

## Borrow Direct: Impact on Service Quality

*“It’s an absolutely fantastic service! Beats ILL delivery time in every way.”* [Faculty member]

*“...A most useful service...[because] the book arrived in a timely manner...I was able to complete my research and term paper.”* [Undergraduate student]

*“The service was WONDERFUL. I was amazed by the efficiency.”* [Staff member]

*“...Fabulous!...the service is exquisite, particularly the many helpful email reminders.”*  
[Graduate student]

Imagine hearing such feedback, unsolicited and repeatedly for four years. In this paper, we tell a story about how we managed to have this sort of “knock your socks off” service feedback at the Yale University Library<sup>1</sup>

The heroine of the story is Borrow Direct, an innovative reader-initiated borrowing service. Our story is not fiction, it is not a mystery, and it is not a horror tale. We will unfold it as a report of a journey of service quality improvement.

The preface to our story describes the idea that service quality improvement is a journey. Such a journey has at least three navigational charts we like to use to monitor our trip. These describe the perspectives about service quality that we strive to achieve.

First is the traditional way of quality control, a conformance to standards established for service excellence. These evolved as measures of success from the vision of our service goals. Second are the critically important perspective of our clients and their perception of delivered excellence. Third are paths to continue the improvements generated by a service quality approach, paths that require managerial commitment and support of the notion of continuous improvement.

In this paper, we first will describe the service quality setting of our adventure by highlighting some milestone elements of the improvement process we addressed. Next, we will illustrate the service, and then conclude with a review of assessing our success factors as measures of the Borrow Direct improvement initiative.

### Service Quality Improvement and the Development of Borrow Direct

The key milestones of the service quality improvement process addressed in our journey include:

- A vision of excellence, that can be implemented through measurable success factors.
- Understanding the service “as it is.”
- Reviewing and leveraging opportunities for improving it.
- Implementation that requires commitment and persistence to seek improvement.
- Tracking success to improve the service.

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<sup>1</sup> This paper transcribes comments made to accompany the Power Point visuals used in our conference presentation.

In the mid-1990s, the directors and a few staff from the libraries of Columbia, Pennsylvania, and Yale Universities, three U.S. research institutions, articulated a vision for a service that would provide their faculty, students and staff convenient, prompt, and cost-effective access to their circulating collections. Our objective was to balance reader needs and staff productivity. Fairly soon, we reached the following agreement on how we would define a successful achievement of this vision:

- Readers would have access to collections as conveniently as if they were on their home campus.
- An available book would be delivered within 4 working days from the day the reader requested it.
- Unit costs to process and deliver a transaction would be significantly lowered from existing mediated-ILL costs, to below \$10 [US].

Figure 1 reviews how the service was—its “as is” state before we improved it. It illustrates a series of steps taken by the reader seeking to borrow a book, by staff at the borrowing library, and by staff at the lending library. We are sure you will recognize the major steps of initiating, verifying, locating, and requesting a needed item done by ILL staff on behalf of researchers, and locally finding call numbers and continuing the processing when the request arrives at the potential lending library.

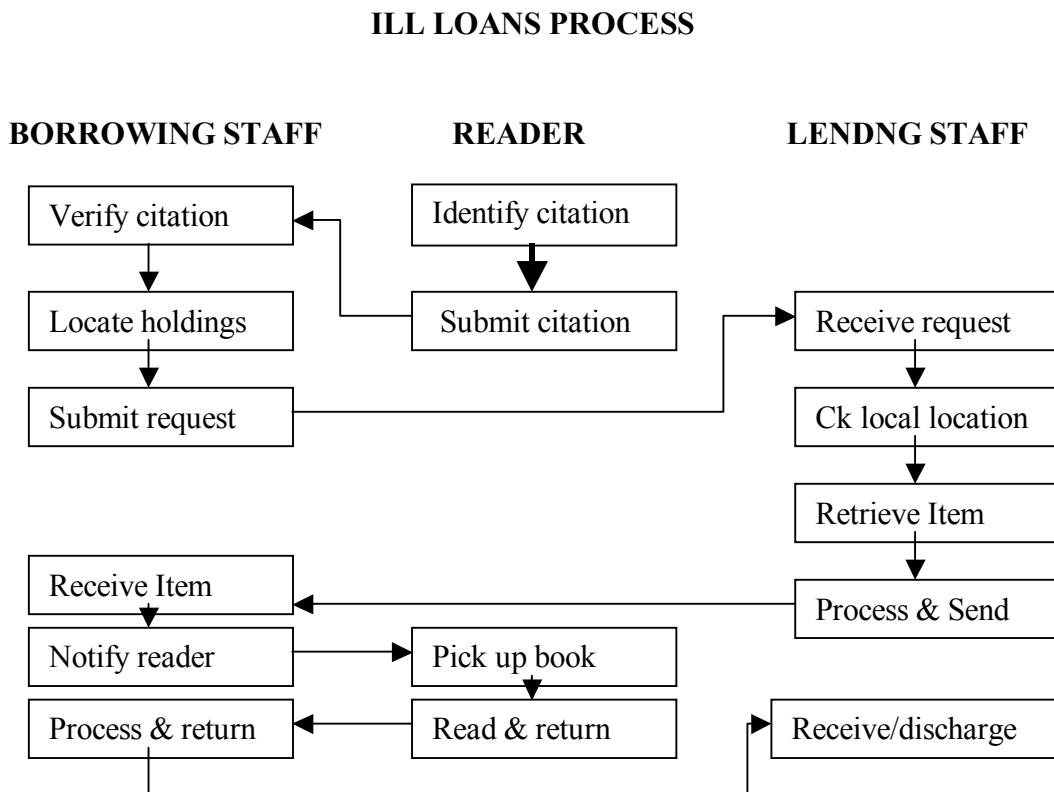


Figure 1: Understand the Service “As Is”

Analysis of this process flow, by asking simple questions, found major service impediments. What most impacts turnaround time? What could be done to lower our unit cost without adding staff? How could we utilize technology to simplify reader and staff efforts?

This analysis, as well as our political environment, quickly identified several opportunities for improving the service. We could reduce handling of requests, thereby reducing staff time needed to process requests. We could engage the researcher in the processes of verification and sending the request. We expected to be able to utilize technologies by developing an automated product with the following capabilities:

- Simultaneous searching online catalogs across different library management system platforms, using Z39.50 protocol.
- Utilizing availability data such as whether the sought item is not charged out [and thus likely to be on the shelf] and eligible to circulate to another institution.
- Providing readers multiple notifications of the status of their requests.
- Simplify tracking of the request status.

We were fortunate to have favorable conditions to embark on a multi-university collaboration. Our Provost [highest ranking academic administrator] encouraged greater collaboration with our peer institutions and we found partners willing to experiment.

This led us to develop a collaborative solution which we first called “CoPY” standing for the three initial partners—Columbia, Penn, and Yale. We maintained a simple governance structure, having working groups at the administrative, managerial and technical levels. For the development phase, we also collaborated with the Research Libraries Group [RLG] to provide project management assistance. We engaged Australia’s own CPS, vendor of the URSA software.

The story presented here is told from only Yale’s perspective. We involved staff from ILL, Circulation, and the Library’s Systems Office as well as Administration to design, test, and implement the improvement initiative.

Having organized to develop a cooperative solution using automation, we thought we were addressing the famous “low hanging fruit” opportunities for quality improvement. Conceptually simple and seductively available with modest adjustments, we learned that the implementation of the improvement initiative took perseverance, strong faith in the vision, nurturing relationships among the partners and with our vendor, and about three years of hard work.

But the results were well worth the effort, as we believe we were among very few large research libraries that designed an automated system that allowed a reader to search across different online catalog management systems to locate a needed book, and submit a request that would instantly utilize data about the desired book to determine if it was available for loan. We also agreed to follow simple procedures and policies to facilitate the sharing of these materials. We allow a month loan with no renewal. Books may be requested for loan through Borrow Direct that are not available at the reader’s home library either because it is not owned or simply not available to borrow because it is held in a non-circulating collection, is at the bindery, or is in use by another reader. We also agreed to use fast, commercial shipping services and to absorb the costs. We named our new service Borrow Direct and launched it as a pilot in November 1999.

## BORROW DIRECT PROCESS

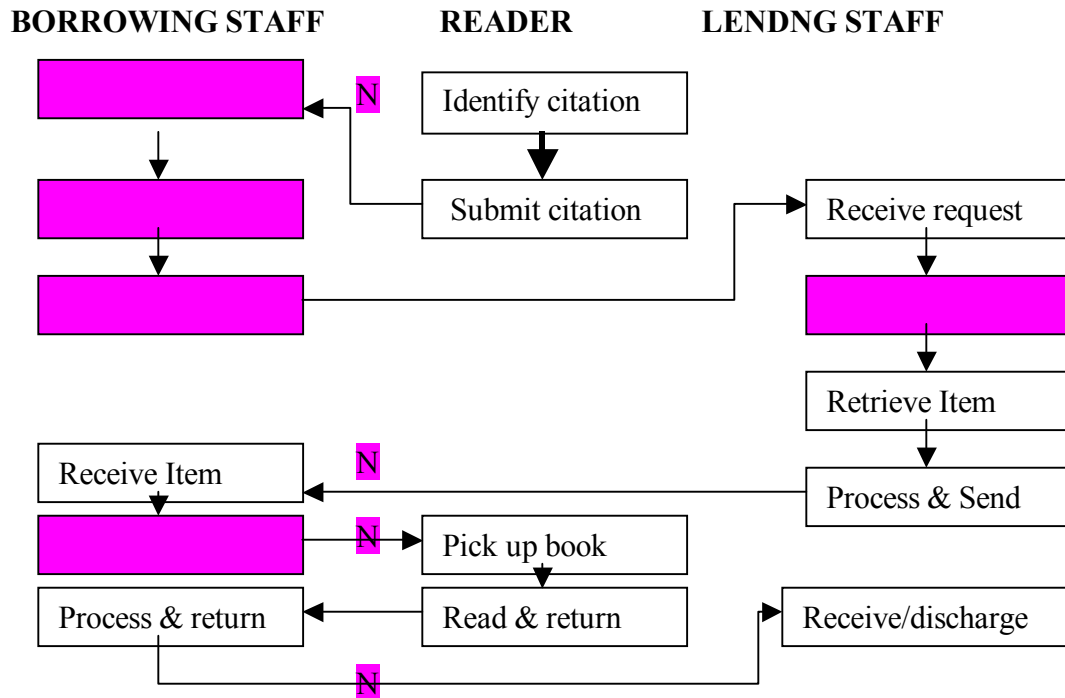


Figure 2: Modified the “As Is” Service

If we look again at the “as is” chart of the service process, the changes that Borrow Direct introduced eliminated steps staff formerly handled [verify citation, locate holdings, submit request, check local location, and notify readers] and added several automated email notifications [designated as “N” on the figure] to readers on the status of their requests. We expected to realize service quality improvements because of:

- Frequent communications
- Processing ease
- Reliable delivery
- Increased staff productivity

### Borrow Direct service workflow

Our readers can access Borrow Direct from multiple links on the Yale University Library’s “Front Door” [<http://www.library.yale.edu>] or main Web page, to an introductory page with details about Borrow Direct. From this web site, a two-stage process controls secure access. First, the reader is authenticated by the Yale University Central Authentication Service, based upon his/her personal NetID and unique password. At the Borrow Direct Patron Login page, the reader must enter a current valid Yale identification number for the library's circulation system to

authorize it. Any blocks on a reader's account—excessive fines, overdue recalls, etc.—will block access to Borrow Direct.

Once logged in, the reader has the option of searching for the “known item” using title, author, or ISBN. The search result set displays a list of the libraries that hold the item and the number of copies held by each, as well as bibliographic details. The reader can then request the item with a single click of a button. It is possible that the item, although owned, is not available for borrowing. In that event, a help message is displayed.

Most often, however, the “Create Request” screen is displayed. The reader must confirm his/her name and select a pickup location before clicking the submit button. In addition, the reader can change the default “need-by” date (default is five days after the day of the request) and/or indicate a volume number if the publication has multiple volumes.

When the submit button is clicked, a request number is assigned and displayed for the reader's information, and the first automatic email notice is generated, acknowledging submission of the request. Other automatic email notices are generated when the lender ships the item, when it is received and available for pickup, and when the reader returns it for shipment back to the owning library. In addition, automatic email messages are sent to the reader if a request expires or is not filled by any of the potential lenders, or when the item is recalled or overdue.

If our reader has successfully submitted a request, the action moves to the first potential lender. A consolidated Staff Menu presents all possible options for lending and borrowing, as well as resources for problem solving and administrative functions. Staff review incoming requests and print paging slips several times daily. The paging slips can be pre-sorted by location or call number, depending on the library's workflow. We do batch printing for paging, but it is also possible to print individual requests when needed (e.g., lost or damaged paging slip). This is especially helpful since we also use the paging slip as a book band. For paging, the slip contains the location and call number of the requested item, as well as a brief citation. For shipping, the book band contains the name and address of the borrowing library. For circulation, the book band has the patron's name, pickup location, and due date.

After staff have retrieved and prepared the item [by banding the printed paging slip around the front cover], the book is ready to be shipped. Staff enters the request number and the book's barcode. This simple data entry updates the Borrow Direct software to status “shipped,” charges the book in our local circulation system, and triggers another email notice to the patron. Then the book is routed to our Shipping Department for batch processing for UPS (commercial delivery service) pickup and delivery.

The action now shifts to the requestor's home institution, the borrowing library. Staff enters the request number to update Borrow Direct to “received” which automatically triggers the third email message, alerting the reader that his book is ready for pickup. The trick is to get the book to the hold shelf before the patron shows up demanding his book!

On or before the due date, the patron returns the book to the circulation desk. The request number is entered again to update Borrow Direct to “returned” and the final email notice is automatically sent to the patron. Staff then ships the book back to the lending library.

Back at the lending library, staff discharge the book using the local circulation system, remove the band, and shelve the book. Borrow Direct is updated automatically when the circulation system’s discharge file is run against the Borrow Direct software, changing the request status to “complete.” A nightly program triggers this latter process.

Measuring Quality Improvements

To measure quality improvement, we gather data to track changes defined by our success factors. We have utilized different assessment techniques to measure both technical and customer service quality. The data we will highlight here came from comparisons of data compiled for two national surveys of ILL conducted by the Association of Research Libraries [ARL], covering activities in 1995/1996 and again in 2001/2002. We also reviewed transaction logs automatically generated by the Borrow Direct software and sampled transactions for details. In addition, in 2002, we conducted an emailed survey of randomly sampled users of the service from each of the then participating universities. Finally, we continually review comments received from users of the service through a comment link on the Borrow Direct web site. Some comments came when we requested feedback, but most have been unsolicited and have streamed in over the life of this service.

Our measure of response time [Figure 3], captured from our borrowing records, shows that although we have dramatically improved our mediated, traditional ILL in the five years between the ARL ILL surveys, we have cut the turnaround time for filling requests by more than half with the Borrow Direct service.

	Before Borrow Direct	Borrow Direct	Mediated ILL
Complete transaction	29 days	4 days	11 days
Source of data	ARL ILL 1995-96 <sup>2</sup>	Transaction logs	ARL ILL 2001-2002 <sup>3</sup>

Figure 3: Measure Response Time

The measure of the fill rate [Figure 4] shows an improvement in the lending activity with Borrow Direct over traditional, mediated ILL service. Utilization of availability data to determine where a request is sent reduces the unfilled rate significantly. The lower Borrow Direct fill rate for

<sup>2</sup> Kingman, Bruce. ILL/DD Performance Study, FY1995/96 : Individual Institution Analysis, 5 May 1997, p.1.

<sup>3</sup> Jackson, Mary. Assessing ILL/DD Services Study : Final Institutional Reports; attachment to email dated 10/13/2003, from the author, p. 1.

borrowing is a result of the extra persistence staff exert to exhaust every angle they can for traditional ILL requests.

	Before Borrow Direct	Borrow Direct	Mediated ILL
Lending	43%	86%	41%
Borrowing	92%	84%	92%
Source of data	ARL ILL 1995-96 <sup>4</sup>	ARL ILL 2001-2002 <sup>5</sup>	ARL ILL 2001-2002 <sup>6</sup>

Figure 4: Measure Fill Rate

But without question, the most significant change we have measured among our success factors is the incredible drop in unit transaction costs for both borrowing and lending activities [Figure 5]. We exceeded our visionary ambition to bring costs below \$10 per transaction. We attribute this saving to eliminating those several steps in the workflow, steps handled by staff in traditional, mediated ILL procedures.

	Before Borrow Direct	Borrow Direct	Mediated ILL
Lending	\$20.56	\$7.29	\$16.48
Borrowing	\$19.72	\$7.67	\$25.76
Source of data	ARL ILL 1995-96 <sup>7</sup>	ARL ILL 2001-2002 <sup>8</sup>	ARL ILL 2001-2002 <sup>9</sup>

Figure 5: Measure Transaction Costs

As illustrated by the quotations cited at the start of this paper, unsolicited customer feedback about the Borrow Direct service consistently has been very positive. In 2000, we conducted a reader survey to measure customer satisfaction and perception of service quality. The overall average rating of the Borrow Direct service was 7.7 on a 10-point scale, where “10” is grounded as “surpasses expectations.” This is a high measure of client satisfaction.

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<sup>4</sup> Kingman, Ibid, p. 1.

<sup>5</sup> Jackson, Ibid, p. 1.

<sup>6</sup> Jackson, Ibid, p. 1.

<sup>7</sup> Kingman, Ibid, p. 1.

<sup>8</sup> Jackson, Ibid, p. 1.

<sup>9</sup> Jackson, Ibid, p. 1.

In early 2002, we emailed 2866 invitations to participate in the survey to randomly selected readers from the three campuses [Columbia, Pennsylvania and Yale universities] that had utilized the service between its inception in 1999, and when we drew a file of borrowers in 2001<sup>10</sup>. Overall response rate was 22.3% [n=640], with 33% [n=212] response among the Yale participants. Distribution by discipline showed that the majority [58%, n=368] identifying themselves as associated with the humanities. The demographic distribution of Yale respondents reflected the population fairly well, with the majority of clients, 59% [n=123] identified as graduate students, 17% [n=35] as faculty members, and 16% [n=34] as undergraduate students. Undergraduate students were noticeably under represented among survey respondents, since Borrow Direct transaction logs showed that 30% of the Yale borrowers were undergraduates, while 50% were graduate students and 12% were faculty members.

We conducted a gap analysis to gauge clients' perceptions of service quality as measured by the difference between their expectations for an excellent interlibrary borrowing service and their perception of the extent to which the Borrow Direct service delivers these ideals. What clients most valued as excellent service included high expectations for being able to request items missing or not owned at their local library, ease of requesting materials, and notification when items are available for pickup. Respondents to the survey recognized Borrow Direct as providing high service quality. Such high service quality factors included ease to find, request and pick up needed books; delivery of requested items within four days; and the numerous notifications of the request status.

Where the gap was greater in the direction of not meeting expectations for excellent service, survey respondents identified opportunities for improvement. These service factors included the ease to extend loans and the ability to request books charged out or non-circulating at their local library. The Borrow Direct service providers were not surprised by the first opportunity, since they had made an agreement not to provide renewals with the service, at least initially, in order to restrict the period of time materials would be away from campus. This customer feedback will encourage the Borrow Direct service providers to review this policy for the future. The second opportunity for improvement identified by the survey respondents, however, puzzled the service providers. The Borrow Direct service policies explicitly do permit readers to initiate a request for a book that is locally owned but non-circulating or charged out if another participating library holds a copy available for loan. This feedback might illustrate an opportunity to improve communication about the service more than highlighting a service performance issue.

### Continuing Improvement of Borrow Direct

Even during the "CoPY" phase when only Columbia, Penn, and Yale were partners in the service, there was interest in expanding membership, but we wanted to complete a successful pilot project first. In early 2002, after finishing a major reconfiguration of the server hardware, invitations were extended to a number of peer institutions that had previously expressed interest

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<sup>10</sup> The reader survey was conducted by Danuta A. Nitecki, with much appreciated assistance from Patricia Renfro, Deputy Librarian, Columbia University Library; Robert Krall, Head of ILL, University of Pennsylvania Library; Holly Grossetta-Nardini, Service Quality Improvement Director, Yale University Library; and George Ouellete, Work Station Support Specialist, Yale University Library

in joining us. In the fall of 2002, Borrow Direct added four new participating institutions—Brown, Cornell, Dartmouth, and Princeton Universities—to bring us to the current membership of seven.

Since expansion, some of our collection development colleagues have begun to explore the feasibility of using Borrow Direct as a mechanism for advancing shared collection building. This effort is in its early stages, with several small projects planned in order to gather data for further analysis.

The inclusion of requests and provision of non-returnables [e.g. photocopies or scanned electronic copies of articles or book chapters] was tabled after some initial discussion during the early planning for Borrow Direct. This post-expansion period may see a resumption of those discussions, although the need may have lessened due to the growth of our extensive full-text electronic journal resources in the intervening period.

We continue to monitor progress in both vendor developments and international standards, as we seek to address our patrons' needs. Loan renewal and easier methods of requesting multiple volumes are two highly desirable enhancements.

#### Reassess the value of the Borrow Direct service

The vision for Borrow Direct, as mentioned earlier, included convenient access for our readers, fast delivery (four business days), and unit costs below \$10 [US]. We have succeeded in meeting all three service goals. Patrons have “24/7” [24-hours per day, 7-days per week] access to seven magnificent collections, from dorms, offices, labs or wherever they might be, with a needed item available within four days (or less) of initiating a request, at the pickup location of their choice.

We ask ourselves if we are doing the right thing and are confident that we absolutely are. Borrow Direct requests have tripled from 2000/2001 to 2002/2003 and feedback and survey data indicate strong customer support. We must be doing something right!

Technology and automation projects never fail to provide surprises. We weathered serious hardware problems during the early days of the pilot project. Product development and desired enhancements have not always progressed as rapidly as we hoped. Nevertheless, use continued to grow in meeting customer needs and we were able to expand with virtually no problems.

The development of the Borrow Direct service also witnessed significant changes in key players during its four-year history. None of the original library directors is still with the three founding institutions, and only three managers who launched the service continue to be involved in its success that now engages over twenty associate directors, service managers and technical staff. CPS sold the software itself to epixtech (now Dynix), requiring the establishment of new working relationships for product support and development. The enthusiasm for and commitment to the Borrow Direct service concept, however, is infectious, as new staff and vendor representatives witness the reader satisfaction and the staff productivity gains the service enables.

## Conclusion

As we were concluding the preparation of our conference presentation, we wondered what drew us to travel halfway around the world to share our experiences about Borrow Direct. It was not difficult to figure that out. Aside from both of us being thrilled about the prospect of seeing kangaroos and experiencing some of the charm of Australia, we wanted to share the experiences we have had with this service quality journey and its destination of continually improving our ability to delight our readers and to streamline our service workflows. We have done so by applying important principles of continuous quality improvement techniques—to steer a clear course of customer focus, to understand workflows and analyze where they can be improved to reduce effort and associated costs to both staff and readers, to leverage technologies to make improvements and not simply to showcase possible changes, to monitor progress in achieving clearly-identified service success factors for both feedback and motivation to staff to continue the progress, and perhaps most important, to engage staff at all levels of the improvement effort. This has been an exciting and extremely rewarding journey for us, and we invite comments or questions about it any time.

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