Technologies: Strategic Implications

**Session Description:** What do leaders need to have on their radar as they determine long-term and near-term decisions? This session focuses on the technologies libraries need to be considering, as well as related developments and issues facing cities, communities, campuses and organizations. What are the implications for your community or campus strategies, and, in turn, for your library’s strategies?

**Key Questions to Answer**
1. What are the medium to longer term challenges facing libraries?
2. What are the best strategic approaches to the effective utilization of technology in libraries?
3. What technologies should we be focused on?
About Me

- Graduated University of Toronto – iSchool 1994
- Wentworth & Hamilton Public Library (1999 - ) – IT Manager, IT Director, CEO/Chief Librarian

- Pre-library career:
  - Many jobs working landscaping, construction/destruction
  - University of Toronto – English, Religious Studies, History – Graduated 1988
  - Legislative Assistant for Ontario Member of Provincial Parliament 1989
  - Supervisor House for Individuals on Parole – 1991-94
About the Hamilton Public Library

One for the Books – CHCH Morning Live – March 2019
Local television coverage of HPL. Local anchor Tim Bolen and Camera Operator, Luke, from CHCH Morning Live visit our Makerspace, Bookmobile, Collections and Local History and Archives areas. https://www.chch.com/one-for-the-books/
About Hamilton

• Hamilton, Ontario is a port city on the westernmost tip of Lake Ontario
• Part of the Golden Horseshoe, Hamilton is among the largest cities in Ontario, 550,000 residents

• Hamilton Public Library (HPL) operates 22 branches & 2 bookmobiles across 439 mi²/1137 km²
• HPL founded in 1889, reborn in 2001 after municipal amalgamation
• Annual operating budget $32 million
## Recent Library Board Budget Submissions

<table>
<thead>
<tr>
<th>Budget Year</th>
<th>Direction</th>
<th>Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2.0%</td>
<td>0.7%</td>
</tr>
<tr>
<td>2012</td>
<td>0.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>2013</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2014</td>
<td>0.0%</td>
<td>0.2%</td>
</tr>
<tr>
<td>2015</td>
<td>-----</td>
<td>1.5%</td>
</tr>
<tr>
<td>2016</td>
<td>1.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>2017</td>
<td>1.8%</td>
<td>1.8%</td>
</tr>
<tr>
<td>2018</td>
<td>1.5%</td>
<td>1.8%</td>
</tr>
<tr>
<td>2019</td>
<td>-----</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

HPL Increase Averages 1.2% Per Year
Usage of Library Collections & In-Person Visits

Circulation and In-Person Visits

- Digital Circulation
- Streaming Circulation
- Physical Circulation
- Library Visits


Circulation

Library Visits

Digital Circulation
Streaming Circulation
Physical Circulation
Library Visits
Usage of Library Technology
## 2018 Staffing & Activity Summary

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>% Change from 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staffing in FTE</strong></td>
<td>306</td>
<td>305</td>
<td>300</td>
<td>-1.6%</td>
</tr>
<tr>
<td><strong>Open Hours</strong></td>
<td>47,100</td>
<td>47,800</td>
<td>52,450</td>
<td>9.7%</td>
</tr>
<tr>
<td><strong>In Person Visits</strong></td>
<td>3.95 million</td>
<td>3.68 million</td>
<td>3.76 million</td>
<td>2.1%</td>
</tr>
<tr>
<td><strong>Circulation of Materials</strong></td>
<td>6.74 million</td>
<td>6.62 million</td>
<td>6.66 million</td>
<td>0.7%</td>
</tr>
<tr>
<td><strong>Attendance per Program</strong></td>
<td>19.8</td>
<td>18.5</td>
<td>19.4</td>
<td>4.9%</td>
</tr>
<tr>
<td><strong># of Computer Sessions</strong></td>
<td>806,925</td>
<td>779,811</td>
<td>787,781</td>
<td>1.0%</td>
</tr>
<tr>
<td><strong># of WIFI Sessions</strong></td>
<td>1,149,739</td>
<td>1,048,972</td>
<td>1,162,246</td>
<td>10.8%</td>
</tr>
</tbody>
</table>
Question 1

What are the medium to longer term challenges facing libraries?
# LONGER TERM CHALLENGES & OPPORTUNITIES

Meeting User Needs III & IV – Thoughts on our next Decade

<table>
<thead>
<tr>
<th>2010 Assumptions</th>
<th>2017 Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Our very survival as an organization is dependent upon us remaining relevant and vital to the lives of people.</td>
<td>1. With future disruptive changes ahead, libraries will need to continue to focus on enhancing our ability to adapt. The health of our organization will be dependent upon us remaining relevant and vital to the lives of residents and to communities we serve.</td>
</tr>
<tr>
<td>5. Current services and processes will continue to change repeatedly.</td>
<td>2. There will be significant competition for funding. Operating budgets will continue to be constrained and accessing sufficient capital funding to maintain all our facilities will be an ongoing challenge.</td>
</tr>
<tr>
<td>6. Future jobs will be less repetitive and will focus more on public service.</td>
<td>3. Public libraries are uniquely positioned to contribute to the health, education and prosperity of the communities we serve. To accomplish this we must continue to develop successful partnerships and actively participate in broader community initiatives.</td>
</tr>
<tr>
<td>2. All of our funding is vulnerable.</td>
<td></td>
</tr>
<tr>
<td>3. More library buildings require renovations than our funding will allow.</td>
<td></td>
</tr>
<tr>
<td>2010 Assumptions</td>
<td>2017 Assumptions</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>3. Electronic material will soon form a significant portion of our circulation.</td>
<td>4. The trends toward the increasing importance of digital content and growing competition from the private sector to provide access to it will continue. The circulation of physical books will remain a core service and the unique local content held and made accessible by HPL will become increasingly important.</td>
</tr>
<tr>
<td>7. Competition from the private sector for services we once considered our exclusive domain will continue to increase.</td>
<td></td>
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<tr>
<td>8. Privacy/intellectual property issues will become more complex.</td>
<td>5. Network security, privacy and intellectual property issues will become more challenging. With content we control we have an opportunity to model best practices that facilitate effective sharing that creates the maximum benefit to society.</td>
</tr>
</tbody>
</table>

Law of Accelerating Returns

• **Price performance, bandwidth & capacity of information technology progresses exponentially through multiple paradigm shifts**
  - By 2023, computing capacity of a human brain will be available for ~ $1,000
  - By 2037 that capacity will cost 1 cent.

• **Key Implication**: The technologies that are both affordable and available to libraries will continue to evolve even more rapidly as time passes. Also, as time passes the life cycle of major technology changes will continue to get shorter.

http://www.kurzweilai.net/the-law-of-accelerating-returns
See also Moore’s Law - https://en.wikipedia.org/wiki/Moore%27s_law
Law of Customer Expectations

* Customers spend more time experiencing service and technology outside of our organization and that is where they form their expectations for how our systems and services should work.

**Key Implications**: Customer expectations of how our services and technology should work will change at a more rapid rate. People will need help keeping up with the changes that are happening around them.

*Derived from Jacob Nielsen’s First Law of Web User Experience

https://www.fifteendesign.co.uk/blog/laws-of-ux-part-one/
https://www.nngroup.com/topic/web-usability/
Question 2
What are the best strategic approaches to the effective utilization of technology in libraries?
What I have Learned about Technology?

1. My experience in IT leadership has been great preparation for being CEO
   • **Understanding technology** is very **helpful**
   • Learning how to really collaborate and work from a place of influence and mutual respect instead of power is **critical**

2. We need to ensure that we focus on technology that is both **useful** and **used**
   • Novelty attracts temporary attention
   • **Successful implementations have long-term impacts** and attract meaningful support

3. Technology innovation without a **successful change management strategy** will not lead to **good results**
   • Creating a culture of trust, engagement
   • Steady rate of progress – *avoid spasms of enthusiasm*

4. **Using technology to create capacity** (save money) **overtime works** – patience is needed
   • Shifting resources to new areas of demand works better than cost cutting

Why are generals more cautious to go to war than civilian leaders?
Innovating the Right Problem at the Right Time

When does your organization implement technology?
Challenge of Accelerating & Disruptive Changes

- **Organizational resilience is critical**
  - Steady rate of change, not disruption followed by inertia

- **Robust technology infrastructure**
  - Cloud, Server & Computer Virtualization – VMWare
  - Strong Infrastructure & Service Teams

- **Staff empowered & equipped to help** people with current challenges
  - often technology related
  - Tech Liaison Team; A+ Certification
  - Equip staff with transferable technology skills – commonalities of software and hardware
  - Staff Intranet (SharePoint) improving workflows & communication

- **ITIL Framework** – improving your maturity overtime
Question 3
What technologies should we be focused on?

Hamilton Public Library  Digital Strategy 2018 - 2021

OUR VISION
Digital services that empower Hamiltonians to succeed.
Hamilton Public Library is an innovative leader in technology and digital services that inspires and empowers Hamiltonians to live successfully and thrive in the digital society.

WHY A DIGITAL STRATEGY?
Improve people’s lives by bridging the digital divide and providing learning opportunities, tools and resources to advance:

- **Applied Learning**: Assist people to learn new technologies, process digital information, and be innovative.
- **Engagement**: Help people to actively participate in society through social and civic engagement.
- **Economic Impact**: Enable people to build careers, find work or create and grow their businesses.

DIGITAL STRATEGY PRINCIPLES
- People-focused
- Outcome Driven
- Secure Technology
- Reliable Processes

[HPL Technology Strategy & Road Map](#)
Self-Service - Using Technology to Create Capacity

• Embrace self-service technologies to improve customer service & shift to higher value work
  • Avoid points of failure with simplicity
  • Apply the right sized solution

• HPL has implemented most of the standard ILS & RFID technology
  • BiblioCommons Catalogue, Polaris
  • Use Bibliotheca RFID & MK Sorting Systems

• Still looking into:
  • RFID return shelves for smaller locations
  • Inventory control system
  • Holds lockers, material dispensing systems?
  • Tablets to support staff communication, customers service & safety
  • Better people counters

Services previously handled by staff that are now self-service:

✓ Access account information, including status info on items and fines
✓ Renew items, Place an item on hold for pick-up
✓ Access to DVD/CDs without for staff intervention
✓ Reserve computer time, manage access
✓ Self-service check-out using self check stations
✓ Self-service returns using material handling systems
✓ Add funds for printing and photo copying
✓ Online library fine payments via ecommerce
✓ Extended access at rural locations – Open + Technology
✓ Online customer registration
Dealing with the Digital Shift

• Adopt new formats and new online services while **not prematurely abandoning formats the community is still using:**
  • Keep in mind local differences - lower income areas & DVD usage
  • Physical book will be more resilient format that other physical media

• **Find our niche of digital offerings** – focus on the few great offerings that people use
  • Assess, abandon if necessary, far from stable yet
  • Participate in shared advocacy, education campaign
  • **Take back control of our online presence** – SimplyE NYPL
  • Immediate past use is the best predictor of future use

• **Local History & Archives – accelerating digitization**
  • Promoting local authors, artists, musicians
  • Use more automated digitization
  • Contribute towards shared repositories & interfaces
HPL’s Next Step with Technology

• **Maintaining our investment in technology**
  • Money will keep going further

• **Advancing workplace efficiencies to create capacity**
  • Additional self-service technologies
  • Moving more internal work to online lists and out of email – a robust Intranet is important
  • Simplifying procedures, easier to understand and comply with

• Continue providing **basic access to technology** as we make more **advanced technology also available**
  • Helping people move from **consumers to creators**
  • Virtual Reality and Local History & Archives

• **Artificial Intelligence (AI)** – Protecting privacy & the right to explanation
  • Machine generated meta-data to accelerate digitization process
  • Facial recognition to improve security – ignore or partner with Privacy Commissioner to develop best practices to use responsibly
  • Partnering to make information services more effective
Questions?

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55 York Blvd, Hamilton, ON. L8N 4E4
ptakala@hpl.ca, 905-546-3215, www.hpl.ca
Some Additional Information

Not directly related to the presentation but important for success.
Partnerships Critical to Success in 21st Century

HPL’s Partnership Framework
• Partnerships are critical to HPL’s success, we maintain over 130 active partnerships
• Use SharePoint to maintain a shared list – generate annual report

Goals of HPL Partnerships
1. Extend and enhance Library services and programs in a sustainable way
2. Increase awareness of Library services and programs
3. Support the City of Hamilton and broad based community initiatives that advance Hamilton’s economic, social and cultural richness
4. Enhance coordination and reduce overlap in efforts between agencies serving Hamilton

Partnership Policy - https://www.hpl.ca/articles/partnership-policy
HPL’s Information Technology (IT) Division’s Core Roles

1. **Provide HPL with excellent IT services and ensure innovative use of technology**
   - Ensuring we effectively maintain and support the Library’s IT infrastructure and we continually evaluate our technology to ensure it aligns with broader HPL business and strategic goals
   - Utilize new technologies to provide better IT services

2. **Promote technical competencies system-wide**
   - Working in partnership with other divisions to help push out technical knowledge
   - Create excellent documentation, support materials
   - Create a technology liaison team that provides extra training to staff to:
     - Troubleshoot basic IT problems
     - Train staff in effective reporting of problems to the help desk
   - Create public training programs using advanced equipment (3D Printers, VR, scanners..)
     - Combination of direct delivery and training public service staff
Addressing Gaps in Service Hours

• **Challenge** - Past budget cuts (1980s & 1990s) led to a reduction in service hours, especially at smaller locations

• **Opportunity** - Traditionally, our service hours were based around info & circ desks. That made sense at the time, but today we have a lot more self-service activity. Staff are still important to supporting customers, but we need to recognize that developing our schedules using the traditional model of service puts unnecessary constrains on our ability to serve the community.

• Innovative models to expand service hours:
  • **Study Halls** – Locations open Mon–Thurs from 9 pm midnight with a Security Guard
  • **Remote support** rural model – Open+ Bibliotheca – from 17hrs a week to 60
  • **Under discussion** – Opening early & closing late with some service points not open:
    • Staff present but service desks closed, video phone support or buzz staff for assistance

Study Halls - [https://www.hpl.ca/news/extended-access-study-hours](https://www.hpl.ca/news/extended-access-study-hours)
Open + Model - [https://www.bibliotheca.com/hamilton-public-library/](https://www.bibliotheca.com/hamilton-public-library/)
Embracing our role in Digital Literacy

- Core mandate of our IT Division since 2009: **Promoting technical competencies system-wide**: support public training – train the trainer & some delivery
- Technical Liaison Model – front line staff training in basic IT support
  - Use IT principles to train transferable skills & effective reporting
  - A+ Certification for some Digital Technology Service Positions
- Digital Literacy = **Problem Solving in a Technology Rich Environment**

Program for International Assessment of Adult Competencies (PIAAC) - [http://www.oecd.org/skills/piaac/](http://www.oecd.org/skills/piaac/)
Edge Toolkit - [http://www.libraryedge.org/toolkit](http://www.libraryedge.org/toolkit)
Bridge Toolkit - [https://www.torontopubliclibrary.ca/bridgetoolkit/](https://www.torontopubliclibrary.ca/bridgetoolkit/)
Engaged Staff & Change Management

Peter de Jager’s Ethical & Effective Approach to Change Management

- Change management is about dealing with people’s sense of control and the loss of it
- Emotions kick in when people feel they are not in control
- Emotional stages set-in when there is: surprise, bad news or immediate deadlines
- The time to talk about change is before change happens, during change emotions take over
- Get buy-in to realizing the need for change
- Do not get buy-in for a solution
- Understanding the process you can see what is happening, but that does not stop you from going through the emotions

https://www.petrusdejager.com/articles