The Future is Now:
How Technology and Innovation are Changing
Special Library Roles and Services

SLA Florida & Caribbean Chapter
Leading Edge Libraries 2019 Conference
September 19-20, 2019
Adaption is key to survival

It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change.

- Charles Darwin

- Leon C. Megginson

https://www.flickr.com/photos/robpurdie/5726182197
Predicting the Future is Risky…


In this art of the world in 1999 and beyond, Fred Freeman envisioned that we would have such technological marvels as rocket belts, domes over cities to control climate, hovering vehicles, flying boats, moving sidewalks everywhere and flying saucer-shaped transports.
“The best way to predict the future is to invent it” – Alan Kay (1971)
Brief history of innovation in libraries

- Card catalog invented by Harvard College (1861)
- Library of Congress started printing library cards (1902)
- *As We May Think* by Vannevar Bush published (1945)
- Science Citation Index created (1955/1960)
- Ohio College Library Center (OCLC) founded (1967)
- MARC created by Henriette Avram (1968)
Brief history of innovation in libraries

- Dynix online OPAC released (1983)
- NCSA Mosaic browser released (1993)
- NLM’s PubMed launched (1996)
- Data.Gov launched (2009)
Future Trends Already Here

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Strategies

 Alignment with mission

 Demonstrate value

 Data-centric

 Ease access yet improve security

 Open Access/Science
“On the one hand information wants to be expensive, because it's so valuable. The right information in the right place just changes your life. On the other hand, information wants to be free, because the cost of getting it out is getting lower and lower all the time. So you have these two fighting against each other.”

Stewart Brand at the first Hackers' Conference in 1984
Trust and Loyalty

Loyal
Predisposed
Transactional
Antagonistic

Trust
Belonging
Purpose

NIH Library
Office of Research Services
Serving the NIH Community
The NIH Library is a biomedical research library that supports the staff of the National Institutes of Health and select U.S. Department of Health and Human Services agencies.
Balanced Scorecard

NIH Library Strategy Map

Generated May 2019

Vision: To be the premier provider of information solutions that enable discovery and improve health.

Mission: Advance the work of NIH and HHS in biomedical research, clinical care, and health policy by promoting knowledge synthesis and discovery; fostering collaboration and community; enhancing scholarly communication; and pursuing research and development that improves information access and use.

Core Values: Integrity, Innovation, Service Orientation, Excellence, and Collaboration

Near Term Priorities

- Grow Community, Collaboration, and Outreach
  - Expand support and outreach to our service community and foster collaboration (CS 1.0, PR 2.0)

- Develop and Maintain Robust and Secure Information Architecture for the NIH Library
  - Deploy and maintain cutting-edge physical and digital services designed to meet current and future needs (PT 1.0)

- Strengthen Capacity and Achieve Efficiencies to Ensure Continuous Service Improvement
  - Strengthen capacity and increase accountability to ensure continuous service improvement of resources and services (CS 1.0, PR 2.0)

- Foster Biomedical Research and Scientific Communication
  - Enable discovery and improve health through improved scientific communication and delivery of targeted services (CS 1.0)

Customer/Stakeholder

- CS 1.0 Optimize Customer Experience
- PR 1.0 Improve NIH Library Processes
- PR 2.0 Build Relationships and Enhance Partnerships
- PT 1.0 Optimize Human Capital & Employee Experience
- PT 2.0 Leverage Ideas and Technology
- B 1.0 Optimize Budget

Processes

People and Tools

Feedback/Make Adjustments
What Is Lean Six Sigma?

Lean + Six Sigma = Lean Six Sigma

Lean: Create value for customers by minimizing waste.

Six Sigma: Reduces defects by effectively solving problems.

Lean accelerates Six Sigma - Solving problems and improving processes is faster and more efficient.

Illustration source: https://goleansixsigma.com/what-is-lean-six-sigma/
DMAIC is a five-step method for improving existing process problems with unknown causes.

Define
Define the problem.

Measure
Quantify the problem.

Analyze
Identify the cause of the problem.

Improve
Implement and verify the solution.

Control
Maintain the solution.

2006-2016 Document Requests Completed

- Document Requests Filled
- Document Requests Filled From NIHLB Collection
- Document Requests Filled By NIHLB Staff At NLM
What we do

NIH Library

Resources
- Information
- Software
- Facilities

Training
- Courses
- Tutorials
- Special events

Services
- Discovery
- Analytics
- Communication
- Technology
Resources

Information Resources

- 15,000+ journals
- 50+ databases
- 120,000+ books and eBooks

Other Resources

- Analysis and management software
- High performance workstations
- Study and collaboration spaces
Training

Core Classes
- Library resources
- Analytical software
- Paper writing

Custom Training
- Tutorials
- Custom classes
- Special events
Services

Major Service Areas

- Discovery
- Analytics
- Communication
- Technology
Discovery Services

- **Document Delivery**: Locating and delivering publications not available in the NIH Library’s collections
- **Informationists**: Embedded librarians offering library services to specific groups
- **Literature Searching**: Expert guidance and assistance in finding and retrieving information
Analytical Services

- **Bibliometrics**: Analytics to help understand and evaluate publication portfolios
- **Bioinformatics**: Training and resources for understanding the molecular basis of disease
- **Custom Information Solutions**: Bringing together technology and information science
- **Data Services**: Understanding and managing data throughout the research process
Communication Services

- **Editing**: Services and tools to prepare staff manuscripts for peer review
- **Translations**: Written and oral translations of materials and notary services
<table>
<thead>
<tr>
<th>Technology Services</th>
<th>Description</th>
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<tbody>
<tr>
<td>Technology Hub</td>
<td>Spaces and tools to explore and experiment with emerging technologies</td>
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<tr>
<td>Collaboration Pods</td>
<td>Reservable spaces for collaboration or software use</td>
</tr>
<tr>
<td>Digital Production Studio</td>
<td>Space and tools for creating and producing audio and video projects</td>
</tr>
<tr>
<td>3D Printing</td>
<td>Tools and equipment for 3D printing</td>
</tr>
</tbody>
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“[It] seems evident enough from all that has been said, that the old type of library must modify itself in accordance with the new needs which the evolution of knowledge and the growth of print have created”

—John Cotton Dana, “Librarian at Large”