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Projecting Success: Effective Project Management in Academic Libraries

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Abstract

Managing a major project in an academic library can be daunting in the best financial circumstances. However, in the current climate of diminished funding and increased competition, libraries will face the challenge of funding and staffing their initiatives with limited resources. Project management can assist libraries in achieving their projects on schedule and within budget. Best practices in project management are examined in the context of two major projects undertaken at the University of Illinois at Urbana-Champaign Library. The first project was the barcoding of three million in three months in preparation for the transition to a new automated library system. The other project is an on-going project to process and transfer 700,000 volumes from its existing collection to a new high density facility within two years.

Keywords

Best practices, collection maintenance, high density shelving facility, project management.

Introduction

It is often necessary for a library to undertake a project that is beyond its regular operations but is essential for the library to fulfill its strategic goals. Projects in libraries vary in size and scope and can range from the movement of the library's print collections to the introduction of a new service (e.g., virtual reference) to other major innovations (e.g., digitization of collections). Such projects are integral to a library's efforts to respond to a rapidly changing environment.

Through two examples from the University of Illinois at Urbana-Champaign Library, I will draw elements that illustrate best practices in managing projects. One project was barcoding three million volumes in three months in preparation for the transition to a new library system. The other is an on-going project to prepare and transfer 700,000 volumes from the library's existing collection to a new high density shelving facility within two years. By examining these projects in detail, it is hoped that these elements will provide guidance to other libraries in the development and implementation of their projects.

Project Management

The need for project management skills is gaining greater recognition in the library profession, but it is still not widespread in practice. A survey of United Kingdom libraries in the late 1990s found that nine out of ten library managers managed a

library project, but only twenty-seven percent had used some project management techniques. Sixty-nine percent of the survey respondents indicated that they would benefit from more formal guidelines in project management. [1]

Project management is a set of knowledge, techniques, and tools that are used to achieve the project's goal. Since projects are typically new undertakings and the outcome is uncertain, organizations use project management to mitigate the risks. The success of project is not only determined by achieving the desired results, but also by adhering to time and budget constraints.

Integral to project management is the project life cycle. The project begins with the recognition of a need. After prioritizing all competing needs, the organization decides that this particular need warrants the dedication of resources and people to fulfill it. The next stage is the planning process. The pre-plan proposal defines the project in terms of its support of the overall organization's mission and goals and articulates the specific benefits that this project will bring to the organization. The formal plan provides project specifics, such as tasks, milestones, and associated costs. The implementation phase is the project in action. The various tasks are performed, and throughout this phase, members of the project team monitor the project's schedule and budget, making adjustments as necessary. At its completion, the formal stages of the project come to an end, but most likely certain activities will be integrated into normal routines.[2]

The advantage of project management is that it "results in more work being accomplished on limited resources because less time and money are spent on recovering from unplanned, unexpected events throughout the project." [3] In the current climate of diminished funding, libraries need to maximize available resources and funding and to minimize uncertainty and risks in their projects. An examination of best practices in project management can help libraries to achieve both objectives in their project practices. [4]

University of Illinois Library at Urbana-Champaign Library

The University of Illinois at Urbana-Champaign Library is an amalgamation of forty-five departmental libraries, reading rooms and special collections. The single largest library, the Main Bookstacks, serves as the central repository for the other smaller libraries. Within the last ten years, the University of Illinois Library has undertaken two major initiatives that required coordination of the entire library system—the barcoding project in 1996 and the accessioning project in 2004. Both projects attempt to process a large quantity of material in a compressed period of time and require the utilization of staff and other resources to fulfill the projects' goals.

Barcoding Initiative (1996)

The barcoding initiative at the University of Illinois Library was inspired by the impending transition to a new integrated library system in the mid-1990s. The University of Illinois Library, along with other members of the state-wide consortium, was originally scheduled to migrate from its twenty-five year-old system, LCS, to a new integrated library system in the Fall of 1997. [5] Since the new system circulated items by barcode number, the consortial policy council mandated that participating libraries barcode their collections in time for implementation.

At the time of the mandate, the consortial libraries had eighteen months to complete the task. For the University of Illinois Library, this meant barcoding approximately 8.5 million volumes dispersed among the forty-five libraries. The first decision of the team was to prioritize barcoding activities. The team recognized that barcoding the entire collection was not attainable in the timeframe required by the consortium. Although barcoding all the library's collection was mandated, the new library system supported circulation of non-barcoded items. However, since circulating unbarcoded materials was cumbersome and potentially error-prone, the team wanted to keep these transactions to a minimum.

Since newer acquisitions would be in the most demand from users, the team concentrated its efforts on the three million volumes housed in forty-four departmental libraries. The team's goal was to finish most of the libraries during the summer of 1996 when patron traffic was low. The 5.5 million volumes in the Main Bookstacks were the older, lesser-used titles and the barcoding process would be slowed down by problems with the bibliographic and holdings information. The team decided to target barcoding efforts in the high use areas in the Main Bookstacks, but barcoding the entire collection would be a long-term effort of the Library and would not fall within the project's scope.

The barcoding team had sixteen teams of students with approximately ten to eleven students per team. Eight graduate student coordinators oversaw two student teams. An additional graduate student was the project coordinator and was responsible for training, monitoring and procuring supplies, payroll processing, and providing moral support through gifts of food. The student teams meet weekly in order to track their progress and monthly with the barcoding team. The student teams successfully barcoded all but two libraries in three months. The remaining two libraries were left to complete in the Fall 1996 by an additional team of students.

The Main Bookstacks staff continues to barcode the collection as of 2004. Additional funding has been procured since the initial project and two out of the 5.5 million volumes have been barcoded.

High Density Rapid Accessioning Project (2004-2005)

Eight years later, the University of Illinois Library has moved on to another big project—a high density shelving facility. The first module will be completed in late 2004 and will hold approximately two million volumes. The additional modules will be added to the facility over the next ten years and the anticipated total capacity will be around seven million volumes.

The impetus for this facility was the realization in the mid-1990s that many of libraries at The University of Illinois Library, including the Main Bookstacks, were very close to or exceeded shelving capacity. In a 2001 study, the Main Bookstacks was at 110% capacity and it was estimated that many of the other departmental libraries were in a similar predicament. [6] The transfer of seldom-used materials to the high density shelving facility would bring much needed relief to the libraries. Approximately 800,000 volumes would need to be transferred from the Main Bookstacks to bring the holdings down to the standard working capacity (86%). [7]

Relocating 800,000 volumes was not going to be as simple as shipping items to the new locale. Many of the items had insufficient or inaccurate bibliographic and holdings information. Since the new facility's forty-foot high shelving would prohibit

library users from physically browsing the collection, the University of Illinois Library made the commitment to fully catalog and provide complete holdings information in order to enhance user's access to the collection through the online public catalog. In addition, many of these materials had not circulated in 20 years or more and had not been targeted by the prior barcoding project. Since accessioning in the inventory system required each item to have a barcode, these materials would need to be barcoded prior to their transfer. Each item would also receive a condition assessment to determine if treatment and repair was necessary. Finally, once the materials arrived at the new facility, the materials would be cleaned, inventoried, and shelved. All these tasks were labor intensive and for this reason, the University of Illinois Library began to develop a plan for processing these materials. The project is collectively known as the accessioning project.

The budget situation for the accessioning project was much bleaker than it was for the barcoding project. The library budgets for the last two consecutive years were either flat or sustained cuts. Inflation and other rising costs meant that the Library had little money to spare for the project. The University of Illinois Library had established a temporary shelving facility, and three full-time staff took a year to process and transfer 100,000 volumes. At that staffing level, it would take 6.5 years to complete the processing and transferring of the remaining 700,000 volumes. Since the Main Bookstacks and the other libraries were desperate for space relief, the library administration began to brainstorm strategies to accelerate the process.

After conducting time studies, the administration determined that the project could be completed in two years with 17,000 hours of additional staff (approximately 9.4 full-time staff members) in 2004 and over 28,000 hours (approximately 15 full-time staff members) in 2005. Since the library lacked the funds to employ the necessary people to complete all the necessary tasks, the University of Illinois Library decided that it would deploy existing employees to work on the project.

The library administration designated a librarian as the project manager who developed quotas per year for the libraries, based on the number of staff. The individual libraries had the option of contributing staff members for a certain amount of hours per week or they could donate student wages.

The project is still in progress, but so far, over 8,437 hours have been logged in as of April 2004. The project is 12 weeks into the implementation phase and the Library is almost half way through its goal for the year. Since the University of Illinois Library is uncertain about the next fiscal year's budget, it is anticipated that some shifting in the timeline will occur. However, the Library has found a creative solution to begin processing and transferring 700,000 to the new facility.

Best Practice #1: Find the Most Capable Team Members

A crucial step in the initial stages of the project is the selection of team members. The team members need to possess the necessary technical and organizational skills to complete the project tasks as well as the dedication to see the project to completion.

The teams on both projects were comprised of librarians and staff who brought their knowledge and expertise to the project's development and execution. The members of

the barcoding team were familiar with the anomalies of the libraries' collections and brought their extensive local knowledge to the project. Team members were liaisons to the student barcoding teams and worked with the students to encourage a high level of accuracy and to achieve greater efficiencies in the process. Each member of the accessioning team was chosen for her expertise in a functional area and was responsible for managing her operation. The conservation librarian, for instance, was brought in to manage the preservation aspects of the project while the cataloging librarians and staff would oversee the enhancement of cataloging records and holdings information.

One of the most important members of the team is the project manager. The success or failure of the project can be a direct result of the project manager's leadership abilities. The project manager needs to possess a firm command of the details and technical specifications while at the same time maintain the "big picture" perspective for the team. An effective project manager cultivates an environment where knowledge and information is freely exchanged and team members have the authority to make decisions on their own. Building trustful relationships is often credited in fostering communication, increasing team output, and improving team cohesion and its responsiveness to unanticipated problems. [8] On both the barcoding and accessioning teams, the head of the Main Bookstacks served as the project manager. The project manager used regular meetings to share information between the team members and to troubleshoot problems in a cooperative environment.

The project manager also interfaces with the rest of the organization on behalf of the project team. The project manager needs to be politically savvy and possess good negotiation skills to bring on board stakeholders who are initially resistant to the project. Also, project manager must possess a "high frustration quotient" as problems and setbacks will arise throughout the implementation process. [9]

Best Practice #2: Invest in the Planning Process

The literature emphasizes the importance of the planning process. Oftentimes, insufficient planning is linked to problems that develop later on in the implementation process. [10] The first step is defining the scope of the project and prioritizing team's activities. The barcoding team determined that barcoding three million volumes was a more manageable goal than 8.5 volumes. The accessioning team's goal was to get the Main Bookstacks' collection within reasonable shelving capacity levels and this is how the team arrived at 700,000 volumes as their project objective. It is only by clearly articulating the goals that the team can then proceed to determine how to accomplish their objective. As the project unfolds, the teams can measure their actual progress against the original plan.

The amount of planning required is determined by the size and complexity of the project. Both teams realized quickly that their projects were going to require extensive coordination in order to process a large quantity of material by the deadline. Key to the planning process for both projects was conducting a pilot project. The barcoding team used the History and Philosophy Library as a pilot study. The temporary shelving facility of 100,000 volumes served as the prototype for the accessioning team activities.

Through these pilot projects, the teams tested their procedures and streamlined processes as well as established benchmarks on how many items could be completed

per hour. Armed with this information, they made informed decisions on the number of staff needed for each project. The pilots were also instrumental in estimating budget costs. Since both projects were unique endeavors, it was challenging to predict how many people were needed for the project and what the associated costs were. The pilots enabled the teams to use real data to base projections and to strengthen budget justifications. The pilot projects also assisted the teams in identifying potential problems that they would encounter during implementation phase. The team not only garnered information that was invaluable in the planning process, but it also had a psychological impact. It made the project less daunting and greatly boosted the teams' confidence.

Sometimes further information is necessary to determine if the estimates are accurate. The barcoding team supplemented this data by surveying each library to determine other factors, besides collection size, that would affect the barcoding of a library. It was through the survey that the barcoding team realized that their projections based on the History and Philosophy Library were insufficient for two of the libraries. The barcoding team determined that these libraries were going to take longer than the rest to complete and the team would leave these libraries for the end of the project. Attempting to barcode these libraries early in the implementation process could have led to time overruns, causing a major setback for the team.

The investment in the planning process enabled the barcoding and accessioning team to base their estimates on actual data and make informed decisions on various factors that would have an impact on the project. This emphasis on the planning made a difference in keeping the projects on their timelines and within the cost constraints.

Best Practice #3: Achieve Balance between Planning and Flexibility

A project manager can spend a considerable amount of time planning to the smallest detail, to the point that the plan becomes so rigid that it is difficult for the team to respond to unexpected events. It is impossible to know all contingencies and foresee every problem in the planning stages. However, a team can suffer from excessive flexibility which can lead to ad hoc decision making and lack of team cohesiveness, causing time and cost overruns.

Geveden argues that effective project managers “plan and attempt to anticipate, yet at the same time they develop a state of readiness to respond quickly to frequent unanticipated events.” [11] Pinto and Slevin recommend that a project manager regularly takes the time to ask the “what if?” questions in order to identify problems early on and begin troubleshooting immediately. [12] However, not every problem requires attention, so the project manager needs to be able to prioritize the team's efforts.

For instance, the barcoding team had daily quotas for the student barcoding teams. Once a team got behind schedule, the barcoding team would make adjustments to the other teams' assignments in order to provide assistance to the struggling team. The team's responsiveness to the situation ensured that the entire project stayed on its timeline.

The accessioning plan was rigid in some respects in that it specified the contribution level of the libraries. However, recognizing that certain times of the day or year would be difficult for certain staff to work on the project, the accessioning team gave the libraries as much flexibility as possible in determining how they wanted to contribute

staff hours. A staff member can work anywhere from four hours each day to a couple of hours per week.

The project plan needs to be clear and firm in order to avoid ambiguity but flexible enough to accommodate changes and unanticipated events.

Best Practice #4: Understand the Organizational Culture

Another common pitfall for project managers and teams is to invest all their energies in the project details and ignore organizational politics. In the commercial sector, one-third of failed projects are attributable to organizational resistance and politics. [13] With the failure rate this high, the project manager needs to recognize the importance of gaining support for the project from various stakeholders in the organization. Stakeholders may be members of the library, or they can also include individuals outside of the library, such as faculty, campus administrators, and funding bodies.

While the project manager and team may firmly believe in the inherent necessity of the project, other members of the library may harbor resentment in the transfer of power and resources away from their units' activities to the project. The barcoding project received little criticism since the project did not require the reallocation of the libraries' staff to the project. However, this was not the case for the accessioning project. After two consecutive bad budget years, many of the libraries had already sustained cuts in their staff and were reluctant to dedicate their remaining staff to the accessioning project. Some librarians and staff had reservations about the high density shelving facility and as a result they had similar apprehensions about the present endeavor. In addition, the libraries had immediate space needs, and according to the original proposal they would have to wait until 2005 before they could begin to transfer materials out of their own collections. The discipline-based libraries had most of the newer acquisitions and since their space was limited, they depended on transferring older or lesser-used materials to the Main Bookstacks. However, due to space constraints, the Main Bookstacks suspended transfers in 2002. The original proposal required libraries to participate in the project, but it lacked incentives for the individual libraries to come on board. Although the library administration was wholeheartedly behind the initiative, the project needed broader support to achieve better cooperation.

The project manager revised the proposal so that libraries could transfer up to three thousand volumes to the Main Bookstacks or to the new high density shelving facility in early 2005. This would not solve all their space needs, but the gesture was sufficient to gain more support from the departmental libraries. The project team realized that the goodwill generated by making this concession was far greater than any complications the changes would create for the team. Even with these changes, some libraries were still resistant to the project. Support from senior management is crucial even for projects with board support, but in instances where resistance is still active, senior administrators can have an immediate impact on a project. Administrators need to go beyond making statements of support and take concrete actions to demonstrate it. The University Librarian and other senior administrators not only advocated for the accessioning projects in library-wide meetings and planning documents but donated their own time to project tasks.

At times, the project manager and the team cannot invest all its energies to bring non-compliant stakeholders on board. Instead the project manager needs to concentrate

energies on things that they have some influence over and cultivating support from key individuals in the library and administration to garner necessary staff and resources.

Best Practice #5: Utilize Project Management Software

One challenge for the project manager and team is tracking the progress of the project. Anazalone [14], Black [15], and MacLachlan [16] discuss how project management software can greatly assist the project teams in scheduling and monitoring tasks and resources. Several project management products are on the market, but Microsoft® Project is the software used at the University of Illinois at Urbana-Champaign Library.

The default view in MS Project is the Gantt chart, and its popularity as a scheduling tool is attributed to the ease in compiling, reading, and modifying the chart. Each task is represented by a bar indicating the length of time from its start to completion. A project may have several discrete tasks or a more complex project can have a major task with multiple sub-tasks to illustrate the interrelatedness of various activities. In the Microsoft version, tasks can be connected to each other to signify task relationships. Shifts in one task's timeline will affect the timelines of any tasks connected to it. MS Project also allows for staff resources to be assigned to a task, enabling the project team to track hours and wages spent on various tasks. The project can also be viewed as a flowchart or Network Diagram. The Network Diagram illustrates the sequence of tasks and their dependencies, but unlike the Gantt chart, the tasks are not tied to a specific time scale. Any changes to the various charts, diagrams, and reports can be saved as a baseline and can assist the team in recording the evolution of the project and maintaining a historical record for future reference.

The Gantt chart was instrumental in tracking the progress of the student barcoding teams (e.g., T1) and the student coordinators (e.g., C1). (See figure below.) Each library was represented on the chart and student teams were assigned to various libraries. Since student teams would be moved from one library to another, relationships between the libraries were created, so that if a team did not complete the library by the specified time, this would shift the start date of their subsequent assignments. The Gantt chart was also used to base other decisions, such as when to order barcodes from the vendor.

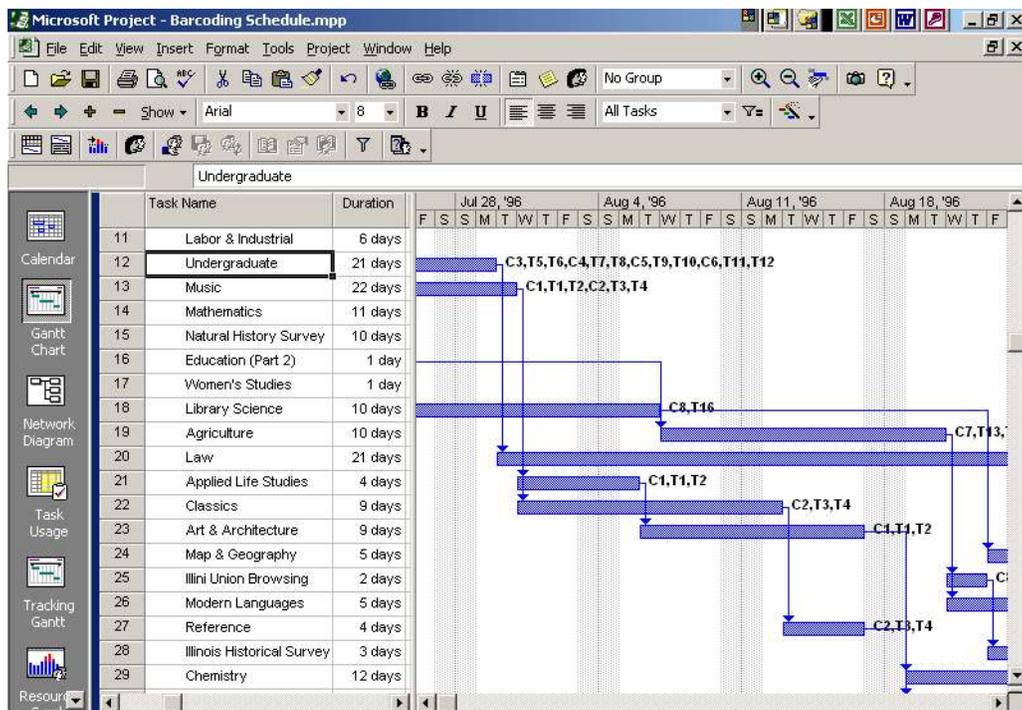


Figure 1: An example of the Gantt chart used in the barcoding project.

While traditional project management tools are effective in scheduling tasks and resources, the accessioning team chose a different approach. Many of the project tasks run concurrently and are completed independently of each other. Scheduling is less of an issue compared to concerns about how the accessioning team is using the borrowed staff. In the planning stages, libraries wanted assurances that their staff contributions would be properly credited to them. In response to the libraries' need for information and project accountability, the project manager maintains a Microsoft Access database to input the amount of hours library staff are donating to the project. The manager sends monthly reports to communicate the total contribution to date and how much the libraries need to contribute to complete their obligations to the project.

Whether it is putting together a Gantt chart or building reports in Access, finding skilled staff with knowledge in a variety of software can make a difference in tracking all the project intricacies. Software can assist teams in monitoring the project's progress and identifying problems more efficiently. However, it is important to realize that the software is simply a tool and cannot compensate for poor planning.

Conclusion

Project management enabled the University of Illinois at Urbana-Champaign Library to achieve better results in their projects. The Library successfully completed the barcoding of three million volumes in 1996 and although the accessioning project is still in the implementation phase, team is well on its way to processing and transferring 700,000 volumes. Project management requires more time on the part of the team, but as Moore notes, it "can reduce the costs associated with projects that

have not been thoroughly planned and controlled.” [17] In these times of financial constraints, the benefits of project management make the investment worthwhile.

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