Emerging Technology Trends for Libraries

In today's modern library, technology is no longer an add-on service to offer library patrons if there is extra money and space. Instead, technology is a must-have. Your library patrons depend on library technology for many traditional services, like checking out books or searching article databases.

Libraries also need technology to help customers access nontraditional offerings, like access to the Internet. Patrons use library internet access to connect with friends and family using Facebook, to check their email, or to catch up on weekly news. They also use technology to find and apply for jobs.

Many libraries already supply this level of patron-focused technology. Libraries need to continue to explore emerging technology trends in order to stay up-to-date with new technology trends and the emerging technology needs of the library community.

Why Keep Up with Emerging Technology Trends?

Library jobs are changing. Most likely, your job has changed drastically over the last twenty years. Today's library jobs all use technology to some extent. For example, a teen librarian in a public library might work at a reference desk, answer questions, and teach classes. She might also need to set up and use a variety of console games like a PlayStation or an Xbox. Even helping teens with their school work might involve being able to use e-textbooks, iPads, or Google Chromebooks. Consider these three reasons to be technology savvy:

Technology helps us communicate. Today's librarian needs to know how a variety of mobile devices and smartphone apps work in order to communicate with customers who prefer texting or using a variety of messaging services to ask questions. Librarians also need to be able to help patrons download and use a variety of library-focused apps, like Overdrive or Hoopla.

Job advancement requires technology skills. If you examine recent librarian job descriptions, you will probably see some technology-focused language included. Learning the technology mentioned in recent job ads can help during a job interview because you have the skills listed in those job descriptions.

Library patrons are asking for help with technology. Your library's patrons have questions about technology-focused tasks, like how to connect a smartphone to the library's wifi system. They might ask how to use the library's 3D printer. They might want help downloading and printing a file off their iPad. Librarians need training and experience with technology in order to help library patrons with these types of technology-focused questions.

How Do I Keep Up with Emerging Technology Trends?

You can read about the issue (like you are doing now). Find some technology-focused news sites, and subscribe to them. For example, you might subscribe to my blog (davidleeking.com) or Stephen Abram's blog (at http://stephenslighthouse.com/) for library-focused emerging trends. For more general technology news sites, you might check out Techmeme (techmeme.com/), cnet (cnet.com/), or WIRED (wired.com).

Although reading is certainly one way to keep up with emerging technology trends. Actually playing with new technology is even better! Don't be afraid to purchase newer technology, like a Fitbit or an Amazon Echo Dot, to see how they work. If your library can afford it, designate technology budget money to purchase a few technology products and share them with staff.

For example, my library has created a Techie Toolbox for staff to use. Included in the toolbox are cameras, microphones, iPads, and Google Chromebooks. We even purchased a Virtual Reality (VR) system (the HTVC Vive) to help staff become familiar with VR technology so they could start including the new technology in library events.

What Emerging Technology Trends Are Most Important?

There are new advances in technology every day, and it may seem overwhelming to decide what to investigate further. If that is the case, try focusing on these things first:

Internet of Things

The Internet of Things (or IoT) is made up of devices (i.e., "things") that have sensors that react to the world around them and send information to a cloud-based database. Some examples of IoT devices include newer thermostats like the Nest thermostat, Bluetooth-trackable devices like the Tile tracker, and wearables like the Fitbit or an Apple Watch.

Smart Machines and Artificial Intelligence

Smart machines are IoT devices that use some form of artificial intelligence to operate. One example of smart machines are Smart Home appliances like Google Home, Amazon Echo, and Apple's HomeKit. These smart appliances control home-based systems like lighting, heating and cooling, and security systems. They can also act as personal digital assistants by helping to schedule your day or by providing reminder notifications.

Mobility

Many of your library patrons carry a smartphone or mobile device when they visit the library. In Slovakia 65 % of adults use smartphones (according to https://www.slideshare.net/wearesocialsg/digital-in-2017-eastern-europe). Those library patrons use their smartphones for everything, and they expect to connect to the library through their mobile devices, too.

Immersive Technology

Immersive technology includes Virtual Reality and Augmented Reality. Virtual Reality is defined in the following way:

An interactive computer-generated experience taking place within a simulated environment, that incorporates mainly auditory and visual, but also other types of sensory feedback like haptic. This immersive environment can be similar to the real world or it can be fantastical, creating an experience that is not possible in ordinary physical reality. (*https://en.wikipedia.org/wiki/Virtual_reality*)

Augmented Reality is defined in this way:

An interactive experience of a real-world environment whereby the objects that reside in the real-world are "augmented" by computer-generated perceptual information, sometimes across multiple sensory modalities, including visual, auditory, haptic, somatosensory, and olfactory. The overlaid sensory information can be constructive (i.e. additive to the natural environment) or destructive (i.e. masking of the natural environment) and is seamlessly interwoven with the physical world such that it is perceived as an immersive aspect of the real environment. (*https://en.wikipedia.org/wiki/Augmented_reality*)Pokémon Go is a simple example of app-based Augmented Reality, where the app user interacts with both the real world and with Pokémons on their smartphone screen. Examples of Virtual Reality include the HTC Vive that my library recently purchased.

Maker Movement

Makerspaces and Digital Media Labs are starting to appear in communities and in libraries. These maker-focused spaces provide access to tools and devices that library patrons don't normally own – like a large CNC digital router, an engraving machine, or a 3D printer. Digital Media Labs supply multimedia software, like Adobe's Creator Suite or Apple's Final Cut Pro X video editing software. They might also have microphones, video cameras, and greenscreens available to use.

Privacy

Privacy is a much-needed emerging trend that has gained traction in recent years. In the United States, we can certainly learn from the EU and their recent General Data Protection Regulation (GDPR), focused on personal data and privacy. As more digital always-on and always-connected services are introduced, libraries need to be reminded that our apps, services, and databases aren't necessarily private and closed systems.

It's important for library staff to know what types of data is collected and what the library does with that data. It's also important to teach library patrons about general online privacy settings on a variety of online services, like Facebook or Google products.

How Do These Trends Affect Libraries?

These trends are important to track because at some point they will impact your library and your library patrons. In fact, some of these trends are already affecting your community and your patrons. A good first step is to train library staff and patrons on emerging technology.

Start with library staff. It's easy enough to set up some staff training sessions on new technology as it starts to be incorporated into the library. For example, if your library recently purchased a 3D printer, make sure to train staff on how to use the device and how to use 3D design software. Smaller libraries with limited budgets might not be able to purchase new devices (for example, a Fitbit or an Amazon Echo). However, a staff member might own one. If that person is willing, ask him to bring the device to the library and show it to staff. That way, everyone gets to learn about the new device.

Libraries can also set up classes and events around emerging technology tools and services for their customers. For example, when my library purchased the HTC Vive, we first held some staff straining sessions. After the staff training sessions, we started sharing the Vive with our community through a variety of library events. We shared it during our monthly gaming night that attracts a lot of adults. We have also shared it at some teen events.

We also held a larger Virtual Reality event that attracted about 100 people. The event included a panel discussion with area VR-focused organizations. After the panel discussion, attendees could visit booths for each organization to see what they do and to try different VR headsets. This event helped the library determine that our community is interested in AR and VR technology and that we need to create more events and classes that include this emerging technology trend.

Emerging technology trends will affect the library's budget. Libraries should be planning for new technology to replace older systems and devices. For example, just this past year my library has replaced older handheld barcode scanners with newer smartphone app-based scanners.

Keeping up with emerging technology also helps the library prepare for shifts in consumer technology needs that affect the library. For example, four to five years ago, e-book readers suddenly became very popular in the United States. Apparently, e-book readers were a popular Christmas gift to older adults, and after the new year, libraries noticed more people bringing their new, unfamiliar device to the library to learn how to connect the device to the library's Overdrive service.

Library staff had to quickly get themselves up-to-speed in using a variety of e-book reader devices and learning how to download the Overdrive app from different app stores. They needed to know how to connect the devices to the library's wifi system. After that, library patrons needed training on how to use the app.

If a library prepared for this emerging trend in advance by purchasing e-book readers for staff to try, they would be ready for the sudden uptake in e-book questions. If not? Well, library staff would have some quick catching up to do in order to help library patrons.

Where Should I Go from Here?

A good place to start is to read some technology-oriented blogs and trade publications, like those mentioned above. This will help you get up-to-date on emerging technology trends. Next, you can do an inventory of technology at your library and discuss what needs to be upgraded. Also, discuss what's missing.

Finally, start asking your library patrons what emerging technology trends interest them. Make sure you have books and videos on those topics, and consider creating training classes on those trends.

When you learn and prepare for the future, your library staff will be confidently prepared for the next wave of technology. By being on the forefront, you will make a positive impact in your community by teaching patrons about emerging technology trends, and your library will gain the reputation of being the place to go to learn about what is new in the world of technology.

David Lee King

(Topeka & Shawnee Country Public Library, USA) ∎