



Create a more human library

“Worth the Risk?”

Library losses: magnitude of the problem and response options

By Loren Bregel

Introduction

Over the past 15 years, libraries have seen a significant and somewhat surprising increase in use.

The advent of a vast global digital communications network has given individuals access to an astonishing range of information, culture and entertainment. With a few mouse clicks, one can read a periodical's latest edition or a recent government report. Music and video are also widely available, as are classic texts and many popular modern books, in a format that can be downloaded to a home computer.

This decentralization of information and other content could have led to a reduced dependence on centralized repositories such as public and academic libraries. Contrary to expectations, though, libraries in communities of all sizes have seen increases in circulation. Collections are growing in size and—as the proportion of expensive DVDs and CDs increases—value.

Budgets have also increased, although frequently these increases have not kept pace with the increases in circulation. As a result, in many libraries relatively fewer librarians are available to monitor security.

These trends have created a troublesome situation for libraries: Increases in the value of collections and in traffic—combined with flat or very modest additions to staffing—have led to increases in theft. This problem has been exacerbated by the rise of Internet auction and sales sites that have created a global flea market for any items that have been stolen from collections.

The persistent threat of item theft—once the concern of rare book shops and some academic libraries—must now be confronted by large and small public libraries in communities of all sizes, in all regions.

(For accounts of some recent library thefts, see last page.)

Impact on Libraries

The financial impact of these thefts can be significant. When libraries conduct periodic inventories, they typically find that about 4 percent of their collections are missing. At a cost of \$30 per item, a 100,000-item collection will spend about \$120,000 replacing those stolen and misplaced materials. 3M has developed a Loss Reduction Calculator which can be found in the Resources section of the 3M Library Systems website (www.3M.com/us/library). Based on calculations made by the Loss Reduction Calculator, at an annual loss rate of .5 percent, the yearly cost of replacement would be \$15,000.

Some studies put the figure considerably higher. A 1995 study found that 12 percent of all library books in Ohio were missing.ⁱ And within its Web site's Frequently Asked Questions, the American Library Associationⁱⁱ cites one paper that calculated a “\$70,000 a year cost for a 50,000 volume collection, using 2005 book replacement cost figures.”)

Library thefts can also have an institutional impact. Continued library losses are sometimes viewed as a sign of poor stewardship of community resources, with repercussions for management and budgets; county auditors and other officials have stressed libraries' responsibility to local taxpayers. In other communities, however, library boards appear willing to accept a level of theft as a “cost of business” that can be predicted and reflected in library budgets.

To curb losses, some libraries have decided to limit access to certain parts of their collections, especially videotapes and DVDs. In one county, recurrent and extensive losses prompted the director and board to discontinue the library's collection of 21,000 DVDs. “This is a popular service,” the director said, “but if I'm supposed to be a good steward of public dollars, this is not a service that I should provide.”ⁱⁱⁱ

Ongoing losses can also change expectations about staff responsibilities, with more emphasis placed on policing and monitoring of customers. This can affect staff productivity, staff job satisfaction and customer service.

Responding to Security Issues

When other institutions or organizations are faced with a potential security problem, the first response is often to add staff. Given the funding constraints commonly faced by libraries, this option is probably “off-the-table.” Instead, libraries tend to choose from among three more affordable options.

1. One response is to do nothing. This can be an acceptable solution in small communities where funding is limited and customers are well known by librarians—although even modest thefts can have serious financial and institutional repercussions for these smaller systems and their staffs. In larger communities where the customer-librarian relationship is less familiar, this response is usually inadequate. In the judgment of most librarians and boards, the risk of inaction outweighs the cost of effective security.

2. A second and by far the most common response is the use of an electromagnetic (EM) security system. These systems are affordable and highly effective for alerting staff that an item is being removed from the library without being properly checked out.

How EM security works: EM security systems are based on proven technology. A magnetic strip is adhered to a book or attached to a CD, DVD or videotape (or its case). The dimensions of the strip and its appearance vary to accommodate the size of the item and the need to conceal the strip’s presence.

During check-out, if an item has not been deactivated, the security gate at the library’s entrance/exit will detect the strip and will sound an alert.

When the item is returned, the EM strip is reactivated with a device similar to the deactivation device. Properly designed devices appropriately change the strip status, but do not harm magnetic media such as audio or videotape. For reference materials, many manufacturers also offer an EM strip that cannot be deactivated.

EM security systems do not read or respond to barcodes or RFID (radio frequency identification) tags and therefore cannot be used to check out materials or manage shelves. Their sole function is to detect the unauthorized removal of materials.

System performance: EM security systems are reliable and effective. The magnetic strips are covert—their presence and location (in books / print material) are difficult to detect and remove—and can’t be shielded by the human body or most other materials. High quality strips can be turned on and off repeatedly over years with no degradation of signal strength. As a result, these strips, when activated, are detected virtually

every time they come within the range of the detectors. Because the strips can be fully deactivated, unwanted alarms are rare and becoming more so. (Historically, unwanted alarms could happen once for every 50 items checked out; today, with advances in EM security systems like the 3M™ SelfCheck™ System V-Series, unwanted alarms occur only once in 10,000 checkouts.)

EM security systems are currently installed in thousands of libraries worldwide, where they protect billions of books and other media.

EM systems, however, like other public appliances, should be thoroughly tested by a third-party product safety testing and certification organization.

Implementation: Most small and medium-sized libraries will find that the cost of an EM security system (including strips, detection equipment and accessories) is recouped in a year or two through reduced expenditures on lost items. Staff time required to implement an EM system will vary depending on the model and manufacturer. (Some manufacturers offer an application process that can be up to five times faster than hand insertion.) Once the EM security system has been installed, maintenance is typically not a major consideration. The detection and activation devices are durable and effective; the magnetic strips require little or no upkeep or replacement during the life of the item. Integrating new items into the collection requires only the application of the EM strip.

3. A third option is the installation of a Radio Frequency Identification (RFID) system. For the library’s circulation and shelf-management functions, RFID technology offers significant advantages over barcode and manual systems. Most RFID systems also incorporate a security function that alerts staff when a customer is attempting to remove an item without checking it out.

How RFID works: In an RFID system, information is encoded on a “tag” that contains a microchip and an antenna. The information can be accessed by a reader, which passes the data along to the person or system that needs it. Library tags are unobtrusive, usually a couple of inches square and very thin. They are also passive: they have no batteries or other power source. The energy needed to power and read the tag comes from the reader, which emits a signal that searches for a tag within its limited (about 18 inches) range. When the signal hits a tag, the tag “awakens” and responds with the requested information. When RFID is used for security purposes, the reader (which is located near the exit) asks the tag if the book has been checked out.

System performance: The primary benefits of RFID technology are in speeding customer checkout and improving the productivity of library staff. The technology's security capabilities are real, but some metal-containing items (such as DVDs) can affect a tag's ability to sense and communicate with readers. Some metal can also shield tags—inadvertently or by design—from readers. Libraries with limited security concerns often find that an RFID system provides an adequate solution; libraries with greater security issues will often combine the productivity gains of RFID with the proven reliability of an EM security system.

Implementation: RFID systems perform many more functions than EM security systems. In addition to their security features, RFID readers can automatically check out and check in multiple items at once; these systems can also be combined with handling systems for automatic sorting of returned items and they can help librarians manage shelves. Given this broad capability, it is not surprising that RFID systems typically require more investment than EM security systems. The tags are more costly and tag installation is somewhat more time-consuming because it involves the transfer of bar-coded information to the RFID tag.

What to Look for in a Security System

All security systems are not alike. Library boards and staff should keep the following in mind as they consider the purchase of a security system.

1. Work with a comprehensive supplier. Niche suppliers—those with a narrow product line—can offer only a limited range of solutions. When libraries work with a multi-product, multi-technology supplier, they can expect a solution that is tailored to their specific needs and budget considerations.
2. Look for matched components. Suppliers with a full line of products can also offer components that have been engineered to work together. Libraries can be confident that all components of their circulation and security systems are seamlessly integrated.
3. Don't let yourself become a product tester. You wouldn't buy a toaster from a company that didn't conduct rigorous product testing. You'd also expect certification from a third-party product safety testing and certification organization. Your security system should have the kinks worked out before you buy it.
4. The classics in your collection withstand the test of time. Your security system should, too. Expect your system to last throughout the lifetime of an item, whether it's a dense treatise that is checked out twice a decade, a popular DVD, or a beloved children's book. Any claims of durability should be backed with a meaningful guarantee.

5. Too often, distant service is no service. Some problems can be cleared up over the phone. Some can't. If your service agreement doesn't promise local or regional support, you could wait a long time before any problems are fixed.

It Can Happen Here

Thieves are discovering the local library. The shifting makeup of library collections (with a greater investment in DVDs and CDs), combined with the opportunities for quick and anonymous resale over the Internet or in second-hand media stores, has made library theft a growing problem. A couple of examples:

- In one city, a police officer accidentally discovered hundreds of DVDs and CDs that had been stolen from a local library. This prompted the library director to launch an analysis of the collection, which found that 6 percent of the items thought to be on the shelves were missing. (Another 6 percent had been checked out but never returned.) In just one recent year, the library estimated, it lost nearly 2 percent of its collection.^{iv}
- Sometimes the thefts are spread out among several local libraries, as in the midwestern city where a woman was found with over 400 stolen cookbooks in her apartment.^v
- One library system held only children's videos and DVDs in its collection—items that might seem less attractive to thieves. After a recent inventory, the director was surprised to find that over 40 percent of these children's DVDs were missing. Her first strategy for cutting theft was to put all of the DVDs on reserve, but this was overly demanding on staff. The next idea was to put only educational DVDs on the open shelves, on the assumption that these would be the least likely to be stolen. An inventory just four months later showed that almost 30 percent were missing.^{vi}
- After a tip from a customer, a librarian visited a number of local stores selling used discs. She found dozens of stolen library CDs and DVDs. A good start, but only a small percentage of the estimated 4,000 discs (valued at \$92,000) that had been lost from her library over just five years.^{vii}
- Based on recent reports, the market for stolen DVDs includes game stores, Internet auction sites, and even corner grocery stores.

Notes

ⁱ O'Neill, E.T. and W. L. Boomgaarden. 1995.

Book deterioration and loss: Magnitude and characteristics in Ohio libraries.

Library Resources and Technical Services 38(4):394-408, as cited in "Security Issues in Ohio Public Libraries"

by Michael Lorenzen, Head of Reference Services at Central Michigan University. ERIC ED #416 907, February 1998.

Available at <http://www.michaellorenzen.com/>

ⁱⁱ American Library Association Web site, Frequently Answered Questions:

"I am wondering if you have any data regarding loss rate that may have been collected as part of surveys of your members or in any other form." <http://www.ala.org/Template.cfm?Section=alafaq&template=/cfapps/faq/faq.cfm>

ⁱⁱⁱ Plagued by Theft, Gwinnett County PL Sells Kids' Videos;

<http://www.libraryjournal.com/article/CA6277204.html>

^{iv} Libraries still losing items from shelves;

<http://www.oregonlive.com/oregonian/stories/index.ssf?/base/news/116962189797960.xml&coll=7>

^v Missing Library Cookbooks Recovered in Bettendorf, Iowa;

<http://www.ala.org/ala/online/currentnews/newsarchive/2003/alnov2003/missinglibrary.cfm>

^{vi} Plagued by Theft, Gwinnett County PL Sells Kids' Videos;

<http://www.libraryjournal.com/article/CA6277204.html>

^{vii} Low-tech Responses Stem Major Thefts at MI Library;

<http://www.libraryjournal.com/article/CA6283408.html>

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