these libraries post? Peter Golkin commented that Arlington Public Library (APL) shares information about library events as well as events offered by local government agencies. Julie Theado, of the Columbus Metropolitan Library (CML), mentioned that CML posts content that shares a value message about the library, such as the number of homework help sessions and job center appointments it’s held. CML also incorporates themes (such as summer reading) to unify a week’s worth of messages. In case content ideas are running low, Theado has a content schedule to help provide posting ideas (for example, on Monday, inquiring about what the library’s followers are reading and on Tuesday, posting a funny photo, etc.). Similarly, Murray maintains an editorial calendar to document content ideas as well as to track content that has already been posted.

**Events**—At the libraries we interviewed, both virtual and in-person events are held to enhance interaction with social media followers. NYPL has offered Google’s Hangouts so that followers can participate virtually in author events, as well as online contests that culminated with in-person visits behind the scenes. In addition, NYPL strives to tie offline and online activities together; for example, when the library had a pop-up exhibit about the death of JFK, it added a tab to its Facebook page where people could submit stories sharing where they were on that day when they heard the news. Golkin reported that APL has had out-of-state visitors attend in-person author events because they follow the library on social media. Reflecting on this, he commented that social media posts allow the library to extend its reach, as the physical boundaries have gone away. Also, APL is purposeful about offering parallel opportunities for online and offline users—for example, if it hosts an online contest, APL will also offer an in-person alternative, so as to not alienate people who aren’t on social media. At WPL, Murray commented that the library has had success with Facebook events such as readers’ advisory days
References


and author chats; however, events that require patrons to create content—such as Instagram photo challenges and Pinterest board contests—have been less popular.

Handling negative comments—While many organizations express concern about handling negative comments on their social media profiles, responses from our interviewees indicate that, at least in their cases, these concerns may be unfounded. Neuer mentioned that if an outrageous comment is made on one of NYPL's social networks, policing is often done by its community of followers, who tend to speak up on behalf of the library. In terms of how to respond directly to negative comments, the interviewees emphasized that it is important to reply promptly and to move the conversation from social media to a more direct channel, such as direct messaging or email. As Neuer commented, "Very unreasonable remarks turn into very reasonable conversations once you take [the person] offline and deal with [him/her] one on one." Murray remarked that in the 6-plus years WPL has been active in social networking, it has had only a handful of issues. Similarly, Golkin commented that most of APL's followers behave very well and are typically the library's most devoted customers.

Analytics—Each of the libraries we interviewed uses tools to track social media analytics, ranging from the tools that are built into social media sites (such as Facebook's Insights) to those offered through social media aggregators (such as Hootsuite) to Google Analytics. NYPL also tracks social media usage and keeps a close eye on its top weekly posts through TrueSocial-Metrics. Despite the power of these tools, Theado mentioned that it is hard to measure the outcomes of social media activity; for example, does the promotion of a book on Facebook lead to more hold requests?

Keep it simple—Overall, the interviewees spoke positively about their library's experiences with social media. Golkin mentioned that social media has been very cost-effective and efficient for his library—APL is able to reach users effectively without investing a lot of staff time and money or devising complicated strategies. And Murray commented, "Be short, be concise, be witty, and be fun. Listen a lot, market a little, and don't be too serious!"

'Be short, be concise, be witty, and be fun. Listen a lot, market a little, and don't be too serious!'

Moving Forward
Since our first web technologies study, public libraries across the U.S. have made varying degrees of progress in adopting web tools that enable interaction with CIL. Using the 2008 results as a baseline, the 2010 and 2012 studies served as opportunities to identify new web technologies and track changes in how public libraries are adopting social media technologies.

When LRS shared its 2010 study results with you a couple years ago, it predicted that "new tools will emerge, and others will all but disappear as libraries transition to those that better respond to users' communication and information-seeking habits. Areas to watch include social media, [text] reference, and mobile versions of libraries' websites" (Helgren and Lietzau, 2011).

The results of the 2012 study confirm these predictions and indicate that this is a time of transition for web technologies in public libraries. From 2008 to 2010, libraries tended to increase their level of adoption for most of the web technologies examined in this study, with larger libraries doing so at the fastest rate. In contrast, from 2010 to 2012, smaller libraries had the most dramatic increases in adoption for many of the web technologies, including websites, online account access, blogs, RSS feeds, catalog search boxes, sharing interfaces, and Facebook and Twitter accounts. Larger libraries tended to level off in their use of many of these technologies and, in some instances, dropped them, turning their attention to mobile-friendly sites and text reference, as well as a variety of social media networks including Facebook and Twitter. Perhaps these trends are indicative of a cycle that will repeat itself in the coming years.

The 2012 results suggest that social media, text reference, and mobile access will continue to grow, although the ways in which these technologies will be implemented are uncertain. The social media landscape continues to expand, as do the methods for mobile access. Ideally, libraries will match these evolving options to their users' technology preferences and information-seeking behaviors so that they can provide an optimal user experience. As libraries work through these ongoing experiments, LRS will continue to document the process. In spring 2014, we embarked on the fourth iteration of this study, refining our focus as indicated to accurately reflect public libraries' current web technology strategies.

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