

## Make New Friends, But Keep The Old: Introducing Digital Innovation Services at the Toronto Public Library

**Jonathan Demers**

Toronto Reference Library, Toronto Public Library, Toronto, Canada.  
jdemers@torontopubliclibrary.ca



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### Abstract:

*Toronto Public Library has embarked on a significant series of organizational, operational, and service delivery changes to offer more technology based services to customers, while maintaining traditional public library services. This paper explores three approaches to staff roles, branch design, and user education that have been successfully introduced in the last two years. The introduction of 3D printing and design services in 2014 at the Toronto Reference Library have been expanded to include mid-sized neighbourhood branches as well as mobile Pop-Up Learning Labs. The role of partnerships with the maker communities and technology companies can be applied to other public libraries.*

**Keywords:** Innovation, Staffing, Planning, Partnerships

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### Introduction

In February 2014, the Toronto Public Library opened its first Digital Innovation Hub (DIH), located at the Toronto Reference Library in the downtown core of the city. In the following 18 months, newly built branches in the suburb of Scarborough and the lakeside neighbourhood of Fort York opened featuring their own Digital Innovation Hubs. During this time, two Pop-Up Learning Labs (PULLs) were created to rotate amongst Toronto Public Library's 100 branches. In early 2016, two more PULLs were established and enhancements to seven Computer Learning Centres were initiated. By the end of 2018, five newly renovated branches will include Digital Innovation Hubs. Long term branch capital projects over the next decade feature DIHs in most renovated locations.

The initial Digital Innovation Hub at the Toronto Reference Library was heavily used by library customers from the first day of operation. DIHs and PULLs across the city are bringing new customers into branches and raising the profile of TPL among younger and technology savvy residents. The demand for classes on 3D printing, Arduino programming,

and Python coding often exceeds the staffing capacity to deliver training sessions. By any measure, this new area of service has been a huge success. This positive result has additional importance as some other traditional services are in decline.

The erosion of traditional reference requests over the last 15 years has been well documented, in both public and academic libraries<sup>1</sup>. Toronto Public Library has not been immune to this trend, in particular at the two large research and reference branches, the Toronto Reference Library and North York Central. In response, TPL has placed greater emphasis on programming, events, user education, and creating welcoming public spaces. Total annual visits to TPL have increased 10% since 1999, and program attendance has almost doubled. While the circulation of some collections has declined in the last decade, others are steady or experiencing small increases.

Despite these changing use patterns, TPL continues to offer the same types of traditional library services customers would have expected in 1975, while adding additional technology based services on a near-annual basis. How Toronto Public Library manages to adapt, expand, and support new services will be explored in depth in this paper.

## **Influencing Factors**

Public libraries have always provided access to information and encouraged the free exchange of ideas. As the internet and electronic resources became more common, access to them gradually became rationalized as a core service at Toronto Public Library. In part this was due to larger national, provincial, and municipal initiatives to transition Canada from a traditional resource-based economy to a knowledge-based economy. As studies showed that innovation is a key driver of economic activity<sup>2</sup>, TPL began to take steps to support the needs of innovators, entrepreneurs, and creators.

By recognizing that technology is not a threat to the existence of public libraries, but rather a new way to fulfil our mission, TPL embraced these changes. PCs are still in high demand, but so too are services like 3D printing and classes on coding. By equalizing access to the scarce and new, public libraries continue to bridge the digital divide. In particular, recent efforts in a number of library systems to provide free mobile internet access for use at home is helping customers who lack the financial resources to participate fully in an increasingly online world.

Paul Trumphour, Acting Director of IT and heavily involved in TPL's innovation efforts, phrased it this way; "Tech is important, but equally important is teaching digital literacy. Digital literacy is a core service of the library." Similar sentiments were voiced by Elizabeth Glass, Director of Planning; "Technology is here to stay and is increasingly a way to fulfill our mission. Access to technology is a core service." The acknowledgment of these new core services, and providing the means to deliver them, has been an important element in TPL's continued high levels of support and use by the public.

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<sup>1</sup> Applegate, Rachel. "Whose Decline? Which Academic Libraries Are "Deserted" in Terms of Reference Transactions?" *Reference & User Services Quarterly* 48.2 (2008): 176-89. Web.

<sup>2</sup> Florida, Richard L. *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life*. New York, NY: Basic Books, 2002. Print.

Recently, TPL developed a new service delivery model that aims to deliver “a full range of traditional and new services at the user’s point of need.” Part of the model is a re-organization of operations into four tiers; Neighbourhood Branches, District Branches, Research and Reference Branches, and Digital Services and City Wide Services. The latter tier is supported by a newly created Director of Service Development and Innovation position, as well as new management positions with a focus on innovation.

## **History of Technology in TPL**

While rarely early adopters of new technologies, public libraries have always played an important role in providing access to technology for their patrons.<sup>3</sup> Like many library systems, TPL introduced computer based catalogues in the 1980s. In the late 1990s, thanks to a series of government funding initiatives, as well as support from the Gates Foundation, public PCs with internet access and word processing software were added at all locations. Ebooks, wifi access, and RFID-based self-checkout services arrived in the last decade and quickly became very popular.

Initially, these additions of new technologies caused some anxiety for both front line staff and the administration level of the library. Important questions about the role of the public library were raised: As more and more services moved from staff-delivered to customer controlled, how must the traditional staffing model change? Will the demand for print materials drop to the point that branches no longer have physical collections? Will search engines replace the reference librarian?

The guiding documents for adding these new technologies, and the related service changes they entail, are the four Strategic Plans developed by TPL in the last 15 years.

## **Strategic Plans**

The first TPL strategic plan, following the 1998 amalgamation of five Toronto area library systems into a single organization, was issued in 2000. Its key areas of focus were a blend of traditional library touchstones and emerging service areas: the joy of reading, preserving the past, the library as a vital community resource, and building a virtual library with online collections and services. The next strategic plan, covering the years 2004 to 2007, had a greater focus on the societal role of the public library: key priorities included books and culture, newcomers, youth, and low-income neighbourhoods.

With the creation of the 2008-2011 strategic plan, TPL began to place greater emphasis and resources on technology. While continuing to support previous areas of focus, such as income disparity and diversity, new areas were introduced such as “Expanding Access to Technology and Online Services” and “Supporting Creativity and Culture”. Services such as wifi internet access, self-checkout, downloadable video and ebooks, and digitization of special collection holdings were implemented during this period.

The 2012-2015 strategic plan had four central themes: Read: Grow a city of readers, Learn: Develop a city of learners, Create: Connect a city of creators and Deliver: Deliver excellent

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<sup>3</sup> Leckie, Gloria J., and Hopkins Jeffrey. "The Public Place of Central Libraries: Findings from Toronto and Vancouver." *The Library Quarterly: Information, Community, Policy* 72.3 (2002): 326-72. Web.

service. It is from the Create theme that increasing emphasis on digital innovation began to be applied to public services. The goals of the Create theme are summarized in this introductory statement:

*Toronto's innovators, entrepreneurs and creators of today and tomorrow are participants in a global creative and knowledge economy. To succeed, they need information resources, and strong technology support, as well as creative and collaborative spaces that encourage conversations, support co-working and co-creation, and stimulate and spark ideas.*

The 2014 work plan for TPL had three specific tactics to support this goal:

- *Introduce Digital Innovation Hubs at the Toronto Reference Library and Fort York Branch equipped with digital design workstations, 3D printing, and the latest technology including HD digital cameras, and audio & video production tools*
- *Implement an Innovator in Residence program to provide inspiration, advice and support to library users*
- *Provide maker programs through pop-up spaces with an emphasis on children's activities in branches throughout the city, including children's maker programs*

In 2012 a new staff work group was formed, called the Digital Content and Innovation Steering Committee. This body was tasked with both supporting the aggregation, curation, and creation of the library's digital content and fostering a culture of innovation. Initiatives included print-on-demand services, supporting hubs of creativity, and prioritizing collection digitization. All TPL efforts related to innovation over the last four years have gone through this group of library directors, managers, and general staff. The efforts of this committee led to the establishment of the first Digital Innovation Hub, as well as initiating new partnerships, service delivery models, and operations.

### **Digital Innovation Hubs**

In the fall of 2013 an implementation service model for a Digital Innovation Hub was approved by the library's Directors Committee. The vision for the DIH is:

*A Digital Innovation Hub is a learning, collaboration and creation space that fosters, supports and inspires individual and community development of knowledge about new and emerging digital technology. Torontonians are provided with the information, tools and support to participate in, contribute to and succeed in today's digital environment.*

A DIH is intended to be a flexible and accessible space that serves users of all ages, skill levels, and backgrounds. New and emerging digital technologies are showcased, such as 3D scanners and printers. Workstations loaded with software for video and audio editing, 3D design, animation, graphic design, and coding are provided, as are laptops and tablets. This hardware and software is not included on the standard PCs available to the public.

Extensive programs and workshops are offered, which support a range of user needs and skill levels. Training is delivered by staff as well as external experts. Speaker programs are a regular occurrence, and collaboration between users is encouraged. The Digital Innovation Hubs are free to use and open during regular branch hours.

The popularity of the Digital Innovation Hub at the Toronto Reference Library as well as the Scarborough Civic Centre and Fort York branches has resulted in DIHs being included in the plans for most branches undergoing renovations in the next 10 years, including both small and medium sized neighbourhood locations as well as larger district branches.

### **Pop Up Learning Labs**

Pop Up Learning Labs, or PULLs, began in late 2014. With a grant from the Metcalf Foundation, a Toronto-based charitable foundation with a mandate to share knowledge and learn collectively through the performing arts as well as improving the economic livelihoods of low income people, TPL hired community experts to deliver innovative programs in Neighbourhood Improvement Areas. A 3D printer, Macbooks, and Arduino kits were also purchased to support the programs.

At the completion of the project, the remaining equipment was repurposed as a Digital Innovation Hub Equipment Kit, which could be requested by TPL branches for use in their own programming. In 2015 additional laptops and 3D printers were purchased, as well as Makey-Makey kits and Lego Mindstorms sets, to create two more equipment kits. These kits were renamed Pop Up Learning Labs, and were available for branches to request for month long periods. A full time staff member was also hired to support each of the PULLs.

### **Enhanced Computer Learning Centres**

There are 18 branches equipped with Computer Learning Centres which are dedicated rooms or spaces with between 10 and 24 computers. The PCs feature Microsoft Office products, the internet, and access to subscription-based databases, and are the primary locations where training for the public takes place. An initiative approved in late 2015 will have seven of these Learning Centres upgraded to include 3D printers, photo scanners, open source software, and Adobe Creative Cloud products.

The Enhanced Learning Centres will provide the public with more locations to access new technology and receive training, without the need to travel to one of the three Digital Innovation Hubs. Demand for courses such as 3D Certification, 3D Design, and Photoshop has been very high, with consistently full classes and lengthy waiting lists.

### **Branch design**

Renovation standards developed in the last 10 years have seen increased space for customers to study, read, and plug in their own electronic devices. There has also been a reduction in the shelving space provided for physical collections, and in general, smaller reference and circulation desks. Renovations in the two large research and reference locations have transformed some former stacks spaces into either public areas or rentable event rooms. Plans for eLearning spaces are included in the renovation plans for the North York Central Research and Reference branch.

TPL's location requirements for a library branch include good pedestrian and public transit access, high street visibility, and central placement in a neighbourhood. Increasingly, library branches are used as a destination for study, work, group interaction, leisure, and learning. This requires flexible spaces that are easily configurable to accommodate multiple uses. The

spaces must also include the technology infrastructure to support both networked library services and users' own needs via wireless or wired connections.

### **Staff roles**

In the year 2000, a new job title was created, called a Digital Design Technician. This position worked out of the Digital Design Studio at the Toronto Reference Library and provided instruction and assistance to the public in the use of digital, preservation, and web design software and equipment. As the model of the Digital Innovation Hub was developed in 2013, eventually replacing the Digital Design Studio service, Digital Design Technicians became the most common position in the DIHs and PULLs.

Digital Design Technicians are not librarians, but are required to have a post-secondary diploma in computer imaging, graphic arts, web design or equivalent education. The DDTs work in the Digital Innovation Hubs, handling equipment bookings and troubleshooting, customer support, and instruction. They lead classes on topics such as web design, 3D design, image editing, computer programming, and Arduino. Digital Design Technician positions have also been filled to co-ordinate and support the Pop-Up Learning Labs.

Two librarian positions were revamped in 2013 to support the Digital Innovation Hub implementation, as well as other system-wide innovation initiatives. One is the Senior Services Specialist for Service Innovation, and the other is the Project Leader for Innovation. These positions help to enact the tactics of the innovation work plan and the Digital Content and Innovation Steering Committee by doing research, writing reports, and promoting the services both internally and externally. They are also responsible for making software and hardware recommendations, arranging staff training, and monitoring budgets.

With a large workforce of about 2,300 staff, TPL has a rich pool of talented, creative people to consult with and gather ideas from. Starting in the fall of 2013, the library has periodically asked staff to submit ideas for innovative projects, as part of the Staff Innovation Program. Experimentation and risk-taking are encouraged, and staff at all levels are eligible to submit ideas. Successful projects have ranged from a low-tech Readers Recommend Wall using sticky notes in a neighbourhood branch, to a community mapping project that uses open data to help customers locate schools, recreation centres, health care, and food banks located near their local library branch.

### **User Education**

Toronto Public Library has been offering classroom computer instruction to the public for decades. As PCs, databases, and the internet became more commonly available, the library began to offer free training ranging from very introductory classes such as "Move That Mouse" and "Computer Basics" to more advanced classes like "Social Networking" and "Research Skills". Most training is delivered in Computer Learning Centres. Training is also delivered in other locations, often by using the regular public PCs and for smaller classes of 4 to 8 people.

Participants register either in person or by calling the branch hosting the training. All classes being offered in the 100 branches are listed on the TPL website, under the Computer and Library Training heading. Usually classes are between 60 and 90 minutes in length, and are led by a staff member, most often a Librarian. The majority of attendees are older adults, job

seekers, and the recently retired seeking to upgrade their existing skills or simply learn something new. In 2015, 3,076 sessions were held across TPL with 43,742 attendees.

With the introduction of the Digital Innovation Hub model in 2014, public training began to include more advanced topics, used different equipment, and relied on a new crop of trainers. Courses on HTML, 3D design, and photo editing were introduced in the DIHs and quickly attracted new demographics to the library; younger adults and teens, students, and people working in creative fields. The base computer skill level of these new users is typically very high; they are not seeking introductory instruction, but rather access to the software, hardware, and advanced support they need for their own projects. In 2015, 411 sessions were held at the three DIHs, with 5,627 attendees.

## **Partnerships**

The early success of the new innovation services are due in part to the popularity of maker culture and makerspaces in the last few years. Toronto has benefitted from the presence of groups such as HackLab.TO, Site 3, and MakerKids who have promoted the concept of creative spaces where people from diverse backgrounds can come together and share their expertise.

TPL participated in the 2013 Maker Festival, and the following year reached out to the organizers with an offer to host the next festival at the Toronto Reference Library. The event was a huge draw with over 8,000 people attending over two days, and has resulted in TRL being the host in 2015 and 2016. For the Maker Festival organizers, being partnered with a well-known and respected organization like TPL added greatly to their visibility and ability to connect with a wider audience.

The connections made with the local maker community have also helped attract highly qualified people for the position of Innovator In Residence. Based at the Toronto Reference Library, IIRs lead a multi-month series of specialized workshops for the public and staff on topics such as video production, app development, and 3D design.

Partnerships with companies such as Cisco and Google were developed with support from the Toronto Public Library Foundation. While TPL has a long history of corporate sponsorships for programs such as the TD Bank Summer Reading Club, the implementation of the Digital Innovation Hubs acted as a symbol of where TPL wanted to go and garnered a great deal of media interest. This in turn attracted technology companies who wanted to support current and future innovation initiatives.

## **Application for other libraries**

The success that Toronto Public Library has experienced with introducing digital innovation services can be replicated by other library systems. While TPL is a very large, urban, and generally well-funded system, services of this type can, and have been, introduced in smaller, suburban and rural public libraries. Here are strategies that are applicable in any public library:

First is the importance of having strong support for the initiative from the top level on down. If the municipality, the Library Board, and the library executives are behind the idea – and are providing the financial and staffing support necessary – then a significant step has been

taken. In TPL's case, the recognition that digital literacy has become a core service fed into strategic plans, work plans, budgets, staffing arrangements, and partnership opportunities.

Second is the need to demonstrate commitment to the concept by creating a dedicated space for innovation. It could be as simple as a few tables, chairs, and laptops that are set aside for the use of customers working on, or interested in, innovation projects. Ideally a separate room or work space would be set up, and stocked with materials and kits of interest to makers. 3D printers are a big draw to curious customers, but even very affordable Arduino kits encourage new users. Creating a dedicated space also signals to potential partners or benefactors that the library is making serious efforts to support local innovators.

Reach out to local maker groups and other organizations for tours, open houses, informal meetings, and collaboration possibilities. As your visibility and reputation rises, potential partners will increasingly be approaching the library with program and event pitches. As a free (or very low cost) public service, libraries can be a great equalizer in their communities.

Third is the importance of staff skills, either through developing existing staff or hiring new people to lead innovation efforts. You don't need staff with computer science or engineering backgrounds to develop and run a digital innovation space, but you do need curious, creative people who like to learn. Bringing in external expertise to train staff is often an essential step, but building partnerships with local maker community members can keep costs down.

## **Conclusion**

Public libraries once again have an opportunity to challenge out-of-date views of what services should be offered to their communities. Much like the introduction of the internet 20 years ago, adding a new and unfamiliar service can be seen as a threat to tradition. However, as libraries have demonstrated repeatedly, our users are eager for access to the new and scarce.

Innovation services, such as 3D printers and coding workshops, are helping to bridge the digital divide in our cities and towns. The strong commitment to free and open access, public spaces, collaboration, and creativity that drives Toronto Public Library's strategic and implementation plans can be applied in any library system.

The core services – what makes a public library a public library – have always been in a state of transition over the last century. The public need and interest in some collections, programming, and services changes over time, but this is not a process to fear or resist. By taking an open and flexible approach to change, by being willing to accept rather than fight declines in demand, and by listening to our communities, public libraries will continue to demonstrate their great value.

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### **Acknowledgments**

Thank you to Elizabeth Glass, Mary Rae Shantz, Paul Trumphour, and Ab Velasco.