

Brooklyn
Public
Library

Overview

Country: United States

Industry: Education

Customer Profile

Brooklyn Public Library is the fifth-largest public library system in the United States, servicing approximately 2.5 million borough residents through 60 neighborhood branches.

Business Situation

The library wanted to provide patrons with improved access to services, make more effective use of librarians' time, and recover patron printing costs.

Solution

Xerox Global Services used Microsoft® software to develop an easy-to-use, integrated patron access and pay-for-print system that oversees computer access and charges patrons for prints and copies.

Benefits

- Improved services to the community
- Enhanced staff satisfaction
- Increased financial sustainability
- Improved business processes
- Multiple awards received

Patron Access Management System Saves 75,000 Staff Hours, Boosts Morale at Library

“The community we serve now has a different public library because of this project.”

Ginnie Cooper, Executive Director, Brooklyn Public Library

Brooklyn Public Library (BPL), the fifth-largest library system in the United States, has been grappling with how to meet a booming demand for public access to computers while the library's funding steadily shrinks. To lower costs and increase the efficiency of its 60 locations, the library partnered with Xerox to develop a comprehensive patron access management system across 60 branches. Now in production for a year, the solution has generated more benefits than the library anticipated. The atmosphere in its branches is calmer and quieter. Young adult membership has shot up 75 percent. The library has recovered more than U.S.\$800,000 through cost reductions and added revenue. And, by saving 75,000 hours of librarian labor, BPL has been able to reallocate 64 staff members to a newly created position to provide more support to patrons in the technology centers.

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Linda Cohen, Assistant Director of Neighborhood Services, Brooklyn Public Library

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John Vitali, Chief Financial Officer, Brooklyn Public Library

Situation

Brooklyn Public Library (BPL) plays a key role in the lives of the 2.5 million residents of Brooklyn, New York. As the fifth-largest library system in the United States, the library maintains 60 neighborhood branches that circulate more than 12 million items and offer thousands of enrichment programs each year to its 946,867 cardholders.

In the last decade, providing access to computers and the Internet became one of the most popular services the library offers. In fact, demand for computer access rose so rapidly that it was beginning to overwhelm the BPL system.

“Before our doors opened each day, there would already be lines of people outside waiting to use the computers,” recalls Linda Cohen, Assistant Director of Neighborhood Services. BPL had built up a fleet of 850 public access PCs, but even that number did not meet demand, so librarians had to use a clipboard sign-up system to allocate computer time in half-hour slots.

Managing these services took a toll on the library staff. “Librarians with advanced degrees were reduced to playing computer cop,” comments Cohen. “The crowds at the computer were not patient—they were watching the clock. Every half hour we would have to drop whatever we were doing to kick people off the computers and let others on. Even if we were in the middle of a children’s story hour, we would have to stop to call out names for the next group to use the computers.”

The heavy demand for computer use was also having serious financial consequences, particularly due to the library’s policy of allowing patrons to print for free. “We were spending about U.S.\$2 million a year to make millions and millions of prints, and it was all free,” notes John Vitali, Chief Financial Officer

of Brooklyn Public Library. “We were spending money on paper, on toner, and we were spending a lot on labor.”

At the same time, the library was finding itself with less and less money to spend. “We were annually getting less money from the city, which is our primary source of funding,” explains Barbara Logan, Director of Finance.

BPL knew that it could no longer afford to provide the public with free printing services, and that in the long run it would need to find other ways to sustain itself financially. The library also realized that it needed to make significant organizational changes to adapt to the heavy demand for computer access.

“Traditionally, the library always had two points of service—reference and circulation,” says Cohen. “Now, we have a third point of service in technology. This required rethinking how we distribute our internal resources.”

Solution

BPL began by seeking to implement a pay-for-print system in its 60 branches. The library sought a partner with the expertise to mastermind a system-wide solution that would meet its patrons’ high standards. BPL found the ideal partner in Xerox Global Services, which has a long history in delivering pay-for-print and computer access management to higher education entities and libraries.

“Xerox Global Services impressed us with their willingness to become a true partner in helping us develop solutions to our problems,” says Vitali. “They were prepared to think out of the corporate box.”

The Xerox consultants suggested that BPL look beyond just a pay-for-print solution and explore other ways to optimize its operations. The Xerox team applied the rigorous Lean Six Sigma methodology to help the library identify, quantify, and realize opportunities to streamline processes and remove waste.



The Access Brooklyn Card serves not only as a library card but also as an internal debit card that patrons can use to reserve computers, purchase prints and copies, and pay their library fines.

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“We sought out core processes that we could make lean and controllable,” explains Mark Unger, Business Development Manager for Xerox Global Services. “Our experience in this sector helps us to know where to look.”

The Lean Six Sigma process revealed that 75,000 librarian hours were being consumed each year on managing and staffing PC queues. The metrics-based analysis also highlighted another costly inefficiency—the library’s cash handling system. “We had 60 different locations all collecting cash, counting it, and putting it in cash boxes (or not),” says Logan. “We had two full-time staff members whose job was to collect cash, count it, and take it to the bank. Our bank statements were so large that they came in suitcases. Reconciling them was practically a full-time job.”

Xerox Global Services helped BPL to look at all of its operational issues and come up with an overarching, integrated solution. The solution is a comprehensive patron access management system that not only enables pay-for-print, but also automates PC reservations and eliminates the majority of cash handling. The centerpiece of the system is a new library card that doubles as an internal debit card, named the ‘Access Brooklyn Card.’

How It Works

With the Access Brooklyn Card (ABC), patrons can quickly and easily access an automated system to:

- Reserve a computer (up to two days in advance).
- Pay for prints and copies (and, starting next year, faxes and scans).
- Apply funds to increase their library debit account.
- Check out books and other library materials.
- Pay library fines.

“We put a great deal of thought and effort into designing a graphical interface that made it very easy for all of our patrons—children, seniors, or new members who may not even speak English—to use the system with minimal instruction,” says Vitali.

Each library branch houses a state-of-the-art kiosk, similar to an automatic teller machine, where patrons can swipe their ABC card and enter a personal identification number to access information about their account, including how many books they have out, their fine balance, and their debit balance. The kiosks accept cash, credit cards, and debit cards, so that patrons can pay their fines or add funds to their accounts.

Patrons can then use their cards at PC reservation stations to reserve computer time. A wall monitor in each branch displays the pending reservations. Each workstation is equipped with a card reader so that patrons can swipe their card to log in at the designated time. They will then automatically be logged out after half an hour with no intervention from librarians. If they have requested any printouts, they can insert their card at the printer to have their account debited, which will release their prints. They can also use their card to print at the copiers in each branch.

“Our patrons are used to self-service technology at the subway and the bank,” observes Cohen. “They expect that kind of modern, paperless service from us now as well.”

The Right Technology

Xerox Global Services built the ABC solution entirely with Microsoft® software. “After performing a detailed scoping of the functionality we needed, we determined that a Microsoft-based application and infrastructure was clearly the best option because of its scalability and superior remote

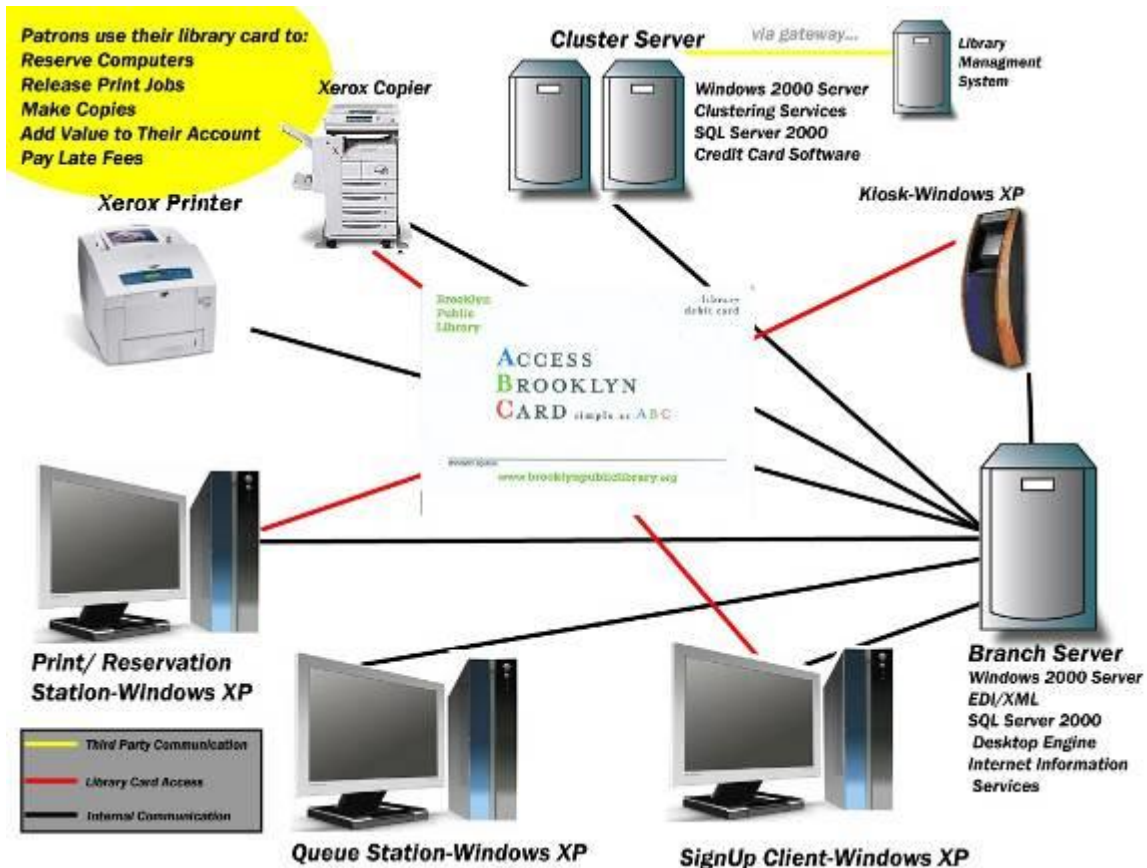
management,” notes Nicholas Rafanello, Project Executive for Xerox.

The ABC system integrates 63 servers, 1,000 workstations, and 60 kiosks, all running on the Microsoft Windows® operating system. The system’s central database resides on a clustered server running the Microsoft Windows 2000 Server operating system and Microsoft SQL Server™ 2000 database software. Another server running the Windows Server™ 2003 Enterprise Edition operating system is also used as a Group Policy administration station. Group Policy is a feature found in Windows Server 2003. Each branch then houses a single server that employs Windows 2000 Server, Microsoft SQL Server™ Desktop Engine, and Microsoft

Internet Information Services. The local server is networked to the branch’s patron access workstations, which run on the Windows XP operating system and are loaded with Microsoft Office 2003 software.

The self-service kiosks utilize a custom application developed by Microsoft Certified Partner Pharos Systems with the Microsoft Visual Studio® .NET 2003 development system. The application uses Web services to perform financial transactions through XML and SOAP protocols. Pharos also developed a custom gateway to integrate the ABC system with BPL’s Library Management System (the Millennium system from Innovative Interfaces, Inc.). The ABC system transacts with Millennium to authenticate patrons,

Infrastructure of the ABC Solution



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Linda Cohen, Assistant Director of Neighborhood Services, Brooklyn Public Library

create central patron accounts, and pay fines and fees.

The ABC system uses roaming profile technology and Active Directory (part of the Microsoft Windows Server 2003 operating system) Group Policy account management to ensure that each user has access to a consistent interface and age-appropriate content, no matter what station they log on to. This feature is particularly important to the library, which is mandated by law to ensure that Internet content is filtered for children.

To expedite management of the widespread network, Xerox takes advantage of Microsoft remote desktop management tools. "We're able to resolve nearly 80 percent of technical issues in the branches remotely," advises Rafanello. Xerox Global Services is also using Microsoft Software Update Services to perform all of its critical updates management.

"You cannot buy an ABC solution off the shelf," comments Selvon Smith, Director of IT for Brooklyn Public Library. "Xerox Global Services brought together the whole integrated package. No other organization is selling this kind of solution to libraries."

Benefits

Improved Services to the Community

With the ABC solution in production for more than a year, Brooklyn Public Library is now providing a higher level of service to its patrons. "The community we serve now has a different public library because of this project," says Ginnie Cooper, Executive Director of Brooklyn Public Library.

Patrons no longer need to wait in lines and appeal for intervention from librarians to access a computer or get their printouts. The ABC system routes them to available PCs quickly, quietly, and without equivocation. "Before we had ABC, our branches were loud

and chaotic," recalls Cohen. "People would be yelling out for us to call names or arguing with us about how many prints they should get. Now the atmosphere in our branches is calmer, quieter, and friendlier."

Customers are also getting a higher quality of service: 75,000 staff hours have been freed from PC and print management tasks, and the library has been able to put that time toward more value-added services. Because of the savings generated by the ABC system, BPL has been able to create a new position, Technology Resource Specialist. Every branch now has a dedicated Technology Resource Specialist available to help patrons with computer usage. And, the librarians have more time to assist patrons with other projects. "We're now free again to do reference work, readers' advisory work, and collection development—the things we went to school for," comments Cohen.

Strong Approval from Patrons

BPL patrons have responded very positively to the ABC system. "A lot of our librarians were very worried that there would be political backlash from asking people to pay for printing," says Cohen. "But it turned out to be a non-issue. In a year we have not had one complaint letter about the fee for printing. Adults don't like being told how much they can or cannot print. With ABC they're not getting policed anymore, and they really appreciate the autonomy and the privacy."

One of the most gratifying responses has come from young adults. The first year after ABC was implemented system-wide, new teenager registrations shot up by 75 percent. "Teens love the independence of the debit card," says Cohen. "At that age, they don't want to ask anyone for permission. ABC allows them to use the library entirely on their own terms." The spike in young adult membership means a lot to the librarians, as they see tremendous social value in helping

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to keep Brooklyn teens off the streets and out of trouble. “Having more teens come into the library is the greatest benefit we could ever ask for,” says Cohen.

ABC has proven very popular with younger children as well. “Kids really enjoy having their own card and loading money on to it,” says Cohen. “And, they guard their PIN number with their life. It’s a good way for them to learn about having a bank account—and it’s much more secure for them than carrying around cash.”

Enhanced Staff Satisfaction

The ABC system has not only made patrons happier, but it has increased staff members’ satisfaction as well. “If I had to describe in one word what this new system means to me, I would say ‘freedom.’ ABC gives me the freedom to be what I enjoy being—a librarian,” comments Maxine Cooper, Consumer Health Librarian.

“The ABC system has had a profound cultural impact on us,” adds Cohen. “In the beginning, a lot of librarians were against partnering with a corporation and charging for printing. But once they didn’t have to monitor the computers anymore and they saw how happy customers were, they were really convinced that the idea was a good one after all.”

One of the many side benefits of the project is that it opened up a new career ladder for the library’s clerical staff, who have been able to advance into the newly created technology position. “Of the 65 staff members who moved into the Technology Resource Specialist position, more than 50 were women,” says Smith. “With this new role, we created an entry level technology position and introduced a large number of women to the IT field. Some of them have now moved into information technology support and help desk positions.”

“Before, we didn’t have many good promotional opportunities for clerical staff,” adds Cohen. “Having that opportunity has really boosted morale.”

Increased Financial Sustainability

Implementing the ABC system has put BPL on the road to greater financial sustainability by lowering costs in numerous operational areas and providing the infrastructure for additional revenue streams. “In just the first year since implementing the ABC solution, we have already recovered more than \$800,000,” says Logan.

One of the greatest areas of savings has been in the library’s cash handling process. Previously, the process of collecting bills and coins from cash registers in 60 branches and accounting for all of it was so labor-intensive that it took the equivalent of five full-time staff members. Now, thanks to ABC, the library is in the process of becoming cash-free and the kiosks are so secure that collections can be made just once a month. The increased efficiency in this area of operation alone is saving the library \$250,000 per year. It has also significantly increased security within the branches by decreasing the potential for theft.

Not only is the library now receiving revenue for patron printing, but it has also established an infrastructure for adding other revenue streams. For example, BPL has just formed a partnership with Snapple to install vending machines that will accept the ABC card for payment. And, the library has added new services such as color printing, which will bring in more revenue. The library also has greater potential to attract corporate sponsors by featuring their logos on the ABC cards or kiosks.

Improved Business Processes

Partnering with Xerox Global Services to develop the ABC solution has had an

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unanticipated impact on BPL's management culture. “This process has been an extraordinary change catalyst,” explains Vitali. “Having worked with Xerox from an extended project perspective, we now have a new, more sophisticated model for how we do business. The methodology with which we rolled out the ABC system—using Lean Six Sigma analysis, proof of concept, and piloting—is now a model we take for granted. It has helped us to realize that we can plan and complete complex, long-term projects that most people thought could not be done.”

“The library is now more nimble, better able to identify problems and to implement solutions,” adds Ginnie Cooper. “We think more creatively as a result of this partnership with Xerox Global Services.”

The ABC system is also giving administrators the tools and information they need to make better business decisions. “Before, every month someone would have to tally computer usage numbers by hand,” says Logan. “Now, as part of ABC, we automatically get sophisticated reports with exact statistics that we can analyze and examine in as many ways as we want. As a result, we understand our business much better from an operational standpoint. This helps us make more accurate and effective administrative decisions.”

Furthermore, the experience of working with Xerox Global Services has helped BPL to establish a new model for corporate relationship building. “Corporate sponsorship has become a strategic direction of the institution,” says Vitali. “But, it's controversial. Successfully completing this project with Xerox has been enlightening for our organization. Librarians and staff have seen the advantages and are now more open-minded about partnering with corporations.”

BPL is now developing a partnership with Dell Computers to establish a laptop loaner program. “We have run out of real estate for any more desktops, and we are still not meeting the demand for computer access, so we're thinking creatively with the help of Dell,” says Vitali. “We are envisioning a self-service vending arrangement to allow customers to take out and return laptops. That way, we could double the availability of computers for our patrons.”

Awards and Recognition

The success of the ABC project has attracted notice beyond the walls of Brooklyn Public Library. Since launching ABC, the library has received extensive press coverage and won a number of significant technology and public service awards:

- First Place, “Best Public Access Kiosk Application 2004,” Kiosk Magazine
- First Place, “Best Application Serving the Public,” City of New York 2004 Excellence in Technology Award
- Second Place, “2005 Prize for Public Service Innovation,” New York City Citizens' Budget Commission
- Co-Winner, “Best Application Serving the Public 2005,” Best of New York State Government Solution Award

“The ABC project has been a very successful experience in social entrepreneurship,” concludes Vitali. “We had no idea what a positive impact it would have on our organization. There's no way to put a dollar figure on it.”

Brooklyn Public Library is now busy developing new extensions to the ABC system. “Some of the next-generation things we're working on are pretty exciting,” says Vitali. “Now that we have the infrastructure, the project skills, and the strategic planning skills, we get to be really creative and have a lot of fun.”

For More Information

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For more information about Xerox Global Services, call (800) ASK-XEROX or visit the Web site at: www.xerox.com/globalservices

For more information about Brooklyn Public Library, call (718) 230-2100 or visit the Web site at: www.brooklynpubliclibrary.org

Microsoft Windows Server System

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For more information about Windows Server System, go to: <http://www.microsoft.com/windowsserversystem>

Software and Services

- Products
 - Microsoft Office Professional Edition 2003
 - Microsoft Visual Studio .NET 2003
 - Microsoft SQL Server 2000
 - Microsoft Windows 2000 Advanced Server
 - Microsoft Windows 2000 Server
 - Microsoft Windows Server 2003 Enterprise Edition
 - Microsoft Windows XP Professional
- Technologies
 - Clustering
 - EDI
 - Active Directory

- Microsoft Internet Information Services
- Microsoft SQL Server Desktop Engine
- SOAP
- Web Services

Hardware

- 61 HP ML330 G3 servers
- One 2-node HP DL380 server

Partners

- Xerox Global Services
- Pharos Systems

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