Smarter Libraries through Technology

Library Systems Report: Epilogue

By Marshall Breeding

The latest "Library Systems Report" was published in the May issue of *American Libraries*. Subtitled "Fresh opportunities amid consolidation," the report features the latest rounds of consolidation that continue to shape the library technology industry. As a systematic view of the library technology industry, the annual report brings together data from a variety of sources and provides some observations and predictions based on the events that transpired within the previous year. Vendors submit data on sales and personnel via a questionnaire as well as a narrative section that describes the year's major accomplishments. The report also considers other sources, such as press releases and system installation data from Library Technology Guides.

This year's report comes on the heels of the acquisition of Innovative Interfaces by ProQuest, an event that stands as one of the most significant in the ongoing rounds of mergers and acquisitions that have shaped the industry. With Innovative in its portfolio, ProQuest makes an incremental expansion of its presence in the core market of academic libraries and gains entry into the public library sector.

The Ongoing Stage of Consolidation

The library technology industry has seen substantial consolida-tion, with an ever-narrowing slate of companies responsible for providing technology products and services to libraries. Recent events have brought technology products into top-level compa-nies that are also major providers of content resources and ser-vices. Follett Corporation, EBSCO Information Services, and ProQuest offer product portfolios spanning workflow tools used by library workers, content offerings for library patrons, as well as discovery and analytics tools.

Consolidation means a narrowing of suppliers oriented to libraries, but it also can result in opportunities for innovation. This dynamic is a main theme of the "Library Systems Report." Historically, mid-level companies have struggled to keep pace with library expectations in the forward development of critical enterprise-level products such as integrated library systems and comprehensive discovery services. The companies in the higher tiers have the massive development capacity needed for ambi-tious product development. Important products such as Alma, WorldShare Management Services (WMS), EBSCO Discovery Service, Primo, and Summon have come out of these consoli-dated companies. While these products may not meet expecta-tions in all ways, they each depend on content components such as global knowledge bases and comprehensive discovery indexes as well as modern technology platforms that exceed the develop-ment capacity possible in smaller companies.

Impact on Product Choice

Libraries rightly express concerns with the paucity of options available when it comes to purchasing new technology systems. A decade ago, a library would expect to choose between three to five qualified products when considering migrating to a new sys-tem. In today's environment, a library may find only a couple of acceptable options.

The consolidation among vendors has fortunately not meant

rapid demise of the products involved. Acquired products have almost always seen a very long product lifespan, often with the same trajectory as would have transpired under their incumbent vendors. The library market demands a gentle approach regarding product strategies. If a library perceives that the system that they use will be phased out following an acquisition, they will be much less inclined to move to any new product from that vendor. Providing ongoing support and development for acquired products represents an important investment if the vendor expects to retain the associated library customers and to attract them to any new products in the long term.

The last couple of decades of the library technology industry reflect a good record of the retention of acquired products. SirsiDynix has continued Horizon, an acquired product, alongside its own Symphony ILS, providing equal support for both. Its newer BLUEcloud suite of applications receives most of its development attention and has been designed to work with either Symphony or Horizon. In the early phase of SirsiDynix merger, decisions were made to discontinue Horizon and the new Corinthian ILS under development. Backlash from this strategy was strong and led to the reinstatement of Horizon. It took SirsiDynix several years to recover from this ill-fated strategy, which has stood as a lesson for the playbooks of all the mergers that have since transpired in the industry. Ex Libris reinvigorated Voyager as it continued to support its own Aleph ILS and eventually developed Alma as a forward migration path for both. When ProQuest acquired Ex Libris, both Summon and Primo were treated as strategic discovery services and subsequently a new Central Discovery Index was created to populate both products and their distinctive interfaces. Polaris has continued to be promoted as a strategic ILS for public libraries following its acquisition by Innovative. Virtua, acquired by Innovative at about the same time, has not been actively marketed, but continues to be supported. The Library Corporation continues to support the Carl.X line of products it acquired in addition to its own Library.Solution.

Mergers and acquisitions have not been as kind to products still under development. The acquisition of DRA by Sirsi Corporation meant the demine of Taos, a new generation product in its late development phase. As noted, Corinthian did not survive the SirsiDynix merger. ProQuest Intota largely fell victim to the acquisition of Ex Libris, though Intota Analytics continued to see some ongoing use. More recently, the Inspire platform under development by Innovative is in jeopardy following the ProQuest acquisition. Innovative's proposed next generation platform, branded as Inspire, was not yet complete with no production implementations at the time of the merger. Terminating a development effort toward a new product not yet completed means that some libraries

Product Life Cycles

Flagship status: The product is actively developed and marketed. In the consolidated industry, some vendors may offer multiple flagship products that are oriented to different market niches.

Active development: The vendor continues to produce new major versions and functional enhancements and ongoing grades of its technical infrastructure.

Maintenance mode: The vendor continues to make minor feature enhancements, implement security updates as needed, primarily for existing customers.

Legacy sales mode: The company no longer actively markets the product, though it may offer the product for new implementations where it is well positioned. Additional libraries may begin using the product as they join existing networks or consortia.

Legacy status: The company no longer provides active support for the product and provides incentives for libraries to migrate to new platform.

considering its future use will need to make new plans. It would be much more disruptive to discontinue a product once it has begun its implementation phase.

A New Wrinkle

Since the the "Library Systems Report" was finalized for publication, events have transpired that have a bearing on some of the observations made in the report. Although the acquisition was positioned as final, the Federal Trade Commission (FTC) subsequently initiated a review of the transaction. The possible integration of Innovative's products under Ex Libris have been put on hold. Innovative will be operated as an independent company under the ownership of ProQuest until the review has been completed.

The acquisition of Innovative Interfaces by ProQuest was announced in December 2019 and closed on January 16, 2020. The FTC initiated a non-public review of the merger in February 2020. ProQuest issued a statement acknowledging the review on March 13, 2020. No specific timelines of the review have been given, though it seems likely to be settled by the end

of 2020. During this period, no intermingling of personnel, technologies, or intellectual property is allowed between the companies, and they will continue to compete for customers. ProQuest executives emphasize their full cooperation with the review.

From my layperson's perspective, informed by information from the FTC website, possible outcomes would include:

- Approval of the merger, leaving Pro-Quest free to integrate Innovative's products into its existing businesses.
- An agreed order requiring ProQuest to make specific divestments before merging the companies.
- A termination of the merger.

Mergers involving companies over a certain threshold ($200 million, $376 million after Feb 27, 2020) require approval by the FTC. It is unclear why this review commenced after the close of the merger and not as part of the customary pre-merger approval process as outlined by the FTC.[1]

Some of the industry outcomes anticipated in the report depend on whether the acquisition of Innovative by ProQuest remains fully intact following the FTC review. The report

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noted, for example, that Ex Libris was able to dramatically transform the academic library sector through the success of its Alma library services platform. OCLC contributed to this transformation via its WorldShare Management Services at approximately the same timeframe, but attracted a relatively modest share of the academic library market. Based on Ex Libris' established business strategy of aggressive product development, it is reasonable to anticipate that it would execute a similar approach in the public library sector. As a standalone company, Innovative has seen declines in its academic library business and has been a strong competitor in the public library sector. The backing of ProQuest and Ex Libris could potentially enable Innovative to make more dramatic contributions to the public library sector.

This issue of *Smart Libraries Newsletter* features a study of the dynamics of the academic and public library sectors. While it highlights some of the current and historical positions of Ex Libris and Innovative, it makes no assertions regarding the thresholds of anti-competitive scenarios relative to the FTC review of the acquisition of Innovative by ProQuest.

Market Share Dynamics: US Public and Academic Libraries

The library technology industry comprises multiple distinct sectors. It is segmented by type of library and by geographic regions. Distinctive assortments of companies and vendors compete within each geographic region. Languages and economic levels favor different selections of products. While the global vendors have some presence in almost all global regions, most countries also have a set of specialized local vendors. Sectors defined by library types have even stronger demarcations of products and vendors. Public, academic, school, and special libraries have increasingly diverged in the shape of their collections and the essence of their services. Each require substantially different technology support. This section takes a closer look at the market dynamics of the academic and public library sectors in the United States.

Academic Library Sector

The academic library sector in the US represents one of the largest opportunities for library technology vendors, with an estimated economic potential of around $160 million. This sector cannot be considered entirely monolithically, but rather through many distinctive layers. The needs of the libraries serving large research universities differ enormously from those associated with four-year colleges, community colleges, or specialized professional schools.

A relatively small set of companies participate in the US academic library sector, including Ex Libris, Innovative Interfaces, OCLC, and SirsiDynix with a limited number of institutions using Koha or other open source products. Ex Libris has built a very strong lead among its competitors in this sector, with OCLC as a secondary competitor, and most of the remaining vendors losing ground.

Overall, Ex Libris holds a 49 percent market share for all academic libraries in the United States, regardless of size, counting those using Alma, Aleph, or Voyager. Innovative has a 14 percent share, counting all Sierra and Millennium sites. Of the 235 US academic libraries with collections over 1 million volumes, 63 percent use Ex Libris products and 23 percent use an Innovative ILS. Among the 1,260 mid-sized academic libraries with collections over 100,000 volumes, 45 percent use an Ex libris ILS and 21 percent use Sierra or Millennium. Much different patterns apply to smaller academic libraries with collections less than 20,000 volumes. Among this group, 12 percent use an Ex Libris product and 8 percent depend on an ILS from Innovative.

OCLC's WorldShare Management Services has been implemented by 10 percent of all US academic libraries (307 out of 2,955); 11 percent of mid-sized Academic libraries in the US; 4 percent of those with collections over 1 million volumes; and 15 percent of US academics with collections over 100,000 volumes. OCLC continues to make new sales of WMS every year and its installed base is growing. These figures indicate that OCLC adds a competitive element to the overall US academic library sector, though at a lower level of market share than Ex Libris.

Case Study: Members of the Association of Research Libraries

The members Association of Research Libraries (ARL) includes 123 libraries representing the top layer of the academic technology sector. These libraries have the largest budgets for technology, collections, and personnel, manage the largest collections, and have the most ambitious programs for digital initiatives and resource sharing.

Ex Libris entered the US academic market in 1998, opening its first office in the country and appointing Carl Grant as President for Ex Libris (USA). At the time Ex Libris was marketing Aleph as its flagship ILS. Between 2000 and 2011 the number of Aleph implementations grew to its peak of 26 ARL Member libraries. Voyager, developed by Endeavor Information Systems, was also a favorite among the ARLs. From its introduction in 1995, it saw ARL implementations climb to 35 institutions by 2003 and hold steady until 2013, after which its use steadily declined. Ex Libris acquired Endeavor in 2016, giving it a combined 46 percent market share between Aleph and Voyager. Implementations of Alma began in 2012 and saw adoptions in 73 ARL institutions by 2020. The rise of Alma implementations among ARL members during this period was faster than any other product. Combining Alma, Aleph, and Voyager, Ex Libris currently holds a 72 percent market share among ARL institutions.

Innovative has historically been a strong competitor among ARL members, with its Millennium ILS leading in implementations between 2000 and 2011. Innovative has historically followed an evolutionary product strategy, progressing from INNOPAC, to Millennium, and to Sierra, each based on a common core codebase, but with new layers of technology infrastructure and major enhancements.

Libraries usually pay a new licensing and migration fees to move to the latest product, providing the company new revenues, but also risking the possibility of defections. Innovative hit its peak among the ARLs in 2010 with 40 implementations. In that year transitions to Sierra began, growing to 19 ARL implementations in 2017. Since 2017, Sierra implementations have declined to 14. Innovative's overall market share among ARL libraries has declined from 32 percent in 2011 to 13 percent in 2020.

SirsiDynix has also seen a decline in market share among the ARLs in the last decade. Its Symphony ILS, known as Unicorn until 2007, was a strong player among these libraries, hitting a peak of 20 implementations in 2010. Implementations have declined in the last decade. Horizon, gained in the 2006 acquisition of Dynix, has seen implementations decline from its apex of 10 in 2000 to 2 in 2020. In 2008 SirsiDynix held a 25 percent market share of ARLs, which has since diminished to 8 percent.

OCLC's WorldShare Management Services was introduced in approximately the same time frame as Alma and has attracted a diverse array of academic libraries. Although it was also offered to public libraries in its early implementation period, OCLC now offers it primarily to academic libraries. WMS has capabilities for large libraries. Its presence among ARL implementations grow from 2 in 2014 to 5 in 2020. The overall installed base of WMS has continued to grow since its introduction, though the rate of growth has been uneven and has been concentrated on the mid-level academic libraries.

Open source products have not had a major presence among ARL libraries. As of 2020, 1 ARL member has implemented Koha, one is using the legacy Kuali OLE ILS, and 2 have public commitments to implement FOLIO, and a handful of others are expected to migrate to FOLIO within the next two years. None are using FOLIO in production. The strong support and investment of EBSCO Information Services in FOLIO strengthens the potential of FOLIO as a factor in this sector, though lacking actual implementations, its competitive impact is only theoretical at this point.

In broad terms, Ex Libris Alma ranks as the strongest contender among the ARL member institutions by far. Its rise has been fast and has been fueled both by its own legacy ILS products and by those of its competitors, especially Innovative

and SirsiDynix. OCLC's WorldShare Management Services is the only other product with a positive trajectory within this sector. Open source alternatives may be poised to make some gains though much depends on the success of pending implementations.

US Public Library Sector: Urban Library Council Members

The public library sector in the United States has been more evenly divided among products and vendors with no single product dominating. There are about 9,460 public libraries in the US with a total of 16,901 branch facilities.

An examination of the ILS products implemented among the Urban Library Council (ULC) members gives a similar representation of the high end of the public library technology market as the ARLs do for the academic library sector.

The Urban Libraries Council represents the higher end of the public library sector. These libraries serve urban population centers, though membership criteria are not precisely defined. The libraries.org directory has a designation for ULC, which has not been consistently aligned with current membership.

As such, this designator can be taken as a broad indicator of trends in the higher end of the public library technology market, though not necessarily a precise reflection of this group. In 2014, for example, the number of libraries designated as ULC members increased from 135 to 179. The membership may have changed more gradually, but the designations in libraries.org were systematically updated in 2014.

Data available in 2000 showed that Innovative had placed its Millennium ILS in 37 ULC member libraries. This number steadily increased until the introduction of Sierra in 2009, marking a period where Millennium sales began to fall as Sierra sales increased. Installations of these two systems combined captured about 34 percent of ULC members from 2005 through 2014.

SirsiDynix achieved its highest market share in 2005 following the acquisition of Dynix, supporting ILS products in 75 libraries. This merger increased SirsiDynix ULC market share from 24 percent to 56 percent as it gained responsibility for both Dynix Classic and Horizon. This event was the apex of SirsiDynix's penetration in this group, which steadily declined to its current market share of 35 percent.

Innovative likewise hit its peak within this group through its 2014 acquisition of Polaris, which increased its presence among the ULC to 99 members or 55 percent. It has since slipped slightly to 50 percent market share among ULC members.

Symphony, Sierra, and Polaris as individual products have seen steady increases in implementations among this group

Data and Graphs at Library Technology Guides

ILS Market Analysis by Carnegie Classification table presents a detailed view of the academic library sector, providing details for each of the Carnegie Classifications for higher education. The table shows the number of libraries included in each classification level, the aggregate library expenditures across all libraries per level, the number of installations for the major technology products, and the respective market share for each of the major vendors (Ex Libris, Innovative, OCLC, and SirsiDynix) as well as the cumulative totals across all levels.

https://librarytechnology.org/libraries/carnegie/SummaryReport.pl

ILS Implementation in ARL member libraries features a chart with implementation counts for all systems used by ARL libraries since 2000. An accompanying line graphs show the ARL market share trends for Ex Libris, Innovative, and SirsiDynix. It illustrates the abrupt gain in customers in 2006 when Ex Libris acquired Voyager from Elsevier and its subsequent steady rise in market share. A second graph shows the rise or fall of each of individual systems, reflecting the lifecycle over time for products used by academic libraries. It illustrates the hockey-stick rise of Alma and the general downward trends of most other products.

https://librarytechnology.org/libraries/arl/ils-market share-trends.pl?pq=on

ILS Implementations in Urban Libraries Council Members features a data table of ILS implementations in large urban libraries. The accompanying line graph shows a market share battle between SirsiDynix and Innovative, where acquisitions of competing products brought spikes. A second graph shows implementation of individual systems.

https://librarytechnology.org/libraries/ulc/ils-market share-trends.pl

since their respective introductions. Declines of secondary or legacy products, such as Millennium, Horizon, and Dynix Classic led to an overall redistribution of market share.

Smart Libraries Q&A

What should be the librarian's role with digital and social media in 2020?

Social media today has become a major force in society, often shaping the discourse on important topics. Social media sites have seen enormous popularity by providing easy and fun ways for people to connect with friends and colleagues and to share personal and professional content. It provides powerful communications channels for individuals and organizations to distribute content and opinions. Platforms such as Facebook and Twitter have increasingly supplemented—or even displaced—traditional print and broadcast media for significant portions of the population. Apart from the churn surrounding news and politics, social media also has become one of the main channels in which organizations connect with their clients and customers, through commercial advertising as well as organic interactions.

These broad generalizations set the context for how libraries and librarians can approach the involvement with social media on behalf of their organizations or for their own personal or professional use. Libraries often employ marketing professionals with great expertise in digital marketing to manage their social media channels. While I naturally defer to these specialists, I can offer a few general suggestions on the topic based on my observations and experience on the technology front.

One benefit that libraries expect to gain from social media relates to fostering engagement with their community members. Social media postings can reach an audience of potential library users beyond the registered members. Such efforts can function as a supplement to more formal marketing campaigns carried out through email, SMS, and other direct channels. Libraries are increasingly managing their marketing through services such as Patron Point, Constant Contact, or other

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marketing automation products. One component of a social media strategy might involve drawing in those expressing an interest in the library via social media to register as patrons and to be active users of the library's collections and services. Likewise, it is important to promote library services to those more receptive to social media channels than email or text.

The key dynamic of engagement via social media should be directed toward the library's own virtual services and physical facilities. Promoting programs, content, and resources on social media are successful when they increase participation and use. While it is important to build followers on each strategic social media platform, libraries should avoid pathways on their websites that transfer visitors from their own resources to external social media sites. The strategic vectors of interaction should be designed to draw visitors in, not eject them.

Once a library has established a social media presence, it is important to be attentive. It is common for individuals to direct questions, suggestions, or complaints to an organization's social media account, expecting a timely response. Participating in social media means a commitment to constant monitoring of any incoming messaging and active responses to these conversations. Checking in every week or so is inconsistent with the expectations of immediacy associated with social media.

These types of social media strategies have been the mainstay of libraries for the last decade. The recent coronavirus crisis has brought vast changes to libraries and elevates the importance of engaging with its community members virtually since in-person opportunities have been limited or eliminated. Social media can serve as an important channel for libraries to publicize their online events. Some libraries may opt to take advantage of Facebook Live and other popular live video platforms for online story times by their children's librarians, to facilitate book clubs, or for other community-facing events. Libraries will naturally want to take care with these platforms to be sure that they do not handle patron information in ways that conflict with their privacy policies.

Libraries may also want to use their social media presence

to address false or misleading information that has become especially rampant in recent times. Librarians can exercise their reference skills to highlight vetted information sources from trustworthy sources. While it is not necessarily realistic that librarians can effectively counter widespread disinformation campaigns, they can at least provide more reliable information resources to their own communities. Librarians are naturally well suited to contribute to Wikipedia on topics within their areas of expertise.

These are only a few obvious suggestions about how to make use of social media to help libraries support their communities. The opportunities are vast, and every individual and organization will find their own ways to use social media as a creative outlet.

Note

1. "Premerger Notification and the Merger Review Process," Federal Trade Commission, https://www.ftc.gov/tips -advice/competition-guidance/guide-antitrust-laws/ mergers/premerger-notification-merger-review.

Questions or suggestions for topics in future issues?

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