Assessing Scan and Deliver during COVID-19 and Beyond

Sonny Banerjee and Lisa Levesque
Paper for the Library Assessment Conference
November 2022
Introduction

In the summer of 2020, the Toronto Metropolitan University (TMU) Libraries started a digitization service called Scan and Deliver amidst the COVID-19 pandemic. Since the Library building was closed to patrons with limited on-site staffing, the library provided some access to parts of the print collection when electronic alternatives were unavailable. The Scan and Deliver service allowed patrons to request a portion of text, such as a chapter of a book or journal article, to be scanned by a Library staff member and emailed to them. When the Library building reopened to patrons in Winter 2022 we assessed this service to understand its impact and plan for future service offerings. This paper addresses why Toronto Metropolitan University Libraries patrons have used the Scan and Deliver service: what benefits does it offer them, what role do scanned materials play in their scholarly research, and what barriers does it help them overcome? The results of our assessment show that the Scan and Deliver service has been impactful for patrons. Specifically, students told us it enabled them to complete their coursework and instructors stated that it allowed them to plan coursework and conduct research. The service helped patrons overcome barriers to completing their academic pursuits during the COVID-19 pandemic, including limits related to travel and serious health concerns. The service has also increased access to the collection and patrons describe it as easy to use and convenient. They also noted a few areas for service improvements. Patrons viewed the service as working in conjunction with other library services, such as interlibrary loan and course reserves, as a method of extending access to print. As a result of this analysis Library administration extended the scanning service for an additional year due to its value to patrons, allowing additional time for ongoing assessment.

Background

The COVID-19 pandemic led to physical building closures in March 2020 at Toronto Metropolitan University (TMU), recently renamed from Ryerson University. TMU is located in downtown Toronto, the most populous city in Canada. A majority of students commute to school using public transportation within the Greater Toronto Area (pop. 6.9 mil). In March 2020 the COVID-19 pandemic caused physical building closures at the university and limited public transit. In order to support emergency remote teaching and learning and provide access to the print collection TMU Libraries made service adjustments, including increasing electronic resource acquisitions, offering print pickup, and creating the Scan and Deliver service.

Service delivery was similarly affected at other academic libraries. A large-scale survey of US academic libraries found that approximately half of respondents “scanned or copied articles or book chapters from the print collection at the request of library patrons” (Tolppanen, 2021, p. 74). Libraries continued to offer services despite building closures (Tolppanen, 2021, p. 68) although most (65%) didn’t make the print collection available to patrons (Tolppanen, 2021, p. 73). A smaller survey of academic libraries in the UK and several other regions found that of academic libraries that had implemented a Scan and Deliver service roughly half intended to
retain it (Atkinson, 2021, p. 306). Survey respondents also describe pandemic-implemented services potentially being retained in the future either because they continue to be relevant or were in development pre-pandemic. This quotation from a survey respondent is particularly resonant:

There is definitely an increased requirement to provide a digital option/alternative for as many of our services as possible. That was a trajectory we were already on, but the pandemic situation has really increased the velocity we need to travel at. It’s about doing things differently that reflect a more flexible way for our staff to work and a demand for greater flexibility from our users in how they access our services. (Atkinson, 2021, p. 308)

The Scan and Deliver service was built to meet the needs of researchers unable to access the print collection during COVID-19 but it similarly matched an existing service trajectory of enhancing modes of access to the collection.

We assessed the Scan and Deliver service beginning in February, 2022 in the context of a large-scale return to on campus teaching planned for March 2022. Our research questions focused on better understanding why Library patrons, including students, faculty, and staff, have used the Scan and Deliver service. What benefits does it offer them, what role do scanned materials play in their scholarly research, and what barriers does it help them overcome? In exploring these questions we have considered patron needs that existed before the pandemic and are likely to continue to exist in the future, including speed, the convenience of working at a distance, and safe options for those with serious health issues.

**Developing the Scan and Deliver Service**

This new service was created using a hybrid workflow where on-site staff scanned print materials and collaborated with off-site staff who engaged with patrons online. Several internal workflow documents were created to provide clear direction for off-site staff, allowing them to verify the status of patrons and check for alternative electronic formats before proceeding to scan materials. For instance, only current TMU students and employees could make a request for Scan and Deliver Services. Once they had authenticated with their university credentials they completed a Google Form on the Library’s website (see appendix). Once the form had been submitted, an email notification with a copy of the response was sent to an email and collected in a Google spreadsheet for reference and review purposes. Specific staff members were responsible for following up with patron issues and referrals to other service points.

Library Technicians working off site entered bibliographic information of requested titles & patron’s email addresses in the Scan and Deliver Worksheets on Google Drive, which is also shared with on-site and off-site Library staff. Book chapters and journal articles were categorized into two tabs on the worksheets. Time-sensitive requests were colour-coded in purple while requests with copyright issues or with notes and special instructions from the patrons were flagged in red to alert staff. In order to comply with Canadian copyright fair dealing guidelines, a patron could only request one chapter from each book or journal article from an issue of each journal. Staff checked a patron’s name & email to determine if the same patron
has submitted more than one chapter/article from the same book/same issue of the journal. Data was also collected to provide statistical reports for analysis.

Off site staff were responsible for checking our Approval Plan platform to determine whether the requested title was available in e-book format for the Library, in which case the title would be ordered for the collection. Once an e-book purchase request was approved by the Acquisitions Team, staff would update the tracking sheet with a new e-book link in the catalogue, so it can be later shared with the patron.

A second group of off-site staff members were responsible for determining eligibility and verifying patrons’ university credentials. Before the scanning request was forwarded to the on-site scanning staff, staff double checked to see if materials were available in electronic formats such as our e-book and e-Journal databases, HathiTrust Digital Library, Scholars Portal’s Accessible Content ePortal (ACE), OER Resources, Internet Archive and electronic documents saved in our internal course reserve database.

In cases where requested items were missing, checked out, damaged and therefore not available or unsuitable for scanning, staff were instructed to follow up with patrons and refer them to Interlibrary Loan services.

Workflow processes were also designed for on-site staff for material retrieval, scanning, editing and software instructions for delivery of digital documents. The staff were responsible for handling materials following proper hand hygiene protocol, while wearing proper PPE (masks and gloves). Scanning equipment was sanitized before and after each use. After the scanning was complete, documents were managed in accordance with our Library’s editing requirements. These measures included scanning at a high resolution (> 600 DPI), eliminating shading covering text, cropping page margins for uniformity, saving files with a consistent naming convention (SD_(Author)_p(page numbers), applying OCR (Optical Character Recognition) for proactive accessibility usage and attaching a copyright statement to each file before being emailing the patron.

Assessment Method

Recruitment

This assessment was conducted through an online survey open from March 1-14, 2022. The survey used Google forms and was emailed to 132 repeat users of the Scan and Deliver service (see appendix). This survey was submitted for REB (Research Ethics Board) approval but exempt because it was determined to be program evaluation. All participants gave informed consent prior to completing the survey (see Appendix).

Analysis

The survey results were coded using open and axial coding. The results were interpreted by the investigators who have knowledge of the Scan and Deliver program (Sonny Banerjee) and qualitative research methods (Lisa Levesque). Results were shared with Scan and Deliver
staff members and librarians within Borrowing and Lending Services to compare patron perspectives with the employee experience. The feedback from members of the library was that this survey input matches what they had already experienced as pain points in the use of the survey and commonly asked questions.

Representativeness

The survey was emailed to 132 users of the Scan and Deliver service. Emails were sent to all users who had used the service more than two times within the fall 2021 time period of August 15th to December 31. This user group and time period was chosen to reach users who have recently and frequently used the service. Of the 132 users emailed, 40 completed the survey for a response rate of 30.3% and margin of error of 15%.

We analysed representativeness by faculty of study focusing on the student population. The faculties of study at Toronto Metropolitan University are: The Ted Rogers School of Management (TRSM), the Faculty of Arts (FOA), the Faculty of Science (FOS), the Faculty of Engineering and Architectural Science (FEAS), The Creative School (CS), the Faculty of Community Services (FCS), and Law. TRSM is underrepresented as respondents, which is common for them in library surveys. FOA, FCAD, and FCS are all overrepresented as users of the service. FOA are underrepresented in their responses to the survey given their high use of the service. FCS are overrepresented as survey respondents.
### Faculty of Study Representativeness

<table>
<thead>
<tr>
<th>User groups</th>
<th>University Population</th>
<th>University Population %</th>
<th>Scan and Deliver Users</th>
<th>Scan and Deliver Users %</th>
<th>Survey Respondents</th>
<th>Survey Respondents %</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRSM</td>
<td>11946</td>
<td>29.76%</td>
<td>219</td>
<td>7.39%</td>
<td>2</td>
<td>5.00%</td>
</tr>
<tr>
<td>FOA</td>
<td>5151.2</td>
<td>12.83%</td>
<td>797</td>
<td>26.91%</td>
<td>6</td>
<td>15.00%</td>
</tr>
<tr>
<td>FOS</td>
<td>3970.2</td>
<td>9.89%</td>
<td>246</td>
<td>8.31%</td>
<td>2</td>
<td>5.00%</td>
</tr>
<tr>
<td>FEAS</td>
<td>6048.5</td>
<td>15.07%</td>
<td>160</td>
<td>5.40%</td>
<td>3</td>
<td>7.50%</td>
</tr>
<tr>
<td>CS</td>
<td>6197.7</td>
<td>15.44%</td>
<td>686</td>
<td>23.16%</td>
<td>7</td>
<td>17.50%</td>
</tr>
<tr>
<td>FCS</td>
<td>6512.8</td>
<td>16.23%</td>
<td>817</td>
<td>27.58%</td>
<td>14</td>
<td>35.00%</td>
</tr>
<tr>
<td>Law</td>
<td>308</td>
<td>0.77%</td>
<td>37</td>
<td>1.25%</td>
<td>1</td>
<td>2.50%</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>12.50%</td>
</tr>
<tr>
<td>Total</td>
<td>40134.4</td>
<td>100.00%</td>
<td>2962</td>
<td>100.00%</td>
<td>40</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

For representativeness by user group, faculty and graduate students are overrepresented as users. This is to be expected, given the increased research needs of these users. Faculty are also overrepresented as survey respondents, perhaps indicating a greater desire to communicate with the Library about the Scan and Deliver Service.

### Representativeness of Scan and Deliver Survey Respondents by User Group

![Graph showing representativeness of Scan and Deliver Survey Respondents by User Group](chart.png)
Representativeness data has been included in this report. It was obtained from various university sources, namely the University Planning Office. All data refers to the user groups as of fall 2021.

Overall Results

Overall, the results of the Scan and Deliver survey were positive. Respondents described the Scan and Deliver service as fast and user-friendly. They described how the service has been impactful for their academic work, which for students has meant accessing readings and completing assignments successfully, and for instructors has meant planning course readings and completing research. Respondents overwhelmingly agreed that the service has helped them overcome barriers to completing their academic pursuits during the COVID-19 pandemic. Some respondents described travel issues during the pandemic that the service helped them overcome, including a few respondents with serious health issues who could not travel to campus due to the risk of COVID-19 infection. Respondents compared the Scan and Deliver service to other library services, such as interlibrary loan and ereserve, and these are for the most part seen as complementary. Many survey responses accurately describe many aspects of the service, including that it requires in person staff work. One respondent noted that this is a benefit because it enables good communication, and in general the responses indicate that communication with staff helps resolve uncertainty. Relatedly, the largest issue patrons reported with the service was that they faced challenges in entering in page numbers to the
request form. Patrons also expressed confusion over aspects of the Scan and Deliver service, especially related to copying limitations, and they had suggestions for making the request process easier and more transparent. Finally, in describing how the service has been impactful for them, numerous respondents requested that the Scan and Deliver service continue to exist post-COVID-19.

What is working well with the Scan and Deliver service?

Most responses to the question "what is working well with the Scan and Deliver service?" relate to speed (n=24, 63%), with respondents describing the services as "fast," "very timely," and able to meet their coursework needs. Respondents also commented on a benefit of the service being that it improved access to the print collection by allowing them to access materials from home. Instructors described how this service improves student access by increasing the extent of materials posted to eReserves. One instructor commented that they appreciate that a resource scan, requested through Scan and Deliver and later posted to the University’s online learning platform Desire to Learn (D2L), can be accessed by the whole class, whereas print reserve items are available to one student at a time. Similarly, a student called the system "very fair" in how it provides access to resources.

Respondents also described the services as reliable, accurate, innovative, and convenient. Indicating trust in the service, one respondent wrote: "The service is fast and reliable. It's easy to use and has never let me down." A small number of users described positive communication with Library staff and praised the request form as "user friendly." An instructor commented, "I appreciate the timeliness that students are able to receive scanned services so that it does not impede deadlines and the staff are always so helpful in reaching out if there are questions with the request." Another respondent wrote that they appreciate that they can reach out with questions to Scan and Deliver staff "so it's not like dealing with a robot." This response is indicative of the overall sense that patrons understand the labour involved in the service.

What impact has the Scan and Deliver service had on your work?

For the question, "What impact has the Scan and Deliver service had on your work?" the majority of responses (n=24, 60%) relate to how the service enabled them to complete their work. For students this relates to coursework, especially with print course readings or when the resources needed to complete an assignment are print only. A small number of students (n=3) described how the Scan and Deliver service had a positive impact on their academic performance, with one stating that because of the service they "did well on the quiz." For instructors and faculty, they described the service as supportive of course preparation and research.

A high number of responses also relate to access, ease, and convenience. Respondents described that the ease of the service made it possible to access resources they needed from home, which was critical to them because those print only resources were necessary to
complete their work. One respondent wrote that the service: "Provided access to critical literature only available in print in the stacks." Another wrote that it is “Really helpful working on assignments - it's just nicer to work off PDFs then real texts even - it makes gathering information so much easier." One faculty member commented that they used the Scan and Deliver service while visiting another continent, allowing them to continue their research even at a significant distance.

Students also described the Scan and Deliver service as a cost-saving measure. One student wrote: "I've been able to complete assignments with reputable sources that I would not have access to due to the pandemic or having to pay for access on other websites." This response indicates that the student did not purchase the course text or is unaware of online resources.

How could the Scan and Deliver service be improved?

When responding to the question "How could the Scan and Deliver service be improved?" the highest number of responses describing an improvement (n=8, 20%) related to the challenge of entering in page numbers to the request form. Page numbers are sometimes not available in online catalogue descriptions and patrons cannot find them online, which means it is challenging to complete the form and know that they are requesting the material that they need. This challenge is compounded by copyright limits on scans, meaning that if patrons request incorrect page numbers they might hit the scan limit, leading some (n=3, 8%) to request more communication with library staff or a "preview step" to review the page selection.

The next highest number of responses (n=7, 18%) expressed that no improvements were needed to the service.

Several respondents described time as an area for improvement (n=6, 15%), with patrons wanting scans faster or wanting more clarity about how long scans will take. One patron suggested that it would be helpful to know where requests are in the queue.

Several respondents (n=5, 13%) expressed a desire for a higher number of scanned pages. Some expressed confusion related to copyright limits, with one faculty member requesting higher scan limits for faculty and another expressing discontent at the 10% scan limitation. One patron wrote about a desire for clarity: "It wasn't clear that there were restrictions to how much could be scanned for delivery. These restrictions are totally reasonable, but it should be more clear on the request form."

A small number wrote about concerns with the reliability of the service, with one respondent stating that they had not received their requested scan or an explanation about it, and an instructor sharing that students had told them that this was their experience.
If the Scan and Deliver service were not available at the time you used it, what would you have done?

When asked what they would have done if the Scan and Deliver service were not available at the time they used it, just over half of survey respondents (n=22, 43%) indicated that they would have gone without. Following that, respondents would have found an alternative text (n=16, 31%) or accessed another Library service (n=8, 16%). A small number would have taken a different action (n=5, 10%), including purchasing the material themselves, visiting another Toronto library, or asking for help from a colleague at another university. One respondent stated that if they did not have access to the Scan and Deliver service they would not have been able to complete their assignment because they were accessing a hard to find resource. Respondents could choose more than one response for this question.
Overcoming Barriers

Survey participants were asked “Has the Scan and Deliver service enabled you to overcome barriers to completing your academic pursuits?” with the available options of yes, no, or other. The vast majority of respondents selected yes (n=39, 97.5%), the service has enabled them to overcome barriers, and one respondent indicated that the service has helped them “to a minimal extent.”

Participants were asked to expand on their answer to the barriers question. The highest number of responses related to location (n=19). Respondents describe living far from campus, being unable to commute due to lockdowns and the risk of infection, and being unable to visit the Library due to university closures. A number of respondents also describe their reluctance to travel for a single resource. One respondent wrote: "I prefer not to go downtown for a single/few classes and I would certainly not go downtown for a resource for a paper. The Scan and Deliver service helped me overcome the barrier of transportation and allows me to access resources I may not have been able to receive otherwise." Responses like this indicate that access to print resources must be contextualized within institutional closures and with how patrons individually prioritize their time, planning library visits in relation to their other obligations. A large proportion of Toronto Metropolitan University patrons are commuters and many students work during their studies. Respondents also described how the service enabled access, especially in relation to travel limitations and in the context of remote teaching and learning. Some materials are only available in print and respondents appreciated that this service gave them access. One respondent wrote: “much of the material I use is pre-digital and contains illustrations and images. IT [sic] was an important resource.” Another patron noted, “I live in [nearby city] and do
not have an easy way of travelling to Toronto Metropolitan University due to reduced VIA rail service. I also have had dependent care responsibilities."

Respondents also described how the service was impactful during teaching and learning. One respondent stated: "It has made the transition seamless." Another stated that "Being unable to get to campus easily, Scan and Deliver service made it easy to continue our research uninterrupted." An instructor indicated that since they were unable to teach in person as a result of the pandemic, the Scan and Deliver service helped prepare for online delivery of the course. "The Scan and Deliver service has helped me organize and find specific course readings to share with students with[out] having them necessarily have to purchase a whole textbook."

Three respondents described health issues that prevented them from travel, with two individuals stating that they are immunocompromised. One wrote: "As an immunocompromised person, attending a library in-person is not an option. Without this service, I would not have access to non-digital materials." These responses are notable because individual health risks differ among patrons but all should have the same access to Library resources.

Final Feedback

When asked if they had any final feedback to share about the Scan and Deliver service most survey respondents took the opportunity to thank staff for their work in operating this service, calling it valuable. One respondent wrote: "Not much feedback is required to be given since, in my opinion, the Scan and Deliver service is great the way it is." One respondent suggested that advertising the Scan and Deliver might make it too popular to remain effective. A small number of respondents indicated that they want the service to continue in the future post-COVID. For instance, one respondent wrote: "I think it is a great service and I have used it several times over the past two years. Hoping it can remain in place post COVID." One respondent called it "critical to mission" in combination with other Library services that expand access to resources.
Outcomes

The Scan and Deliver survey results prompted the investigators to make the recommendation to continue the Scan and Deliver service. This was approved by library leadership. The Scan and Deliver service has continued in the academic year 2022-2023 and will be assessed for continued effectiveness. The survey results also prompted service improvements which are underway, including improving online communication about how to request a scan, enhanced copyright information, and an infographic of the Scan and Deliver workflow.

Discussion

The feedback from patrons that the Scan and Deliver service has been valuable to them and that they would like to see it continue post-pandemic has been a significant result for us as researchers. “Post-pandemic” is an increasingly challenging designation. As we currently write this paper in Fall 2022 the COVID-19 pandemic continues into its 8th wave and TMU is operating, as are most other Canadian universities, with in person classes and no significant public health restrictions. We can’t share a post-pandemic perspective, or ask our patrons to do the same, because we aren’t there yet. Whether this future will arise is uncertain. The WHO predicts that pandemics will continue to emerge and be exacerbated by growing global travel, climate change, and information systems where health misinformation flourishes (World Health Organization, 2022). This context shifts our focus to the importance of assessing services regardless of pandemic conditions, with an eye to their continuation and emergence.

From this perspective, we can reflect on our patrons and their needs more generally. Based on our survey data our patrons told us that they have to balance their academic responsibilities and personal lives, are commuters and travellers, experience health problems, and experience challenges accessing research. These characteristics will continue to be true regardless of the status of the COVID-19 pandemic. We also anticipate patrons will continue with modes of learning and working they have developed during the COVID-19 pandemic. While some patrons might eagerly return to print now that the Library building is open, others will have learned new skills and preferences for working with digital materials. Patrons will also continue to engage in hybrid work and learning opportunities now that these are more readily available at the university. There is an opportunity with this service, as with others implemented early in the pandemic, to build on and reimagine service improvements within a new context.

The results of this survey also prompts us to think about ways to consider services holistically. Library services must fit into the life of a patron who is balancing many personal and professional responsibilities, and this assessment is an opportunity to explore how best to resolve barriers to research within a lived experience context. We are not only assessing the service but how the service fits a patron’s use of it. This is an important distinction because it lends weight to the importance of speed, ease, and convenience in service design. Library services also operate in conjunction with one another, and in our results we saw that patrons were able to distinguish between related services, link them together for best use, and imagine
them as part of a network of integrated library services. A more holistic assessment of these services, and patron perceptions, could be a future direction for assessment.

**Conclusion**

The crisis of the COVID-19 pandemic prompted the creation of the Scan and Deliver service at TMU. This service was implemented because of limited access to the print collection due to building closures. However, it was modelled on existing services at other institutions and followed an existing trajectory of service development. As we learned in our assessment, Scan and Deliver has been an impactful service for patrons. Specifically, the use of this service allows students to complete their coursework and instructors to plan coursework and conduct research. Respondents overwhelmingly agreed that the service has helped them overcome barriers to completing their academic pursuits during the COVID-19 pandemic. These barriers included travel limitations and serious health concerns. By being easy to use and convenient the Scan and Deliver service has increased access to the collection. Patrons described their wish to see the service continue. As researchers we believe the service will continue to be relevant, as patrons will continue to travel, commute, have serious health concerns, balance personal and professional responsibilities, and have preferences for digital materials. Based on this feedback the Scan and Deliver service has continued on in 2022-2023, which is a stage of the COVID-19 pandemic where classes are mostly in person, and we will continue to assess the use of Scan and Deliver, documenting new patterns and changes to user behaviour.
Appendix

- Scan and Deliver Request Form
- Survey Instrument
- Survey Consent Form
- Library Assessment Conference Presentation Video
- Library Assessment Conference Presentation Slides
Bibliography


https://doi.org/10.1080/15367967.2021.1871619