

Finding Library Solutions in Adjacent Industries

Lori Bowen Ayre (lori.ayre@galecia.com)

The Galecia Group

As much as we like to think that libraries are unique, they actually operate much like a supply chain system with central distribution centers and retail outlets. Obviously, there are differences but when it comes to materials handling, an area in which I do a lot of consulting, the similarities are striking. Both industries distribute material to outlets, require complex logistics systems, require accurate sorting and picking, and employ self-service technologies. As such, I spend a lot of time learning about warehouse management, logistics, supply chain technologies and best practices, and I use that knowledge in my consulting. Supply chain and warehouse management systems occupy adjacent niches to library materials handling. Not exactly the same industry but lots in common.

But I've noticed that libraries generally rely much more on one another than on other industries for ideas. And sometimes, people in libraries get uncomfortable when you suggest solutions that come from non-library vendors. Strangely, I've even found some libraries reluctant to try approaches that haven't been proven by libraries in their state - forget about outside of library land!

However, some very intriguing ideas have come from libraries that have stepped outside of the library marketplace and created strategic partnerships with non-library suppliers. I'll give you two examples: Massachusetts Library System (MLS) and Grand Rapid Public Library.

I worked with MLS to evaluate their statewide sorting and interlibrary delivery system. I recommended they consolidate several sort centers into one, and invest in a high-speed, automated sorter like the ones found at King County Library System or New York/Queens. These are fast systems that can handle all the sorting requirements of a typical day for Massachusetts' libraries. But, rather than moving to a capital intensive high speed sorter, MLS ended up

working with a local contractor that proposed using a "sort-to-light" system. Put-to-light (or sort-to-light) is a common warehouse management practice for increasing accuracy in picking and sorting. Rather than relying on paper slips, the system relies on communication with the warehouse management system (or in libraries, it relies on the communication with the library management system). It's not as fast as a high speed sorter but it is much less expensive and low tech, making it a viable option for many more libraries than a high speed sorter.

Another library that has ventured outside of the library marketplace to do innovative things is Grand Rapids Public Library. They got their feet wet first with their move to Evergreen, an open source library management system. Because Evergreen is open source, they have complete control over their library software. They don't need to pay for any licenses or get permission to change how the code is written. That said, anyone using an open source product is wise to stay aligned with the official releases of the software that is maintained by the open source community rather than veering too far afield because the community is where they will find support. But, even given the confines of staying current with community code, there's a lot of flexibility for libraries willing to experiment. And that's what Grand Rapids has done.

Grand Rapids decided to pursue their own RFID (radio frequency identification) solution. Instead of contracting with a library RFID vendor for tags, staff workstations, self-checks and security gates, they teamed up with non-library partners to develop their own system. And this is when they went even farther outside of the box. Grand Rapids decided to pursue an UHF (ultra-high frequency) RFID solution that is incompatible with the HF RFID technology in use at all the other libraries in the United States. This means they won't be able to make use of their RFID system for interlibrary loan because



their tags won't be readable by other libraries and they can't read another library's RFID tags without purchasing additional equipment. They will also not be able to take advantage of the products developed by library RFID vendors because those are all based on HF tags instead of the UHF system Grand Rapids is using. But there are benefits, too.

Because UHF is widely used in supply chain applications, most of the equipment they purchase is commodity priced rather than premium priced as all "library RFID" products are. With a longer read range, more UHF tagged books and DVDs can be checked in at once than HF tagged material. Whereas a 4 to 6 inch stack of HF tagged items can get checked out at most libraries, at Grand Rapids, they report that a stack of 12 to 18 inch stack of material can be checked out at once.

Grand Rapids has also devised a way to check in interlibrary transfers without removing them from their distribution bags. The bag is placed inside a metal lined box (a converted book drop) and rotated around on an industrial cake turner. The UHF reader quickly reads all the tagged items and updates the library system and spits out any "hold" slips that apply to the items. Staff then match the holds with the slips. Something similar is available for HF RFID but it can't handle as many items in a small space nor can it read the tags nearly as fast.

Grand Rapids also reports that several of the discs in a multi-part media set (e.g. books on CD) can be read so that they are more likely able to identify when a disc is missing. With HF, I generally recommend that libraries tag only one disc (e.g. the last one in the set) because the HF readers can't effectively read the tags if they are too close together. UHF technology provides a bit more wiggle room in that regard.

UHF technology has evolved quite a bit since libraries standardized on HF technology. This is because it has been widely adopted in many other industries. It's now used for asset tracking, access control, identification, supply chain, commerce, social media, and more. Meanwhile, library RFID vendors have invested heavily in HF so that market forces come into play that

keep libraries on HF. Also, we've only recently adopted meaningful standards around HF RFID. But, it isn't clear which technology is really the best fit for library applications. So, it will be outliers like Grand Rapids that are going to help us understand whether it is worth disrupting the entire library market in order to move to UHF.

I applaud library systems like MLS and Grand Rapids that look outside of the library technology margins. They help pave the way for better options for all libraries. Sometimes they do so by trying something, then crashing and burning. But to innovate, we have to be willing to fail. If every library just followed the leader, we'd never get anywhere. So next time you are trying to solve a problem at your library, don't just ask your peers what they did, think about adjacent industries that are facing similar problems. You might not need to go very far out of the box to snag some really interesting ideas to try.