

**Report to / Rapport au:**

**Ottawa Public Library Board  
Conseil d'administration de la Bibliothèque publique d'Ottawa**

**May 8, 2018 / 8 mai 2018**

**Submitted by / Soumis par:**

**Danielle McDonald, Chief Executive Officer / Directrice générale**

*Contact Person / Personne ressource:*

*Monique E. Désormeaux, Deputy CEO / Directrice générale adjointe  
613.580.2424, x32181 / [monique.desormeaux@bibliooottawalibrary.ca](mailto:monique.desormeaux@bibliooottawalibrary.ca)*

**File Number:** OPLB-2018-0503

**SUBJECT: Radio Frequency Identification (RFID) Technology Project**

**OBJET: Projet de technologie d'identification par radiofréquence (RFID)**

#### **REPORT RECOMMENDATION**

**That the Ottawa Public Library Board receive this report for information.**

#### **RECOMMANDATION DU RAPPORT**

**Que le Conseil d'administration de la Bibliothèque publique d'Ottawa prenne connaissance de ce rapport à titre d'information.**

#### **BACKGROUND**

In May 2011, the Board received its first educational on the benefits of Radio Frequency Identification (RFID) technology. At that time, Ottawa Public Library (OPL) faced major challenges in managing the physical demands that accompanied the increasing use of its collections and the expansion of its facilities (e.g. new Greely Branch, proposed expansion of the Beaverbrook Branch). Circulation of materials alone reached 10.4M items in 2010, which represented a 50% increase since amalgamation. The increased volume of circulation resulted in delays in processing returned materials, due to a manual process. As a result, staff received numerous complaints from customers, who expressed concerns about items on their borrower records days after being returned to

the library. At the same time, the increased circulation of materials led to an increase in health and safety matters, specifically the number of employees developing repetitive stress injuries.

In June 2011, OPL and the City of Ottawa opened the James Bartleman Archives and Library Materials Centre, which was equipped with an automated materials handling system (AMH). Although the AMH helped streamline processes to move 70,000 tonnes of materials per week, OPL believed that RFID technology would further serve to mitigate the impact of future increases in activity, as well as accommodate growth without the need for additional staff. Ultimately, OPL sought to improve customer service by reducing transactional-based services to allow for an enriched customer experience.

In October 2011, the Board received the RFID Plan that provided high-level details regarding OPL's approach to rolling out this transformative technology. Thus began this multi-year project.

The purpose of this report is to signal the end of RFID branch conversions, as well as to document the journey, which transformed service delivery across OPL's 33 locations and various departments.

## **DISCUSSION**

In a memo dated July 13, 2011 to Ottawa City Council (Board Motion 050-11 and ACS2011-OPL-0001), the Ottawa Public Library Board (the Board) signaled its intention to invest in RFID technology. At that time, OPL lagged behind many public libraries, both in Canada and worldwide, that had already implemented RFID technology. As a long-term strategy, OPL believed that the implementation of RFID technology would:

- Improve residents' experience with their library services;
- Support fiscal sustainability;
- Streamline library processes;
- Provide customer service excellence;
- Decrease reliance on repetitive work, thereby increasing opportunities for more meaningful work; and,
- Help address OPL's future growth needs.

The Board affirmed its commitment to RFID through the approval of the Board's 2012-2015 Strategic Priorities (Board report OPLB-2015-0031), and inclusion in the 2012-2017 operating and capital budgets. At the recommendation of staff, the Board approved self-funding this initiative in order to reinvest savings into anticipated growth areas (e.g. FTEs required to staff the expanded Beaverbrook branch). Staff forecasted the rollout of RFID as an eight-year initiative, at a total capital cost of \$5.875M (technology only).

Project objectives included:

- The tagging of all library materials, providing for a complete inventory of library collections;
- The installation of RFID technology at all branch service points, allowing multiple items to be scanned and processed simultaneously;
- The installation of RFID-enabled customer self-checkout stations at most branches, reducing the number of borrowing transactions handled by employees; and,
- The automation of check-in operations at branches, including installation of additional automated sorting systems at select branches.

#### 1. Initial Implementation (2012)

In 2012, OPL introduced RFID technology to the Hazeldean branch. Concurrently, OPL piloted a preliminary approach to single point of service, which allowed customers to obtain all library services (borrower and information services) from one single desk staffed by various branch employees. While staff purchased and installed the technology, and revised the Hazeldean branch staffing structure, staff underestimated the impact of the technology on roles and responsibilities of branch employees.

At the same time as OPL was planning for RFID technology, customers and non-customers in Canada and North America were questioning the relevance of public libraries in light of the changing information landscape, the increasing popularity of the Internet as the means to obtain information, and the explosion of digital content such as eBooks and music streaming. Customer expectations were shifting toward self-service models, eCommerce, and personalized, value-added, and timely service delivery.

With the introduction of RFID and single service point, up to one-third of the workforce would be impacted, primarily circulation assistants and supervisors. Since OPL was in the midst of collective bargaining, management and the Union negotiated a Memorandum of Agreement that outlined how best to maximize staff redeployment opportunities while protecting the employment of those employees in targeted job classifications. The Memorandum of Agreement would be effective until the last branch conversion.

The Hazeldean branch pilot demonstrated that to ensure the success of the RFID project, OPL needed to review business processes prior to the implementation of new technology, introduce change management in support of staff, and take a more holistic approach in its implementation plans, to create a replicable business model across the remaining branch conversions.

## 2. Subsequent Implementations (2013-2018)

In 2013, armed with the lessons learned from the Hazeldean RFID implementation, OPL revised its customer service philosophy, called Single Point of Service (SPOS). This service model empowered employees to provide proactive, personalized service, and created options to better serve customers at their point of need. Staff defined customer expectations, and sought ways to improve the customer experience. Customers were no longer obliged to wait in line at an information or circulation desk to obtain help. Instead, staff circulated throughout their branch (i.e. roved), in order to meet customers wherever they were. Customers, and not the desk, became the true point of service.

In addition to implementing the concept of roving, OPL introduced a centralized call centre, redirecting branch phone calls to a centralized telephone system, which allowed branch staff to spend more time helping customers.

Subsequent branch conversions considered a three-pronged implementation approach:

- Technology: Each branch was reviewed to determine the suite of equipment required (e.g. to provide sorters, or not).
- Capital fit-up: In those instances where significant capital fit-ups were required to accommodate RFID technology, staff examined what other lifecycle requirements and facilities improvements were required by location. The goal was to minimize

disruption to service by simultaneously completing all branch retrofits at the same time as introducing RFID technology.

- Employee Training: Change management training was rolled out to staff in the year in which their branch was converting, as were the newly developed Think Yes!/Customer Experience training, and refreshed Public Service training. Staff also determined roving patterns for their respective locations in collaboration with their managers.

OPL augmented the initial project objectives with the following:

- Completing all necessary facilities retrofits and renovations in conjunction with the planned RFID technology and Single Point of Service (SPOS) service model implementations;
- The development of customer experience expectations and guidelines for all branches and departments;
- The review of organizational structures for all public-facing services;
- The review of job descriptions and the development of new job descriptions as required;
- The review of existing training and orientation programs, and development of new training programs to address the SPOS expectations; and,
- The development of associated change management and communications with each roll-out.

### 3. Summary

OPL successfully implemented RFID technology across its system two years ahead of schedule, in large part because of the systematic and three-pronged approach taken in later years of the project. To date and over the course of the last six years, OPL spent \$8.1M to complete the project out of a planned total budget of \$8.7M. This represents \$2.2M more than the original 2011 estimates and can be attributed in large part to capital costs not included, such as SPOS desks and branch retrofits to accommodate sorters.

During the 2012-2018 period:

- All branches and services transitioned to the SPOS service model;

- All library materials were tagged with RFID labels;
- 12 branches received a materials sorter;
- 18 branches and kiosks were retrofitted with RFID-enabled return bins;
- All branches were retrofitted to accommodate RFID technology, including 25 SPOS service hubs in 21 branches;
- All employees were trained on the Think Yes!/Customer Experience program;
- All branch employees were trained on change management, team building, and RFID technology;
- All employees previously referred to as “circulation” or “information” staff were cross-trained and empowered to provide all services to customers, minimizing the need to transition customers from one employee to another;
- The Memorandum of Agreement (MoA) on RFID/SPOS provided a process by which to transition the 163 affected employees impacted by the organizational and technological change; and,
- OPL met its commitment to retain and retrain affected employees.

#### 4. Outcomes:

By taking a holistic approach to RFID/SPOS, annual rollouts became formulaic, easily adaptable to changing circumstances. Vendors recognized OPL’s implementation plans as best practice, often citing OPL’s experience as a model to follow in other library systems.

Here are some of the positive outcomes from an organizational point of view:

- First-ever, complete inventory of library materials;
- Revised staffing models across 33 locations (first holistic refresh since amalgamation);
- All job descriptions for public service employees were updated;
- A new job category was created (i.e. Customer Service Assistant);
- Savings invested into priority areas: Beaverbrook Branch, Organizational Development, and Materials Delivery;
- Additional savings helped offset the costs of the 2015 Pay Equity Tribunal decision;
- Fewer repetitive strain injuries related to circulation of materials;
- Centralized call center implemented across all locations; and,

- Staffing guidelines developed to normalize staffing structures in all branch and serve as guiding principles in planning for new branches (e.g. Riverside South).

From a customer perspective, here are some of the positive outcomes:

- Quicker processing of materials upon return resulting in items being made available sooner for borrowing or to fulfill holds;
- Decrease in holds-fill ratio; the Hold Time to Availability key performance indicator (median days from the time a hold is placed electronically, to the time it is available for pick up) has consistently decreased since 2016, the year when the measurement was introduced;
- Less time required to checkout materials; 95% of all physical materials are checked out using the self-check units;
- More accurate and timely information on status of materials in OPL's catalogue (e.g. available, in transit, on hold);
- Customers can self-serve, freeing staff to provide value-added services, such as programs and outreach activities; from 2014 to 2017, program delivery has increased by 3%;
- Staff meet customers at their point of need, both at the library and in the community;
- Enhanced experiences in watching the materials move along sorters – children in particular are mesmerized when watching their returned items move along the conveyor belts.

The success of this initiative stems from continued support from OPL trustees, as well as work accomplished by many staff in collaboration with various City of Ottawa departments, including Human Resources, Legal Services, Labour Relations, Infrastructure Services, Financial Services and the City's Organizational Development unit.

## 5. Next Steps

RFID technology has proven to be reliable technology, one worthy of continued investment. Using this technology, OPL has succeeded in streamlining transactional processes and enhancing the customer experience. Moving forward, RFID technology will be integrated into all new facilities, and will be maintained in existing facilities.

OPL will continue to seek ways to enhance the customer experience through on-going evaluation of the single point of service delivery model.

Finally, staff recognize that a multi-pronged approach that considers people, process, and infrastructure (financial, physical, technological), combined with appropriate change management, training, and communications are essential elements to successfully delivering significant projects; particularly, those involving the deployment of technology. This approach will be considered for all projects of similar scope in the future.

### **CONSULTATION**

The Library Management Team was consulted in the development of this report.

### **LEGAL IMPLICATIONS**

There are no legal implications with this report.

### **RISK MANAGEMENT IMPLICATIONS**

There are no risk management implications with this report.

### **FINANCIAL IMPLICATIONS**

There are no financial implications with this report.

### **ACCESSIBILITY IMPACTS**

There are no accessibility impacts with this report.

### **TECHNOLOGY IMPLICATIONS**

There are technology implications with this report

### **BOARD PRIORITIES**

This report aligns with strategic priority: Success through learning, literacy and innovation, specifically “align library services in support of customer needs”.