Smart Libraries Newsletter

News and Analysis in Library Technology Developments

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Smarter Libraries through Technology

Technologies to Address Public Library Trends

By Marshall Breeding

Over the last few weeks I have been aggregating public library statistics into the libraries.org directory on Library Technology Guides. These data sets are made publicly available by the Institute for Museum and Library Services (IMLS) for public libraries in the United States. I see interesting possibilities in making associations between technology services implemented and use patterns, demographics, or collection characteristics. I have created a few tools to view individual library statistics and aggregations of statistics by state and for all states combined.[1] While I'm in the early phase of this investigation, some patterns already stand out.

One obvious pattern concerns library circulation statistics. Among public libraries in the United States, circulation transactions have generally declined in recent years. When considering the years from 2006 through 2017, aggregated public library circulation in the US peaked in about 2010. Similar patterns can be seen state-by-state, though there are also interesting variations. In California the trend is even more pronounced, with peak aggregated circulation for the state at 245,410,066 in 2010, which diminished to 208,171,464 in 2017. Though the numbers are at a substantially lower scale, Tennessee statistics have seen a mostly steady increase since 2006. Since 2016, IMLS statistics have been broken down between physical loans and digital access. Not surprisingly the use of digital materials, such as e-books and audiobooks, has increased, though not at a level that offsets the decline in print.

Library visits track closely with circulation transactions. Nationwide, library visits peaked in 2010 with gradual declines since. Program attendance, on the other hand, has seen substantial increases. Since 2011, these figures have increased from 4 million to 5.4 million.

It's also interesting to consider the aggregate expenditures for public libraries. Since 2006, total public library expenditures have increased from $9.6 billion to $12.4 billion. Cost per capita (total expenditures divided by total population) was $38.50 in 2017. Although this figure has increased gradually since 2006 in absolute dollars, it represents a decrease when adjusted for inflation. Over that period, spending for print resources have declined from $900 million to $754 million while electronic resource expenditures have increased from $125 million to $374 million. In addition to the implications that these trends have for internal library strategies, it is important to highlight the massive impact that libraries have on the US publishing industry, as library materials represent a significant portion of publishing revenue.

These statistics have important implications in how libraries plan strategies, especially those related to outreach and technology infrastructure. The persistent declines in visits and lending should motivate public libraries to invest more heavily in their marketing and outreach efforts. When looking at individual library statistics, there are many that have been maintaining or even increasing these numbers. While it's not at all certain that increased marketing would overcome other societal factors to draw more persons to visit and borrow from libraries, it is an area of critical concern. The dramatic growth in program attendance shows interest and appreciation in library services. Overall

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the trends emphasize the need for technologies that are able to spark increased engagement and interest in drawing visitors to libraries' physical collections and facilities as well as to their virtual presence and digital resources.

The proportions of investments in content are shifting steadily in favor of electronic over print. These trend lines do not necessarily indicate that spending on electronic resources in public libraries will exceed that of print in the near future. Even at current proportions, public libraries are spending about one third on average for electronic resources and require ever more sophisticated technical tools to responsibly manage this aspect of their collections. The dominance of electronic resources in academic libraries drove a dramatic shift toward the comprehensive resource management approach embraced by library services platforms. I would anticipate that public library automation systems likewise will face the need to substantially boost their capabilities for managing multiformat collections.

It will be interesting to pursue more detailed analysis of these statistics to surface any additional trends that future technology platforms will need to address to strengthen the success of public libraries in the way that they serve their communities. In broad strokes, the initial message seems to indicate that the critical needs have more to do with engagement and analytics than operational efficiency.

Follett Corporation Makes New Leadership Appointments

Follett Corporation, one of the largest companies providing products and services to libraries and educational institutions, has made new appointments in key executive positions. These changes apply to senior executive positions within the context of ongoing top-level leadership with Patrick Connolly as President and Chief Executive Officer and Todd Litzsinger as the chair of the board of directors.

Clay Wahl, previous President of Follett Higher Education has been promoted to Chief Operating Officer of Follet Corporation. He has led Follett Higher Education Group as President since June 2016. Wahl joined Follett in December 2013, following a decade of executive experience for Sears and Kmart.

Other changes in the top leadership team for Follett Corporation include the following:

- Britten Follett, Executive Vice President, with general responsibility for Follett School Solutions
- Amandeep (Aman) Kochar, Executive Vice President of Baker & Taylor
- Roe J. McFarlane, President of Follett Higher Education Group

Leadership of the Public Library Division: Baker & Taylor

In the company's Public Library division, Aman Kochar has been appointed as an Executive Vice President of Baker & Taylor. Kochar has advanced through a series of roles with increasing responsibilities since Baker & Taylor was acquired by Follett in April 2016. He initially joined Baker & Taylor in June 2014 as Executive Vice President for Software Products and Services and had previously served as a Chief Product Officer at McGraw-Hill Education.

Kochar succeeds David Cully in the top leadership position for Baker & Taylor, who has retired from the business. Cully had been with Baker & Taylor since 2008 and was appointed as President of the company in March 2017 following the exit of George Coe. Prior to becoming President, Cully served as Executive Vice President for Merchandising and Digital Media Services.

George Coe, who served as Chief Executive Officer and President of Baker & Taylor since January 2014, initially continued with the company following its acquisition by Follett Corporation. In February 2017, Coe was appointed as Chief Operating Officer for all of Follett Corporation in addition to his role in the leadership for Baker & Taylor. This arrangement was short lived; Coe retired from Follett in May 2017. Coe initially joined Baker & Taylor in 2000 as its President for its Library and Education Division.

Baker & Taylor has recently entered a new strategic phase of its business, phasing out its wholesale distribution of books to retail outlets and focusing more on supplying public and school libraries. This change is well aligned with Follett Corporation's broader business interests, but represents a disruption in the retail arena, especially for independent bookstores. This move positions Ingram Content Group as the dominant vendor in this sector. The Independent Book Publishers Association, for example, provided advice to its members on shifting distribution arrangements to Ingram.[2]

Leadership of Follett Higher Education

Two leadership changes impact Follett's Higher Education Group, which operates physical and virtual college and university stores and provides technology solutions for the distribution of digital content. This Follett business is involved in the new, used, rental, and digital course materials market. Follett Discover provides instructors with a set of online tools to find and adopt materials appropriate for their courses, including open educational resources and proprietary materials. Follett Access provides course materials to students as part of tuition. The program ensures every student is prepared for academic success on the first day of class, regardless of ability to pay. The program is currently in use at 230 colleges around the country. Follett Higher Education operates over 1,200 physical stores and 1,500 virtual stores for colleges and universities in the United States and Canada.

Follett Higher Education navigated through legal difficulties with major textbook publishers filing a lawsuit with claims of selling counterfeit textbooks in June 2017. These publishers were generally averse to the used textbook market and objected to any unauthorized physical or digital materials. The publishers dismissed their lawsuit in October 2017 as Follett, along with other distributors, adopted the "Anti-Counterfeit Best Practices" principles.[3]

This division has made major investments in technology in recent years. The company has executed a $50 million overhaul of its ecommerce platform for its online college stores, which went live in August.

Roe J. McFarlane was named President of Follett Higher Education Group in August 2019. He joined the company in 2014 as a Senior Vice President for Digital Product Development, advancing to Chief Digital Product and Marketing Officer for this division in June 2016. As President of Follett Higher Education, McFarlane will report directly to Follett Corporation CEO Patrick Connolly.

Leadership of Follett School Solutions

Follett School Solutions is the dominant provider of automation products to libraries in public and private PreK–12 schools in the United States, with its products used in over 70,000 school libraries or districts.

Britten Follett has been named as an Executive Vice President of Follett Corporation, responsible for leadership of Follett School Solutions. Follett previously served as the company's Senior Vice President for Marketing Strategy and Classroom Initiatives. She initially joined the company in 2010 as Marketing Manager for Follett International. Follett succeeds Nader Qaimari, who served as President of Follett School Solutions from April 2016 through June 2019 as well as an Executive Vice President of Follett Corporation.

Follett comes into this new leadership position as an active member of the family that owns the business with significant external experience. Follett is a member of the Follett Corporation board of directors and is one of the fifth-generation family members involved with the company. She is the daughter of Chuck Follett who founded Follett Software Company in 1985 and served as Follett Corporation President from June 2010 through January 2012. She descends from Charles W. Follett, the original owner of the company and his son Garth B. Follett, who founded Follett Library Book Company in 1940. His son Charles Reid Follett was President of Follett Library Resources.

Britten Follett is also involved in philanthropy. Since 2012 she has served as President of the Follett Educational Foundation (https://www.folletteducationalfoundation.org), which among other activities, awards scholarships to students of Follett Corporation associates.

Prior to joining Follett Corporation, Britten Follett was involved in broadcast journalism. Awards received for her reporting include an Emmy and Edward R. Murrow. She is a graduate of Southern Illinois University Carbondale.

As part of her role in Marketing Strategy and Classroom Initiatives, Britten Follett has championed the Follett Challenge (https://www.follettchallenge.com/), an annual contest that awards product and services to schools in recognition of outstanding programs or services. The content started in 2012 by then Follett Corporation President Chuck Follett. Each year, Follett products with a total value of $200,000 have been awarded to the winning applicants.[4]

Follett School Solutions has responsibility for a wide range of products and services offered to PreK–12 schools and districts. Its technology products include the Destiny Library Manager for school libraries, Destiny Resource Manager for managing diverse types of materials in schools and districts, and the Aspen student information system. This division offers a variety of content products for schools, including textbooks, library books, digital content, and other classroom materials. Instructors and administrators can acquire these materials through Follett's Titlewave content discovery and marketplace service. Follett School Solutions also provides professional services to assist schools and their libraries in curriculum development, outsourced cataloging and processing for library materials, or textbook management. Follett School Solutions has recently launched Follett Book Fairs, which help schools organize events to promote student reading, offering a wide selection of books for students and parents.

Over its history, Follett School Solutions has seen a significant evolution in its products and services, consistent with the changes in K–12 Education. Its products have shifted toward a stronger emphasis on digital content as use of print resources diminishes. New products increasingly enable access to open educational resources in addition to traditional proprietary textbooks and content. Follett's original orientation to school libraries has expanded to the broader educational institution. Many of its products support teachers and administrators, and support librarians as appropriate. Recent moves, including the appointment of Britten Follett, signal a future direction of emphasis on engagement and empowerment of school libraries.

Follett Corporation History and Background

Today Follett Corporation is a large privately-owned company, with a diversified set of business activities surrounding K–12 education, higher education, and public libraries. The company takes in around $3.2 billion in annual revenue and employs a workforce of around 12,000 personnel.

Follett Corporation has a long and interesting business history. Its pre-history begins with a used bookstore in Wheaton, Illinois owned and operated by Charles M. Barnes, which opened in 1873. Charles W. Follett was hired by Barnes in 1901 as a stock clerk and by 1912 had advanced to become a vice president and owned a share in the company, then known as the C.M.Barnes – Wilcox Company. Follett and his wife Edythe acquired full ownership of the company in 1924. The company has been under ownership of the Follett family ever since.

With Charles W. Follett continuing as President of the company, his four sons became involved in the business taking leadership of different areas:

- Garth B. Follett founded Follet Library Book Company, a distributor of children's books for schools, in 1940. This business was later renamed to Follett Library Resources.
- Robert D. (Bob) Follett founded Follett College Book Company in 1930 as a wholesale distributor of textbooks.
- Dwight Follett founded Follett Publishing Company, specializing in social studies textbooks, in 1925.
- Charles N. (Laddie) Follett (died January 2006) continued operation of original business Wilcox and Follett Company. He served as its President from 1952 through 1986.

The second generation of the Follett family put into place a set of four businesses that would see considerable transformation the generations. Their descendants, now in the fourth and fifth generation from the original ownership by Charles W. Follett, continue as the primary shareholders in Follett Corporation.

Follett Software Company

Follett Software Company was the division of Follett responsible for its library automation products, including its original Circulation Plus integrated library system for K–12 schools and the current Destiny library manager, which has become the dominant automation system for school libraries in the United States. Follett Software Company was founded by Charles R. (Chuck) Follett in 1985 and served as its President through 1998.

Thomas J. (Tom) Schenck was President of Follett School Solutions from April 1998 through October 2015. In November 2011, Schenck was named President and Chief Operating Officer of the Follett School and Library Group, which consolidated Follett Educational Services, Follett Library Resources, BWI, Follett International, and Follett Software Company. Simona Rollinson served as President of Follett Software Company from April 2011 through April 2014. Prior to that role, she served as the company's Vice President for Services and Operations.

Follett Software Company no longer exists as a standalone company, though its products continue within Follett School Solutions. Its library automation products, including those developed internally, such as Circulation Plus and Destiny, as well as those acquired externally, including Winnebago Spectrum, InfoCentre, and Athena, have been covered in many previous issues of *Smart Libraries Newsletter*.

Chronology of Key Events

- 1924: Charles W. Follett and Edythe Follett become sole shareholders of J.W. Wilcox & Follett Company.
- 1925: Dwight Follett establishes Follett Publishing Company, specializing in social studies textbooks.
- 1930: Robert D. (Bob) Follett establishes Follett College Book Company as a wholesale distributor of textbooks.
- 1940: Garth B. Follett establishes Follet Library Book Company, a distributor of children's books for schools.
- December 19, 1952: Charles W. Follett dies.
- 1952: Charles N. (Laddie) Follett becomes president of Wilcox and Follett Company, the original core business.

- 1957: Follett Corporation is incorporated as the holding company for all the family businesses.
- 1983: Follett Publishing Company is sold to Esquire Education Group for $10 million. Proceeds are invested in purchasing college bookstores.
- 1984: Follett acquires Library Software Company from Bob Skapura and Joe Ward.
- 1985: Follett Software Company is established by Chuck Follett.
- 1990: Follett acquires Book Wholesalers, Inc. (BWI), a distributor of children's books to public libraries.
- 1997: Follett Corporation and Internet Systems, Inc. establishes Library Systems & Services, providing outsourced management services for libraries.
- 1998: Follett Higher Education Group is formed and includes Follett College Stores, Follett Campus Resources, and Custom Academic Publishing Company.
- June 2006: Follett Corporation acquires Sagebrush Corporation, including the automation products Winnebago Spectrum, InfoCentre, and Athena.
- August 2006: Follett acquires TeraData Corporation, provider of data warehousing, analysis, and reporting solutions for K–12 school districts.
- October 2010: Follett acquires X2 Development Corporation, which created the Aspen Student Information System.
- September 2013: Follett acquires BetterKnow, providing technology tools for helping instructors discover and acquire appropriate course materials.
- 2014: Follett Educational Services, Follett Library Resources and Follett Software Company consolidates to form Follett School Solutions.
- February 2015: Follett acquires Advanced-Online, including technologies related to e-commerce for educational organizations and corporations.
- April 2015: Follett acquires the retail store division of Nebraska Book Company, expanding its operations by more than 200 establishments.
- February 2016: Follett acquires ClassBook, a company providing customized online bookstores to private and parochial schools, including e-commerce capabilities for print and digital materials.
- March 2016: Follett acquires Wobo, a company formerly known as Woody's Books, Inc., which provides services to campus bookstores with tools such as BookVolume for wholesale sourcing books and materials. This acquisition has strengthened Follett's wholesale business.
- April 2016: Follett Corporation acquires Bookmasters, a company that provides services to publishers and authors related to printing, warehousing, and distribution. This company is a major business partner of Baker & Taylor.
- April 2016: Follett Corporation acquires Baker & Taylor from Castle Harlan.
- July 2018: Follett acquires Fishtree, a leading adaptive learning platform. Follett will integrate the machine-based learning tools of Fishtree within Destiny, extending the use of Destiny into the classroom and home.

Smart Libraries Q&A

Each issue Marshall Breeding responds to questions submitted by readers. Have a question that you want answered? Email it to Samantha Imburgia, Managing Editor for ALA TechSource, at simburgia@ala.org.

How can voice recognition software be used in libraries?

Voice technologies, now commonplace in daily life, have interesting possibilities for use in libraries. Library applications and information systems can be enabled to respond to voice commands, providing valuable assistance for persons with disabilities as well as helping library personnel avoid repetitive motion injuries. Speech recognition has become reliable and accurate thanks to years of research and development along with remarkable advances as smart speakers and other voice activated appliance have entered the consumer market. For most libraries, however, voice technologies have not yet reached the point of general use but are more in the realm of experimentation or early deployment.

Speech recognition can be used instead of keyboards or touch pads for entering a search query or making other service requests. This capability can be helpful for those that have limitations in motor skills or for those that just find voice commands easier. Speech recognition for entering commands does not necessarily help those that are blind or have limited eyesight. To help these individuals, the interface needs to employ text-to-speech technologies to speak the results. Fortunately, these technologies have become increasingly capable, less expensive, and can be adapted for library use. This capability also appeals to users acclimated to using voice commands on their home devices.

Voice recognition technologies, speech-to-text, and text-to-speech technologies can be used in combination with APIs from a library's catalog or discovery environment to create a conversational interaction that enables library patrons to search, select results, and make requests. This kind of conversational tool would also rely on a platform able to parse and interpret voice commands and to assemble the appropriate actions based on requests and responses from the APIs involved. While the needed components are generally available, so far there have not been many off-the-shelf products that enable them. Voice commands are not yet a common feature for library mobile apps, web-based catalogs, or discovery services.

Talking to the Library Via Consumer Voice Services

Smart speakers or digital assistances, such as Amazon Alexa and Google Home, have rapidly become common household appliances. Both platforms enable the creation of customized activities. Alexa has a well-established process for creating custom Skills, and Google offers the ability to create custom Actions via its Developer Console.

Enabling one of the consumer services, such as Amazon Alexa or Google Home, can be accomplished with moderate technical difficulty. These services do not natively interact with library catalogs, but this capability can be created as custom activities. A script would need to be developed to implement the conversational interactions with the user and to interact with the API of the library catalog or integrated library system to fulfill the requests. Users would need to be aware of and to enable the custom action in order to talk to their library's service.

Many libraries have created custom Alexa Skills or Google Actions. A recent search of the listings of the custom skills shows a few dozen library services available. Most seem to be related to searching library catalogs and making basic requests, such as placing holds.

For those libraries without the technical capacity to develop their own custom services on the commercial networks, there are consultants or service providers available. Pellucent Technologies, for example, can assist a library in the creation of Alexa Skills and Google Actions to allow patrons to use smart speakers to make requests addressed to their library's catalog.

Communico offers a suite of patron-facing services, including a discovery interface and other website plug-ins. The company has enabled a custom Alexa Actions, which allows patrons to use voice commands to learn about library events, hours, to search the catalog, or to check account details.

Some library-oriented services have already implemented voice activation. Overdrive's Libby app, for example, has been integrated with Google home, though only in a limited way. Library patrons with a Google Home device, using their library credentials, can connect to the OverDrive Libby app to perform some tasks, such as searching for a book, getting a recommendation, borrowing a title, or placing a hold. It's not yet possible to listen to books or audiobooks from OverDrive via this Google action. To listen to an audiobook on a smart speaker, one would need to pair it with a mobile device with the Libby app using a Bluetooth connection. Hoopla has enabled its service on Amazon Alexa devices for full control and streaming of audiobooks.

Making use of the commercial smart network services to make connections with library services raises some concerns regarding patron privacy. These platforms form part of a commercial ecosystem optimized for advertising and ecommerce and for collecting consumer behavior data. The way that these services interact with individuals, especially in regard to capturing and collecting personal information, may not be consistent with library values and patron privacy policies. Some of the interactions may transpire anonymously, but it is difficult to know to what extent that voice recognition and other tracking mechanisms could tie search queries and results returned to specific individuals. Any services involving patron sign-on to make requests or accessing account details would be especially problematic. The voice recording and transcripts for these interactions, which are equivalent to ILS system logs for patron requests, would be handled according to the practices of Amazon or Google and not under the control of the library. These records are likely kept indefinitely, not anonymized, and may be shared with or sold to other entities.

Even without custom actions or skills, the placement of smart speakers in library or educational contexts should be carefully reviewed from a privacy perspective. These devices may increasingly be able to associate conversational requests to specific individuals as their capabilities for voice recognition improve. Recent generations of these devices include cameras and video screens that come with already highly advanced capabilities for facial recognition. The potential for these devices to identify individuals making requests or accessing content are substantially different from public computers provided for patron use, where interactions are performed via keyboard. Although most library patrons will see these devices as novel, possibly useful, and innocuous, there may be some patrons with heightened privacy concerns who may see these devices as intrusive.

Fortunately, there are other ways for libraries to deliver voice-activated services that will undoubtedly be expected by

patrons without entanglements with the consumer and advertising networks. Voice recognition, artificial intelligence, and natural language processing technologies can also be incorporated into library services via platforms independent of those ecosystems.

Integrated Technologies to Power Library Services

Library-specific services or apps with voice activation are quite early in the development stage. One application that I have come across is called Libro, developed by ConverSight. Libro can be integrated with library catalogs, event calendars, or other library systems to provide voice control and responses for specific tasks. Some of the actions available include searching the library's catalog, placing holds, and performing patron account tasks, such as renewing items, listing fees due, listing library opening hours, and managing holds. It can be used with the library's calendaring or event management system to enable patrons to search for events of interest. Patrons can access these voice-enabled capabilities through the Libro mobile app customized for the library or through a customized skill delivered via Amazon Alexa. Libro has not yet been widely implemented. The Bartholomew County Public Library in Indiana has worked with ConverSight to help test their app but have not yet put it into general use. The Iowa State University Library has begun an early limitation of Libro.[5]

The product is based on the company's "Conversational Insights and action platform," which enables a variety of services, including natural language processing, conversational modelling, machine learning for enhanced conversation optimization, and multiple messaging channels. The platform also provides custom analytics and API integrations for diverse local systems.[6] Applications based on the ConverSight platform has been created for multiple industries, including retail, transportation, manufacturing, warehouse management, and education. Libro has been developed specifically for libraries.

The company behind Libro, Conversight, which is also known as ThickStat, was founded as a new startup in June 2017 by Ganesh Gandhieswaran. Gandhieswaran serves as President and Gopinath Jaganmohan servers as the company's Chief Technology Officer.

The Libro technology operates independently of consumer services such as Alexa, Siri, and Google Home. Although the service can also be accessed via Alexa, it does not rely on it for its core capabilities. Separation from the commercial ecosystem has important implications for the privacy and security of patrons as they use such a service.

Voice technologies today for library applications are in a relatively early phase. Libraries, however, may have an interest in pursuing this capability in order to meet patron expectations given that voice commands are increasingly pervasive. In the same way that libraries have worked hard to make their resources accessible via mobile devices, voice interactions seem to be the next wave. Developers of library systems and services may find opportunities for innovation if they are able to design and deploy voice services in ways that enhance engagement with library patrons, address accessibility, and respect patron privacy.

Notes

1. See Library Technology Guides, "IMLS Statistics for Public Libraries," https://librarytechnology.org/libraries/imls/trends/.
2. IBPA, "IBPA Works with Ingram Content Group as Baker & Taylor Exits Wholesale Business," news release, May 9, 2019, https://www.ibpa-online.org/news/450687/IBPA-Works-with-Ingram-Content-Group-as-Baker--Taylor-Exits-Wholesale-Business.htm.
3. which started in 2012 by then Follett Corporation President Chuck Follett
4. See also "Best under 40: Britten Follett,". *Northwest Herald*, August 4, 2015, https://www.nwherald.com/2015/07/21/best-under-40-britten-follett/akcajri/.
5. Iowa State University, Parks Libro, https://www.lib.iastate.edu/spaces-computers/computers/parks-libro.
6. See ConverSight.ai, http://www.conversight.ai/platform/.

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