

ACHIEVING REVOLUTIONARY LIBRARY TRANSFORMATION INCREMENTALLY

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Abstract

Over the past five years, the Naval Undersea Warfare Center Division Newport Corporate Research and Information Center (CRIC) has been transformed into a 21st century information and resource center, offering streamlined on-demand library resources and extensive information management services via the Research Commons, an online digital library platform and institutional repository intended to support mission requirements by increasing cross-command research collaboration and knowledge sharing.

In 2012, the command considered shuttering the library. Leadership accepted an eleventh hour proposal to incrementally transform services while cutting resources, and in less than five years the CRIC has become the most progressive Warfare Center library and a hub for innovation. Progress has been strategically incremental, both to overcome limited resources and to prevent service innovations from alienating our users. This paper explains how this was accomplished, from early planning to execution, and the processes we put in place to identify and evolve services in anticipation of our users' needs.

Keywords: Corporate libraries, library administration, strategic planning and evaluation, organizational change, case studies.

Introduction

In 2011, the Naval Undersea Warfare Center Division Newport (NUWCDIVNPT) library was in crisis. After a decade of declining use, budget overruns, inventory issues, and multiple staff retirements, Command Leadership considered shuttering the library. Leadership accepted an eleventh hour proposal to incrementally transform services while cutting resources, and in less than five years the library, now known as the Corporate Research and Information Center

(CRIC), has become a very progressive science and technology library, and is hub for research innovation. Progress has been strategically incremental, both to overcome limited resources and to prevent service innovations from alienating users. This paper relays how this was accomplished, from early planning to execution, and the processes put in place to identify and evolve services in anticipation of our users' needs.

Background

The Naval Undersea Warfare Center Division Newport (NUWCDIVNPT) and its predecessors have been in operation since U.S. Naval Torpedo Station was founded in 1869. NUWCDIVNPT is the "Navy's full spectrum research, development, test and evaluation, engineering, and fleet support center." NUWCDIVNPT provides the "technical foundation that enables the conceptualization, research, development, fielding, modernization and maintenance of systems that ensure our Navy's undersea superiority" (Naval Sea Systems Command NUWC Newport Division, 2017).

Since its inception, NUWCDIVNPT has maintained a small research library. Its mission of providing "undersea superiority: today and tomorrow" requires that their over 5,000 government and contract engineers, scientists and technical personnel have unfettered access to the best available science (Naval Sea Systems Command NUWC Newport Division, 2017). For nearly a century, its small research library provided these services, but by 2011 the NUWCDIVNPT library was in crisis. After several decades of declining use, budget overruns, inventory issues, and multiple staff retirements, Command Leadership considered closing the library. How could an organization tasked with maintaining undersea superiority consider eliminating its library? Wouldn't that be cutting off its personnel's access to research? By 2011, the answer was unfortunately no.

After over a century of operation, weathering many challenges, from wars and storms to budget crises and consolidations, the NUWCDIVNPT library, like many others, had failed to evolve with the changing needs of its users and technology. While the library was an early adopter of new technology, none of it had been fully integrated into their processes. As a result, in 2011 the library was still using physical card catalogs and paper checkout for a portion of its circulation. The library had a barely operational integrated library system and did not have the resources to procure and catalog incoming material.

Because the library didn't have a collection policy, the physical collection had not been weeded in over 20 years and less than 100 new items were added to its collection annually. The library had some electronic subscriptions, but most were inaccessible to users from their desktops. There was an online repository, but it was down for service more often than it was operational. For all these reasons, personnel had turned to other sources for their research, with some departments even maintaining their own ad-hoc collections or subscriptions to external libraries. After an audit was completed in 2011, several options were presented to Command Leadership. Doing nothing was not an option since the library was a significant drain on command resources. Options included:

1. Rehabbing existing library processes so that they were at least functional (the cost for this option was very high with limited return on investment);
2. Shuttering the library (donating the collection to other federal libraries, leaving departments and personnel to continue to fend for their own research); or
3. Reallocating resources to incrementally transform library services (this included reducing the library budget).

In the end, Leadership accepted an eleventh hour proposal to incrementally transform services while cutting budget resources. This option required reporting annual benchmarks toward improvement. The transformation proposal included data from a brief community research needs assessment, so Leadership was aware that their personnel required access to the best available science to maintain and innovate products for the Fleet. They were also aware that if the proposed library transformation was successful, the model could prove beneficial for other struggling Warfare Center libraries.

Early Planning

Over the last six years, the entire library has been revamped. Costs have been lowered and services and resources have been expanded. This was accomplished by integrating program evaluation, planning, and continuous improvement efforts together. Early Planning included a Community Needs Assessment; Collection Evaluation; Tasking Identification and Staff Alignment; and Resource Evaluation.

The above actions can't be described as revolutionary; after all, these are library management basics. However, within this library, the idea of getting back to the basics was revolutionary, in that the need and rationale for library and research services were being redefined from scratch. The above actions were executed not from the perspective of a failing library, but as if the library didn't exist at all. Consequently, the results were untainted by the issues previously plaguing the library, providing the library the freedom to completely redefine its mission.

One team was tasked with evaluation (the mission team), while another team was examining the current state of the library (the library team). The library team's early planning efforts were very similar to the mission team's, except they were examining the who, what, where, when, why and how for each and every service, transaction, and resource.

Below is an outline of the combined early planning effort.

- *Community Needs Assessment:* A needs assessment was executed which assumed the library didn't exist, and simply examined community needs. The assessment looked not just at current needs, but also how needs evolved with programmatic requirements so that the library could use that information to define a process for anticipating future needs. A gap analysis was also completed which examined the current collection vs. user-identified needs. The methodology used for this assessment relied on a range of strategies to thoroughly gather as much data and metrics as possible. Staff completed a population analysis to identify potential user groups, conducted consultations and interviews with past, present, and non-users, and conducted a command-wide user survey. Staff also collaborated on a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis.
- *Collection Evaluation:* Early planning included an examination of the collection, covering what the library possessed, processes for collecting and circulating material, along with costs (purchasing and maintenance) and usage. Disaster planning and continuity of operations processes were also examined.
- *Task Identification and Staff Alignment:* Each working process was identified, with the purpose and rationale of each clearly defined. This information was used to eliminate duplicative and unnecessary tasks and to streamline core tasking. Standard operating procedures were developed and circulated to personnel to ensure tasks were completed in a consistent manner. Additionally, staff was able to update these SOPs as needed to

further refine processes and share lessons learned. Lastly, knowledge, skills and abilities were identified and shared. The library had a small staff and they were often pigeonholed into their tasking. Sharing this information enabled cross training and professional development, while eliminating task rice bowling.

- *Resources Evaluation*: Resources examined included traditional resources, such as budget, physical space, library systems, and the number of staff, but also the staff's knowledge, skills and abilities.

The idea was to identify all resources in order to do more with less.

Execution

Once all data had been gathered and documented, the teams came together to generate general, collection, service, space/facility, and other recommendations. These recommendations were combined into a plan of action. The plan was anchored by specific milestones, which were reportable to leadership, but also gave the staff the ability to redefine tasking as needed. Again, this sounds less-than-revolutionary, but gathering and consolidating the data in this manner allowed the library team to come to a consensus on a new vision for the library. In the span of a few months the library team went from not wanting any change, to proposing an entire new model for the library.

The 2011 Needs Assessment Report included the following finding:

“Many of the identified needs do not fall within the scope of a traditional library, but rather within the scope of a special library or business information provider. The results of the assessment indicate that the Division Newport community needs a flexible, responsive client/customer focused research and information service provider which is tailored to meet the evolving needs of the community.”

With limited staff, time, and financial resources, the entire plan had to be executed incrementally, over a period of five years (at a minimum). Navy compliance areas took priority, and budgetary constraints made overhauling any one program or process fiscally unfeasible. Each year, the library has to accomplish several key tasks to remain on schedule. The plan of action allowed staff to work toward incrementally transforming services. In some cases, this required maintaining outdated services until they could be mothballed. In others, it required making minor modifications to a process over a period of years until a new service was in place. This was a slow and steady process, but enabled the staff to slowly revamp all services and collections

By all services and collections, we do mean all. Library programs and budgets were slowly realigned as the plan was executed. Since only a small subset of the existing technical library services actually met community needs, the library was reorganized and rebranded.

In 2012, the library was rebranded as the Corporate Research and Information Center (CRIC) in conjunction with a larger departmental re-branding to Corporate Operations. The CRIC was more than a rebranding effort; the reorganization defined the library's place within the larger context of NUWCDIVNPT's organizational mission of maintaining undersea superiority through research and innovation. The new CRIC mission, “Providing the Division Newport community with access to research and information products and services,” intentionally did not use the term *library*.

Organizationally, the CRIC includes a Science and Technology Library, an Archive, and a line of direct work (providing research and information services directly funded by customers). Each area has its own programmatic mission, dedicated budget and staff so that they could focus on meeting current needs and remain flexible enough to meet evolving needs.

It is important to note that the plan also took into account the potential for resource delays. In retrospect, this was key to the plan's success, because during the next several years the library had to cope with both federal sequestration-related furloughs and a contract gap that left the library minimally staffed for several months. Planning for resource delays enabled the library staff to shuffle the plan of actions and milestones and report progress, even in very lean years.

As you can imagine, a reorganization of this magnitude required a committed and patient staff. It also required a staff that was technically versatile, competent in multiple areas, and had initiative (the ability to work independently and proactively). These demands took a toll, and there was significant staff turnover in years one and two. By year three the staff had stabilized and formed a cohesive team, driven toward the long term goal of transforming the library.

Below is a short list of some of what was accomplished year by year, from early planning to execution, along with processes put in place to identify and evolve services in anticipation of user's needs. Keep in mind that during this time staff were also maintaining current processes and proving ongoing customer services.

Year One: 2011 – Planning, Documentation, Triage

- Submitted a proposal to command management to revamp library services.
- Completed a 365 degree community needs assessment (initiated bi-annually thereafter).
 - Library staff completed user interviews in support of the Organizational Needs Assessment. This was a useful vehicle for outreach, as the library was getting out into the community for the first time in years. They also met with the few heavy users to assure them that their needs would continue to be met as the library evolved.
 - Completed Organizational Needs Assessment Report defining both short and long term goals. It also included room for “just-do-it” actions, so staff was empowered to identify, propose and correct service and resource issues on the fly.
- Documented Plan of Action & Milestones (POA&Ms) and tasking.
- Defined a library collection policy, which was then posted to the library's website for feedback.
- Assessed the integrated library system's (ILS) ability to meet requirements. Pushed updates to keep it functional for another 12-18 months while other solutions were evaluated.
- Organized library functions into discrete programs, with separate staff, budgets and mission requirements.
- Completed triage actions on the library website (hosted as part of the command's internal SharePoint site) to update links and fix basic usability issues.
- All tasking was evaluated and reassigned to staff, based on knowledge, skills, and abilities. Duplicate and unnecessary tasking was omitted wherever possible; however, all staff were also cross trained. This ensured task coverage and also prevented task rice bowling.

- Reviewed existing analog interlibrary loan (ILL) process and implemented temporary improvements to increase tracking.
- Budget was pushed forward as-is for one year only to provide additional time to review financial needs, requirements, and to negotiate with vendors.
- A common email address accessible to all staff and phone number that rings at all staff members' desks were set up. This ensured that all customer inquiries were addressed promptly.

Year Two: 2012 – Streamlining

- Executed the recommendations from our 2011 needs assessment report. This included a thorough weeding of the physical collection and reviewing all subscriptions. Temporary staff were hired to quickly process uncatalogued material and minimize library downtime.
- Eliminated many subscriptions that were barely used or unused, focused selection on digital resources, and implemented document delivery service to fill in resource gaps.
- Renovated physical facilities and improved individual staff working areas to facilitate customer consultations. Also updated to more modern furnishings and cubicles. Added additional meeting spaces for users. This moved the library from a traditional stacks floorplan to a more open maker and meeting space floorplan.
- Revamped the ILL turnaround times by simplifying the associated processes and adding document delivery services.
- Centralized access to all journal and database subscriptions to our command's internal site. While utilizing the existing SharePoint website was not a long-term solution, it was an effective way to quickly consolidate research access points and enable users to have desktop subscription access.
- Staff skills assessment and development was completed. Staff began to attend professional development activities and reach out to local library counterparts (neither had previously been done). The library began publicizing library staff members' research skills as a key service the library could provide (time and cost savings associated with obtaining skilled research assistance).
- The library's book collection was re-organized to facilitate easier browsing (bookstore model).
- Evaluated commercial off the shelf ILS tools.
- Began participating in outreach efforts (i.e. command new hire training) and hosting user events to publicized services and resources (All were tailored to user needs).
- Partnered with solo librarians across the command to ensure their needs were being met.
- Developed a list of metrics based on staff tasking. All staff had to monitor tasking and report weekly on progress. This included the time it took to complete certain tasks. This information was then used to further streamline tasking where possible. Metrics were also shared with management to demonstrate progress.

Year Three: 2013 - Rebranding and Outreach

- Planning and development was underway to develop an internal ILS, involving stakeholders from across the command. No commercial off-the-shelf ILS could meet the command's rigorous requirements. The library staff led this effort and coordinated with developers on an aggressive schedule to develop, test, and launch a tracking tool to replace the ILS within 6 months.
- Upgraded the library's website further to index all resources and paved the way for migrating to another website platform in future years.
- The command's entire subscription package was reviewed and revamped to meet the current user needs. The focus was on developing a collection that both met users' needs

and also provided unique, hard-to-acquire resources to increase the value of the library's collection to other institutions participating in ILL.

- As the more prominent issues were resolved, emphasis shifted towards advertising staff and services. Expanded outreach efforts included presentations at user orientations and emails to users and needs assessment participants. All outreach materials emphasized the re-branding effort, noting the name change and available services, particularly how requests could now be filled faster than ever before via a combination of ILLs and document delivery.
- During 2013, federal sequestration caused government furloughs, which hampered some progress and required several milestones to be moved out.

Year Four: 2014 – Investing in New Tools and Solutions

- Completed development, testing and migration to new homegrown ILS. Inventoried all material and manually quality checked and updated records to restore data lost during the migration.
- Continued to refine subscriptions and cut costs through a combination of vendor negotiations and leveraging partnerships with other institutions.
- Completed a full review of material and weeded the collection based on the updated collection policies.
- The library's holdings were updated in OCLC Worldshare (a manual process, since our ILS is not public), which significantly increased ILL requests. This has since been completed annually.
- Continued outreach efforts. This included writing articles about library resources and services for our command newsletter, participating in new hire outreach, hosting several information sessions and contributing to command knowledge management efforts.
- During 2014, a contract interruption left the library minimally staffed for nearly four weeks. That, combined with higher than average government leave and the departure of several library staff, challenged progress. While there was headway made in 2014, several milestones were pushed out.

Year Five: 2015 - Potential for Growth

- From spring to summer of 2015, half of the contractor staff (3 individuals) resigned. The positions were backfilled and new staff was trained in all library procedures. Due to the unique mission of the library, and the fact that it is staffed by contractors, replacing staff typically takes 8-10 months (from advertisement through completion of position training).
- Completed a command-wide Needs Assessment. While the results indicated demonstrable progress since the 2011/12 Needs Assessment, the resulting analysis yielded a wide range of new recommendations based on user feedback. While many projects were already in progress or in beginning phases, the plans for implementing them were tweaked to meet emerging requirements and needs.
- Obtained funding for the development of a Drupal site to replace the existing library website. Developed related plans of action and milestones to develop and launch the site in 2016. This also required renegotiating some vendor agreements to accommodate usage. Although the site wasn't launched until early 2016, all of the groundwork was laid in FY15, including researching and entering the research guides and other content.
- Began to share lessons learned with other libraries within the NAVSEA organization who had similar struggles, starting collaborative relationships with others in our community.
- Launched new on-demand research service enabling the library to quickly obtain any resource required by a user (most within 24-48 hours).

- After attending a demonstration of the homegrown tracking tool, Naval Surface Warfare Center Carderock purchased and implemented it for use at their command.
- By the end of FY15, the library was utterly transformed and no longer at risk of closing. Even with many hurdles, significant progress had been made. The library had been transformed, and in doing so had proven its research value to the command; it was now a highly progressive library and a hub for research innovation. So much so that other Warfare Center Libraries began to reach out to obtain the strategies, plans of action, and lessons learned from the transformation. This is significant, because during the same period of time two other warfare Center libraries had been shuttered (Naval Surface Warfare Center Crane and Naval Surface Warfare Center Corona).

Year Six: 2016 – Launching New Tools & Solutions

- Launched the new library website, called the Research Commons, and migrated all subscription access content to the new digital library platform. The Research Commons is a full service digital library and a sub-program within the science and technology library. Unlike previous library sites, the Research Commons is continually updated and was developed internally by library staff. Local development and maintenance means the site can be tailored to users' evolving needs without the help (or funding for) an external developer. This site was also hosted so that it could be accessed by approved individuals outside our VPN network.
- To increase awareness of the Research Commons and how it fit within the scope of other library services, significant outreach efforts were completed (via all-hands email, internal news stories, digital signage, and live demonstrations to user groups and departments).
- Within the Research Commons, we launched research guides tailored to command technical warrant areas, which included literature reviews (updated monthly) publicizing new publications of interest.
- Within the Research Commons, we launched professional development guides. Similar to research guides, these profiled career development, management resources, and links to other internal networking and collaboration tools. The science and technology population of the command is only around 800-1,000 individuals. These professional development guides target the other 4,000 employees, providing them with resources to help them advance their careers.
- Developed a proposal and plan for implementing a digital repository as part of the Research Commons. Obtained funding and began development of an Islandora repository for command generated technical material and grey literature.
- Continued updates to the physical space by upgrading the library's old conference room into a multimedia research space.
- After attending a demonstration of the Research Commons, Naval Surface Warfare Center Carderock purchased and expanded use to their command. This opened the door to increased cross-command research collaboration and reduced duplication of efforts across commands.

Year Seven: 2017 – Continue Launching New Tools & Solutions, Continuous Improvement

- Developed and launched the Research Commons digital repository, which fulfilled a need for online access to technical reports and grey literature. Began a large-scale digitization of command-produced technical reports and documents, with plans to expand our digital collections to include additional commands.

- Continued emphasis on strategic alignment. The digital repository is the first centralized effort to systematically collect and codify institutional knowledge, and is highly supported by center management.
- Weeded the book collection to remove outdated and electronically available material. This created additional space for new book purchases to increase the value of our collection for our local users and ILL.
- Started a Warfare Center Community of Practice for libraries to bring together library representatives from across the Warfare Centers to share their best practices and lessons learned. Also launched a webpage for participants to share information and an email listserv.
- In the process of collaborating with another other warfare center to combine subscriptions, which will reduce costs and increase the number of available resources. The joint subscription partnership will be launched in FY18.
- Began outreach efforts to collaboration with other warfare centers to provide access to the Research Commons and digital repository, potentially diversifying funding sources to improve sustainability.
- Continued updates to the physical space by adding additional computer kiosks for users, reducing the physical stacks footprint, adding additional seating for staff, and creating additional meeting and research space for users.

Continuous Improvement

While the most important and dramatic changes have been implemented, we continue to make strides towards increasing access to research and facilitating cross command collaboration. To that end, continuous improvement is fundamentally integral to our processes. The following actions outline some of the methods used to continually improve and evolve our services.

- *Needs Assessments*: Continue to execute bi-annually and both report and document the results and plans of actions required to continue incremental improvements.
- *Plans of Action and Milestones*: Update, at least annually, a plan of action and milestones for the coming year.
- *SOPs*: Review and update all staff processes, at least annually, to ensure consistency across services, avoid redundancy and identify ideas for improvement. The collection development policy should also be reviewed and updated at least annually.
- *Metrics*: Maintain regular metrics for benchmarking services and subscriptions, which can then be used to demonstrate value and progress.
- *Staff Development*: Maintain staff's awareness of new publications, resources and technology in command research and associated staff professional development efforts.
- *Communication*: Empower staff to share ideas for improvement though frequent formal and informal communication. Maintain open lines of communication with Command Leadership, with users, and with other library partners.
- *Outreach*: Not only to market the library, but to maintain a continual stream of user feedback.
 - Communicate new products and services. Traditional modes are scheduled as part of our annual plan of actions and milestones update. This includes user briefs, posts, newsletter articles, etc.
 - Embrace internal social media tools such as chat and wikis to promote library services, as well as provide direct reference service on the fly (staff are given the freedom to post and respond to comments).
 - Engage heavy users and new users in the development processes. Process changes must be designed to meet the needs of multiple generations of users (with an eye on phasing out older generation accommodations down the road).

- Facilitate alternative outreach programs, such as journal clubs, research round tables, and working groups.
- Partner with as many different libraries and organizations as possible.
- *Technology*: Maintain awareness of technology and how it can be utilized to enhance services. Provide staff the freedom to test new technology for potential implementation.
- *Sharing*: In opening the lines of communication, ensure communications are transparent and complete. Allow others to learn from our mistakes, so that they will share theirs to all our benefit.
- *Calculated Risk Taking*: Make risk taking a part of the culture by providing a forum to explore ideas, embrace failure, and document efforts. This needs to come from the top, so staff will be brave enough to take risks.

Conclusions and Going Forward

Over the past five years, our organizational culture has shifted to emphasize the value of high-velocity learning, sharing knowledge, and collaboration. This presents many opportunities for the library to expand services and products to directly support collaboration between users and across commands. By providing a baseline access to research and eliminating departmental research silos, our intent is to improve research communication, reduce research costs, and facilitate new discovery. As we move towards the future, we plan on expanding repository services to support digital access to all material, while engaging our user population to foster open lines of communication.

This case study demonstrates that revolutionary transformation of a library is possible, even with limited time, staff, and resources. We began in crisis, with irrelevant, unmanageable and largely un-used collections. Through strategic evaluation and planning, we were able to morph our physical space to support collaboration and emphasize staff services, and to develop a fully-fledged digital library and repository directly supporting command research activities. Transparency and communication were instrumental in uniting staff towards the common goal of improvement. Since the library was on the brink of elimination after a decade of stasis, almost any action was better than doing nothing. Staff suddenly had the agency and freedom to change and improve processes, leading to rapid improvements in services and resources. Frequent feedback to and from Leadership about the status of tasks provided positive reinforcement to keep the staff motivated over the years. Organizational alignment followed organically from community surveys and needs assessments, and directly supported buy-in from command management. Consistently gathered metrics supported our mission and continue to guide our future endeavors.

Users are the driving force of the library, and users also change. By explicitly engaging and observing our user population through codified procedures, we can adjust services and resources to meet evolving needs to ensure that the library remains highly relevant and at the core of our research community.

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