Digital and Physical: Coevolving Formats in Today's Research Libraries

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Abstract

Academic libraries have been at pivotal crossroads for some years as deans and their staffers realize the perplexing shortage of shelf space for print volumes while at the same time determining the optimum balance of physical resources on shelves in light of the exploding world of online digital information. The question of what is the best format for the library users' research, teaching, and scholarship continues to be analyzed, assessed, and discussed. As a result, new and innovative library business models are evolving that consider dramatically "revisioning" floors of library space to accommodate the ever-changing needs of library users while at the same time providing a limitless quantity of research resources. Various methodologies, as it relates to library collections, have emerged from pioneering thinkers affiliated with such organizations as OCLC, ITHAKA with its JSTOR & Portico initiatives, the HathiTrust Digital Library, and the Committee on Institutional Cooperation (CIC). There are a host of challenges and possibilities as library systems collaborate and dialogue with each other and with these organizations' representatives. When actions are implemented to effectively accommodate what the evolving society of information-seeking users must have for their educational and research needs, then positive perceptions of a library's critical role in higher education can and will surface. The University of Maryland Library System, one of the newest members of the CIC, has been able to take enormous strides in its evolving business model. Perfecting the coevolution of formats—print and digital—thus meeting the demands of an ever-growing number of users, paired with the libraries' renewed confidence in reducing the physical collections' redundancy based on the notion of shared print repositories (SPR) have been tested and the new model is working. This discussion will center around the various stages, some of the challenges, and a few promising outcomes resulting from co-evolving information formats at the University of Maryland Libraries—one of the CIC's east coast "hubs of collective collections."

Presentation

One of the newest members of the Big Ten (actually the Big Fifteen) is the University of Maryland Libraries. It would have been a most pretentious concept to consider this state university as a collaborative colleague of such an established group of mostly Midwest institutions about 10 years ago. Since 2012, the University of Maryland Libraries have contributed to the innovative, dynamic models of academic libraries affiliated with the Committee on Institutional Cooperation, better known as CIC, the academic arm of the Big Ten universities. This library system joins a growing corpus of research libraries that view the cooperative sharing of available resources, whether digital or print, as the intellectually prudent approach in providing users, at all levels of learning, with necessary resources. Not reliant upon physical proximity, our users can now access over 90 million books that represent the combined collections of the 15 CIC university libraries. The "unmediated consortial" service known as UBORROW has made this a reality and has dramatically improved the system of delivery of books on loan while minimizing the need for libraries to invest in multiple copies of requested titles.

Additionally, CIC members are fortunate to have a remarkable remedy for the space limitations that all of us face or will encounter in the future. Attempts to maintain and house dated journal backfiles that are occasionally pulled from shelves for research, along with thousands of books and sometimes their second and third copies that may no longer be essential for current or upcoming university courses, have been challenges for today's libraries. CIC's answer to this dilemma is its shared print repository that has ingested over 93,000 volumes of journal backfiles to date. It is estimated that by 2016, the Committee on Institutional Cooperation's Shared Print Repository (CIC-SPR), with its first host site at Indiana University's Auxiliary Library Facility (ALF), will be able to ingest some 250,000 volumes.

These titles are fully secured. Gaps in the journal holdings are currently supplied by various CIC members, including the University of Maryland Libraries. Our representative on this initiative recently reported sharing a list of some 13,000 piece items for consideration as potential "gap fills" for missing issues in CIC's Shared Print Repository.

More than ever before in the history of libraries as information providers, users need and require research libraries to 1) evolve into businesses that effectively create better utilization of spaces that include a host of necessary research services, 2) experiment with new models of service and delivery of those services, 3) work in collaborative, consortial environments to discover solutions and best practices for libraries' known unknowns, and most importantly, 4) provide a balance in available resources, namely, the coevolution of digital and physical collections.

The major focus of this presentation centers on significant factors that continue to shape the University of Maryland Library System's journey as it assesses the benefits of providing both digital and physical resources to its users. The journey is far from nearing its destination as Greek poet Constantine P. Cavafy suggests in his metaphorical poem on life experiences entitled ITHAKA. Not surprisingly, the mission statement of ITHAKA makes reference to this Greek poem. ITHAKA is one of the organizations whose research continues to stimulate discussions with insightful answers to such questions as, "how do we creatively do what we know we know to match the needs of the libraries' users, *and* how do we do what we need to do as a consortium to affect changes in libraries?" ITHAKA relates the symbolisms in Cavafy's poem to its organizational standards by which work is performed and services are delivered. Thus ITHAKA is offering solutions substantiated by research results to the complex questions surrounding the changing approaches to the various services and the work of libraries. Odysseus's journey in Cavafy's poem was arduous as he conquered each obstacle on his eventual triumphant return back home. Throughout the course of any journey, with its many knowns and unknowns along the way,

Cavafy reminds the reader of the importance of attaining much wisdom and abundant joy through every experience. The flagship's library system has experienced many accomplishments in a short period of time through its leadership, through paradigm shifts in doing the business of libraries, and through joining the CIC.

The following statement is apropos to Cavafy's poem. "Reports that say something hasn't happened are always interesting to me, because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns—the ones we don't know we don't know . . . the latter category tend to be the difficult ones." This was a response by the former United States Secretary of Defense Donald Rumsfeld in a 2002 news briefing regarding the incident involving weapons of mass destruction and Iraq. It was considered one of his controversial "foot in the mouth" statements. http://www.defense.gov/transcripts/transcript .aspx?transcriptid=2636

While "unknown unknowns" may have presented Rumsfeld with difficulties in solving the country's critical defense issues, libraries have taken the unimaginable unknowns and put into practice many revolutionary ideas that have challenged and dramatically transformed the status quo in the library world. His statement will be referenced throughout this presentation to characterize the various transformational stages that have brought the University of Maryland Libraries to our present phase of the journey.

By testing unprecedented concepts of delivering information content to users based on solid analytical results from many years of joint research conducted by ITHAKA and OCLC, in particular, those prior "unknown unknowns" to libraries ten years ago have been turned upside down with what OCLC's Constance Malpas states as "scholarly reliance on full-text electronic resources" and how libraries are taking the lead in implementing with confidence an impressive number of digital resources. What a powerful assertion, especially in light of several fast facts that the University of Maryland Libraries posted

on its 07/2014 web site. Known knowns at present include the number of physical volumes (4.3 million) in the collections with an ever-increasing number of e-journals (17,000), e-books (900,000) and databases (352+). This "eight-library system ranked 10th in electronic resources as a percentage of total library materials." In comparing these recent collections statistics to a 1998 report that cites 2.4 million books and 20,425 periodicals with no mention of digital resources, one can definitely grasp the seismic changes that have occurred within a short period of time in libraries across the United States. The University of Maryland Library System is no exception. Academic libraries have now swapped out areas that were once dominated only by physical collections with key necessities in today's libraries—uniquely designed study spaces with accompanying services tailored for a valued commodity—their users.

The concept of what I will refer to as the coevolution of digital and physical resources has by no means compromised the wealth of available research collections for our users as is evident based on the collections' statistics for 2014; however, in many ways, the expansion of digital resources that are available has simply presented researchers at every level of study with a countless quantity of information resources with beneficial choices of formats. Pragmatic improvements to the management of collections, joined with cooperative networks of collegial providers, and the expanded availability of digital research information at the click of a key stroke are shaping creative academic enterprise models for conglomerates of libraries nationally, globally, and virtually. No longer can an academic library system appear intractable in providing the merger of physical and digital research information or ignore cooperative collecting. The subject of relevancy on academic campuses in 2014 and beyond will necessitate libraries demonstrating their prominence, their versatility, and their ability to develop remarkable strategic plans for successful business management models. Library administrators contend periodically with relatively flat budgets that must be stretched beyond the limit to handle skyrocketing costs associated with maintaining a library system's print resources.

Whether it is the space factor for storing, the human factor for shelving and reshelving, the inevitable replacement factor for lost titles, or the boxing-binding-patching preservation factor, the physical collection's annual upkeep, alone, is monumentally expensive.

A major event some six years ago mobilized deliberation into action, as the University of Maryland Libraries faced several challenges with maintenance of the print collections in light of an emerging availability of digital surrogates. One of the projects underway just prior to 2009, which remains a central objective currently, involved members from the UM Libraries' Collections, Acquisitions, and Technical Services Units. The members of the group were tasked with continuing to diligently investigate and eventually procure JSTOR collection packages that represented digital surrogates to many of the libraries' print periodicals. Needless to say, this decision would by no means reduce the availability of research content. It would, however, allow the library to replace rows and rows of cumbersome physical bound periodicals, which occupied countless shelves on every floor of the main library. The work and tireless efforts of these units now provide users with access to hundreds of thousands of journal articles directly online. JSTOR, as educators, researchers, publishers, and institutions now realize, "is a shared digital library created in 1995 . . . providing full-text access to core scholarly journals in the arts, humanities, law, business, social sciences, medicine, as well as science and mathematics, is a not-for-profit organization" and is a member of the ITHAKA family. Since the UM Libraries were investing heavily in e-resources, especially with the ever-increasing number of periodicals available in JSTOR collections that adequately included a wide range of subject areas, it was only logical to begin planning for better use of spaces throughout McKeldin, the main library on campus.

This work would lead into the University of Maryland Libraries selecting Patricia Steele as its new Dean in 2009. A "known known" became strategically significant to the flagship campus's library system. Prior to accepting this position, Dean Steele was at the helm of a library system

that was and still is involved in various member activities of the Committee on Institutional Cooperation (CIC). Adding to her portfolio was a direct involvement in digital initiatives. Steele was "cofounder of the HathiTrust, a shared digital library of leading research libraries." It was only logical that the University of Maryland Libraries would announce its HathiTrust membership in November, 2010. With new leadership in place and Steele's philosophies regarding the influence of digital formats and their discovery on the future of research collections, the UM Libraries would be committed to exploring, discussing, and then accomplishing methodologies that could dramatically advance serving library users on and beyond this campus with not only physical but also the expanded role of digital resources. The whirlwind of change continued when the established consortial experiences that the new dean brought to the position would be especially beneficial as the University of Maryland Libraries would indeed join the CIC in December of 2012. Joining CIC was a known unknown in 2009 for the University of Maryland Libraries when new leadership came aboard with new plans for progress. I suspect that in the back of her mind, Dean Steele knew that this future stage of the journey in 2012 would propel UM Libraries into an innovative multifaceted engagement in providing digital research to users on a larger scale than the physical research collections could offer the users locally and globally. A press release from CIC on the newest consortium member stated that this library system is positioned to "save money, share assets, and increase teaching, learning, and research opportunities."

http://www.cic.net/news-and-publications/news/maryland-and-rutgers-to-join-cic/announcement

In 2010, Dean Steele would announce the first of many "user-centered" plans that would involve a major renovation of McKeldin Library's second floor. While there is much to be accomplished at this state institution's library system, let me emphasize that our university constituents—some 37,000 undergraduates, graduate students, and faculty—have found a more "study-oriented, laptop-friendly" main library for the university, in large part, due to what is known as the Terrapin

Learning Commons. Commonly referred to as "TLC," users can find multimedia workstations, lockers for students' use, a MakerSpace lab for creative projects, rooms for individual and group study activities for students, faculty, and organizations on campus along with very inviting seating and a total number of nearly 400 computers available in the TLC and throughout McKeldin Library.

A better balance of digital resources alongside print collections has made it possible to replace hundreds of stacks with their tightly packed bound periodicals with comfortable furnishings for study areas throughout the main library's seven floors. Without a doubt, JSTOR will continue to provide libraries with digitally available surrogate resources that facilitate discoverability of journal articles in an ever-expanding number of disciplines. As this occurs, a larger body of research becomes available to users in digital format. Libraries, including the University of Maryland, will continue to reduce the physical footprint of periodicals as a result of the reliable digital alternatives available through JSTOR, known as "one of the world's most trusted sources for academic content."

Conservatively speaking, JSTOR's titles that are now available online have replaced some 910 identical physical titles (including many title continuations), that required over 3500+ linear feet of floor space!

If your travels take you to the University of Maryland for one of the Big Ten athletic games or if you are planning a road trip to our nation's seat of government, Washington, DC, do stop by College Park and tour Maryland's flagship campus with a stop at McKeldin Library and in particular, the 2nd floor's TLC. It is an impressively designed floor plan that provides users with the most requested services and a host of technological gadgets available through a no-fee loan program for their scholarly work.

With less than two years of active engagement in the CIC, the University of Maryland Libraries are taking advantage of some dynamic posits put forth by researchers that work closely with the consortium. As was previously mentioned, ITHAKA

S+R, part of the ITHAKA family, "is a strategic consulting and research service [that identifies issues facing libraries and] focuses on the transformation of scholarship and teaching in an online environment."

Positioned with ITHAKA S+R and JSTOR, Portico is the third leg of the "service stool" within the ITHAKA family. Such an unimaginable service some ten to fifteen years ago has taken the likely unknown unknown of perpetual access out of the equation. Portico ensures preservation for JSTOR's digitized scholarly content by providing "long-term digital access [beyond] defined trigger events that lead to loss of access." In other words, the Portico Archive, ITHAKA's preservation strategy for academic institutions, will provide post cancellation e-access to materials that are unavailable through other sources. With the use of "technical metadata" and other cutting-edge features, "Portico assesses and ultimately mitigates risks to assets in the archive." ITHAKA and OCLC (Online Computer Library Center) research, with proven results from pilot projects with CIC institutions, have been instrumental in providing the evidence for known knowns, known unknowns, along with unknown unknowns, that allow libraries to seriously incorporate the innovative and pragmatic coevolution of print with digital resources with reliable confidence in their future availability.

Successful breakthroughs at the UM Libraries have not been without challenges or as Rumsfeld would say, "unknown unknowns." An earthquake in 2011 that toppled 13,000+ books off shelves was followed by a mold outbreak in 2013 in McKeldin Library, which required the disposal of some 10,000+ severely damaged books. One could say that there was a bit of irony when comparing the uncanny book count during these two unforeseen events. While both unpredictable, unknown events would delay the JSTOR project, the latter incident dramatically altered the mindset of staff with respect to the print duplication situation in the stacks. The JSTOR project has demonstrated the value of the digital format especially with the vulnerability of print collections. JSTOR will continue to offer collections that increase the plethora of digital

information that replaces its physical counterparts on library shelves. We will embark on reducing duplication of monographs with remarkable acceptance and cooperation by our fellow colleagues. How exciting it will be to read the report, Successful Reduction of Physical Duplications, that will highlight major results of the next phase of the University of Maryland Libraries' collections journey. Based on the continuing research conducted by ITHAKA S+R and OCLC in collaboration with CIC member institutions, along with the growing digital resources now available in HathiTrust, this groundwork is well on its way. I want to also envision a time in the near future when the dilemma regarding the Federal Depository Library Program's (FDLP) print Government Documents will have constructive solutions to this overwhelming space situation for libraries. The next stage of research work that ITHAKA S+R and OCLC have embarked upon entails the colossal task of critically scrutinizing physical collections and the broad dimensions and possibilities with the notion of digital hubs of collective collections. Additionally, another future journey of research libraries will concentrate upon the reduction of identical collections of monographs throughout the CIC membership.

Conclusion

What an exciting period in the history of libraries. The progressive stages that have advanced libraries' users with physical as well as digital resources are phenomenal. Methodologies that have been successfully tested by CIC associates and this newest member are dramatically transforming the business models for delivery of information and the view of libraries from within and without their physical and virtual walls.

Two seemingly disparate statements from various centuries that were referenced earlier can be uniquely applicable as one analyzes the innovative happenings and mishaps in today's research libraries. Concrete, scientifically proven methods in cooperative and collaborative settings have and will continue to inform how the business of information in libraries and its discoverability for users are achieved. Rumsfeld's dubious quote in the face of war during the 21st century, and the

20th century Greek poet's work entitled ITHAKA brilliantly connects the body of research that will continue throughout this journey. At this point in time, with respect to the co-evolution of digital and physical formats, libraries are possibly nearing the midway point of a long journey. Libraries do indeed face many challenges in attempting new ways of doing business but we have many discoveries yet to be revealed, researched, and implemented within the partnerships of known knowns, ITHAKA, OCLC, HathiTrust, and the CIC.

Appendix

Resources

Lavoie, B., Malpas, C., & Shipengrover, J. D. (2012). Print management at "mega-scale": A regional perspective on print book collections in North America. Dublin, OH: OCLC Research. Retrieved from http://www.oclc.org/research/publications/library/2012/2012-05.pdf

Malpas, C. (2011). Cloud-sourcing research collections: Managing print in the mass-digitized library environment. Dublin, OH: OCLC Research. Retrieved from http://www.oclc.org/research /publications/library/2011/2011-01.pdf

http://about.jstor.org/10things

http://en.wikipedia.org/wiki/Constantine_P._Cavafy

http://www.grc.nasa.gov/WWW/k-12/airplane/newton.html

http://www.lib.umd.edu/about

http://www.lib.umich.edu/database/jstor

http://www.oclc.org/about.en.html

http://www.portico.org

http://www.sr.ithaka.org/