

How Do We Manage? Project Management in Libraries: An Investigation

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Abstract

Despite the fact that libraries are undertaking projects to accomplish their goals and objectives, there is little information in the library literature about how libraries, large and small, are managing their projects. While organizations in both the public and private sector have embraced formal project management (PM) methodologies such as those espoused by the Project Management Institute, there is little evidence that libraries are using formal or standardized approaches. This paper seeks to take a first step toward understanding how libraries are managing their projects and to uncover the activities, tools and techniques, best practices, challenges, success criteria and success factors of projects undertaken in libraries, especially those in Ontario. To accomplish this, a literature review, an online survey of Ontario library staff and interviews with library administrators were conducted.

Keywords

library and information science; libraries; project management; Ontario

Introduction

What do major achievements such as the Mars Pathfinder mission and the 2002 Olympic Winter Games have in common? They began as projects – projects that were managed carefully and deliberately so that success could be assured.¹ And how did these projects become successes? The projects themselves were managed using processes that have been refined and solidified through the discipline of “project management.” Project management (PM) is defined by the Project Management Institute (PMI)² as “the application of knowledge, skills, tools and techniques to project activities to meet project requirements” (6). Meanwhile, a project is defined as “a temporary endeavour undertaken to create a unique product or service” (PMI 4). A project therefore is not a part of ongoing operations; it is a separate undertaking that has a definite start and end date.

Today, “[l]arge and small organizations recognize that a structured approach to planning and controlling projects is a necessary core competency for success” (Richman ch.1) and there is recognition of the value to the organization in having a standardized PM approach (Thomas and Mullaly 352; Meredith and Mantel ch.1.2; Eskerod and Riis 17; Crawford and Helm 85). However, evidence of the use of formal PM processes in

libraries is limited. Nonetheless, more and more libraries are undertaking discrete projects in order to accomplish their goals and objectives.

The growth of projects in libraries is pervasive (Kinkus 356-7; Wamsley 5; Feeney and Sult 745). Some of the reasons for this trend are the proliferation of technology-related work in libraries, the recent increase in library building and facility projects, a need to collaborate with partners outside the library due to the complexity of the work and declining financial support, as well as the frequency of introducing new services (Kinkus 357; Wamsley 5; Burich et al. 18). Kinkus notes "not only does the progression of technology seem to be introducing more opportunities for project-based work in libraries, but the increased complexity caused by a project's need for expertise from multiple departments leads to an increased need for project management skills in modern librarian jobs" (357). Wamsley further notes that librarians are frequently implementing new services, upgrading our systems and spaces, building partnerships with other groups and organizations within our communities, developing new policies, procedures and training for our staff and volunteers, and that "all of these activities involve project work and the need for library staff to have PM knowledge and skills" (5).

The question then is, how are libraries managing these projects? Are they using their own informal methods, or are they following the formal approaches advocated by PM organizations such as the Project Management Institute? Which approaches are leading to the successful completion of projects, and what are the best practices and challenges when managing projects? What approaches do librarians think are appropriate for library projects that tend to be smaller and less complex than those undertaken by the private sector (such as the Olympics or a mission to Mars). To answer these questions, an online survey was administered to libraries in Ontario, and in-person interviews were conducted with library administrators. The survey and interviews sought to uncover the tools and techniques used to manage projects, the success criteria and factors, the best practices and challenges and, more importantly, to get a general picture of how projects are managed in Ontario libraries. To begin, a literature review gives an overview of how PM is presented in the library literature.

Literature Review

While the number of projects in libraries has been increasing, the topic of PM has not been written about as much as other subjects in the library literature (Burich et al. 19; Feeney and Sult 745; Winston and Hoffman 52 and 55). However, within the literature that does exist, there are three aspects of the topic that are described in detail: 1) the PM methodologies used to manage particular library projects, 2) PM methodologies and/or tools for librarians discussed on a general level (i.e., not related to particular library projects) and 3) PM training and skills needed by librarians. What follows is a discussion of the library literature grouped by these three themes.

Literature about PM Methodologies Used to Manage Library Projects

The library literature that discusses the PM methodologies used to manage library projects is mostly about large, sometimes multi-departmental or inter-institutional projects. Burich et al. describe the use of a formal PM methodology to plan for the expanded use of their Research Readiness Self-Assessment tool across many institutions and the development of an inter-institutional chat reference service. They declare that “[p]lanning and implementing new projects in libraries would be better carried out if the project were managed formally from the beginning to ensure an orderly and efficient completion to the project” (18). They note that it is especially important for a formal project process to be implemented for inter-institutional collaborative projects, as establishing such a process at the outset “can serve to delineate the responsibilities of each institution, both in financial and human resources; create mutually agreed upon timelines and outcomes; and bridge the cultural gaps between different organizational cultures” (18).

But what about projects that are not multi-institutional? Atkins describes the use of a rigorous PM methodology at the University of Illinois at Urbana-Champaign Library to manage two major projects: 1) the barcoding of three million volumes in three months in preparation for the transition to a new automated library system, and 2) the processing and transfer of 700,000 volumes from existing collections to a new high density facility within two years. She notes that “[i]n these times of financial constraints, the benefits of project management make the investment worthwhile” (11) and describes how planning helped to keep the projects on schedule and within budget. She concludes that “[p]roject management enabled the University of Illinois at Urbana-Champaign Library to achieve better results in their projects” (9).

Similarly, Greene describes the use of the PM methodology advocated in the Project Management Body of Knowledge (PMBOK[®])³ to manage two OAI-PMH harvesting projects at national and international levels at the University College Dublin Library. He concludes that “the use of a standard project management methodology can increase internal stakeholder buy-in from frontline staff, line managers, middle management, and senior management” (114) and adds that he hopes that, by making clear the methodology to accomplish open access repository projects, more libraries will be able to replicate these types of projects and take action to support open access: thereby pointing out another advantage of a standard methodology which is repeatability of the steps.

Meanwhile, Afshari and Jones describe the use of PRINCE2 (PRojects IN Controlled Environments), a standard PM methodology used mostly in the UK government and private sector, for implementing an institutional repository at Imperial College London. They note that “[t]he project obtained a lot of backing from the institution by using the PRINCE2 Framework”, and that it “put the repository team in an excellent position having both top-down and bottom-up support for the endeavour” (341).

Stanley, Norton and Dickson also describe the use of PRINCE2 at Leeds University Library. In this comprehensive study, the authors describe in detail the introduction of a

new PM methodology that was used on a small number of major projects as a pilot project. Meanwhile, other projects in the library used the existing, locally developed, less rigorous and more informal approach. The authors explain that the driver for moving to a formal PM methodology was that projects had failed in the past at their library, and they list some of the reasons for this: insufficient definition of outcomes at the outset, poor communication among project stakeholders, and lack of clarity of roles on the project team, among others (73). In comparing the two approaches, the authors conclude that their "assessment would be that the use of project management techniques within higher education libraries is not only beneficial but necessary" (82). Some of the benefits of using a formal PM methodology that they list are: clear identification of deliverables through the use of templates for project documents, minimization of scope creep through early scope definition, and ease of managing projects due to a consistent and effective framework that staff can quickly pick up and use (80-81).

Kiel describes a similar situation at University of Western Australia. The introduction of a digital repository project and a transformational strategic plan resulted in the library adopting a formal PM methodology (PRINCE2) across the organization. The author explains that before adopting PRINCE2, projects were not managed well: "roles and responsibilities were not defined, the scopes of projects were often unclear and as a consequence projects usually proceeded in fits and starts and sometimes did not even commence," and there was no reporting to senior management on project updates (2). After adopting the PRINCE2 methodology for major projects across the library (including a major training program in the methodology for all staff), the author reports that "the adoption of PRINCE2 project management method has improved the conduct and outcome of UWA Library projects" (11). Kiel reports that there are still improvements to the management of projects needed, such as better planning of the overall programme of projects, resource allocation and scheduling; however, it is noted that the PM approach has resulted in better definition of roles and responsibilities, improved reporting and better understanding of projects as well as "a more cooperative and collaborative work environment because of the introduction of a project management method" (11).

In 2008, the libraries at University of Arizona formally adopted a project planning and management process developed by Brigham Young University (BYU). This process, described in an article by Feeney and Sult, involves portfolio management (authorizing a team to ensure that projects are prioritized and resourced according to strategic objectives as well as monitored and approved), project management (managing library projects using a formal PM methodology), and product management (creating a roadmap for each product and managing the product over its lifecycle). The authors describe some of the challenges and benefits of moving to this formal approach. Some of the challenges include ensuring clear communication among all team members, determining who has final decision-making authority and keeping the project within scope. The benefits are that the organization is able to track progress of strategic and critical projects and that structured methods are in place to get input from stakeholders. The authors note that "the implementation of project management has enabled more of the Libraries' projects to be completed on time" (751).

Ballard and Teague-Rector discuss the approach used to revamp a large library website at North Carolina State University. While the authors do not directly outline a particular PM approach in this article, they do advocate for aspects of a formal approach when they note ten strategies key to their project's success. Characteristic of any PM methodology, some of these strategies are: hire a project manager, clearly articulate vision and goals, charge a core implementation team, and keep the process transparent. The authors conclude that "when goals are clearly stated and reiterated, stakeholders can see the ways those goals are being met in wireframes and design compositions, making it easier to hold discussions around how well we're meeting our organizational goals and our users' needs rather than whether or not personal preferences are incorporated" (135).

Chambers and Perrow describe the introduction of a formal, structured PM framework adopted for twelve projects at the Robinson Library at the University of Newcastle upon Tyne. They emphasize that the framework adopted was not as formal as the PRINCE methodology (a precursor to PRINCE2) but that it gave "guidance without being excessively prescriptive" (253-254). The authors describe a comprehensive training program for all staff involved in projects: both those leading projects and those on project teams. After the implementation of the new framework, the authors surveyed all staff involved with projects for their views as to whether or not they thought the new approach was beneficial. Both the project managers and participants found that the new framework clarified the work to be done and gave a clearer view of project requirements, although participants commented that, as the projects were not yet complete, it was too early to see the real benefits. Overall, the authors report that there are positive benefits to using the PM methodology and "very real advantages at the planning stage" (257). They conclude that "[t]o implement project techniques successfully requires a great deal of investment in staff training and a recognition that more work is needed in the initial preparation of a project, which should pay off in the later stages" (258).

Literature about PM Methodologies and/or Tools for Librarians

While many of the articles about particular projects where project methodologies have been employed give great detail of the actual methodologies, some articles in the library literature give more of a general overview or introduction to the subject of PM without referring to a particular project. Frank Cervone has written a large body of work on this topic in his *Managing Digital Libraries: The View From 30,000 Feet* series in *OCLC Systems & Services*. In his introductory article "Standard Methodology in Digital Library Project Management," Cervone gives a comprehensive overview of PM for the novice project manager, with definitions of the PMI, PMBOK[®], and the process groups and knowledge areas described in the PMBOK[®]. He concludes by saying that, even if "a digital project manager [is] not interested in becoming a certified project manager, it is well worth [his/her] time to become more familiar with the formal project management process."

In an article published in *The Serials Librarian*, Leshner describes a presentation given by Jennifer Marill, a certified project manager, at the North American Serials Interest Group in 2006. Marill and Leshner give an overview of PM as described in the PMBOK[®], including the five process groups of planning, initiation, executing or monitoring,

controlling, and closing (318). Marill uses the acronym PLINC to describe the duties of a project manager: problem solving, leading, influencing, negotiating and communicating (318). A great introduction for the novice project manager, the article also includes an overview of risk planning, the work breakdown structure (a way to organize and assign work) and team management.

Massis also provides a high level overview of project management and a great introduction for the novice practitioner. Massis provides a definition of a project and lists as some benefits of using a PM methodology in libraries: clear plans, realistic expectations, and effective scope, time, cost and quality management. The author makes special mention of the importance of communication in PM and notes that one of the major causes of project failure, according to a 2008 UK study, is communication. He remarks that "proper management of the communications component throughout the lifecycle of each project is essential to project management's ultimate success; communication not only keeps everyone up-to-date on the project progress but also facilitates buy-in and ownership of major project decisions and milestones" (528).

Revels also emphasizes the importance of communication in PM. In her overview of PM, she states that "[r]egular communication is paramount to maintaining control over a project" (50). The author provides a broad overview of the five phases of PM (initiation, planning, executing, monitoring and controlling, and closing) and notes that a project is "the road map that guides how resources are put into use over a specific period of time" (49).

Schachter also provides an overview of PM for librarians, but in addition, she makes a call for librarians to hone their PM skills "to ensure that we are capable managers of our own projects, and through that obvious capability promote our broad-based skills throughout our organizations." She notes that "[a] good project manager will be called upon to repeat project successes in other less traditional library settings" (10). Schachter also defines a project and describes its five phases (start, scope, planning, monitor and control, and completion). She concludes that "[l]ibrarians are ideally suited for project management due to our expertise in the areas of planning, supervision, information analysis, and other general skills" (12).

Wamsley also provides a definition of a project and describes the five project phases. In addition, she describes the difference between a project and operational work, giving the example of providing reference to library users versus implementing a new reference service such as chat or instant messaging. She notes that "[a]s librarians deal more and more with upgrades, new services, and constant change, the need to develop project management (PM) skills has become more important", and "being able to manage projects successfully is the reality of our work as librarians" (5).

Anzalone also gives a comprehensive overview of PM basics for librarians, particularly law librarians, although her introduction would be suitable for all types of librarians. She describes the PM life cycle and covers common PM tools and techniques such as scheduling tools, software and estimation techniques. Most significantly, the author touts

the PM approach as a solution to having to do more with less and having to respond to unrelenting technological change. She comments that “[p]roject management's objective – the more effective and efficient use of internal physical and human resources – presents a viable management solution for today's information professional” (57) and concludes that project management's “flattened and impermanent organizational structure is a versatile management solution that we should all look to in order to maximize our internal, and especially human, resources” (70).

In one of the few articles dealing with PM software, Zhang and Bishop discuss the use of Microsoft Project to implement an e-reference service using QuestionPoint software. They provide an overview of MSProject, its features and reporting capabilities, and also examine the successes and failures they experienced when using it. A helpful article for librarians who may be considering using this software program, it concludes with the suggestions that, before using a software tool, the librarians involved with the project consider: the size of the project, whether or not it warrants a comprehensive software program, experience with PM software, and the availability of PM software in the library (through pre-existing licenses).

Literature about PM Skills and Training Needed by Librarians

The third category of articles covers issues around PM training available to, or that may be required by, librarians. Winston and Hoffman conducted a study of course content in ALA-accredited MLIS programs in the U.S. and Canada to determine the amount of content related to the study of PM. Through their analysis of the curricula of MLIS programs, they found that “[p]roject management courses are included in the curricula of only 3.7% of the LIS programs” they studied (58). They conclude that “[i]n order to ensure the most efficient and effective use of resources and the completion of projects that contribute to overall organizational performance, it is necessary to provide appropriate support for those who have project management responsibilities” and that “it is necessary for professional development and training programs to address issues of project management” (60).

Kinkus echoes this call for PM skills for librarians in her study that entails a literature review and a content analysis of librarian position announcements from *College & Research Libraries News* from 1993-2004. When describing the motivation for researching this topic, she notes that a consensus among a group of her colleagues at Purdue University Library was that they are doing more project work but had not received on-the-job training in PM. She found, through her review of position announcements, that “[t]he number of job ads explicitly requiring project management skills increased greatly between 1993 and 2003, from 4.1% to 11.2%. However, project management-related librarian jobs fell again in 2004, back to 4.7%” (361). She notes that even though there was a decrease in 2004, the announcements were using the terms “project manager” and “project management” with greater frequency. Interestingly, in 1993 the positions that called for PM skills related to the IT area, while in 2004 the positions that called for PM skills related to the public services area. Kinkus concludes her study by noting the

growing number of training opportunities in PM offered by library associations such as ARL and SLA and declares that "project management in libraries is here to stay" (361).

Choi and Rasmussen also note the need for PM skills among librarians, particularly those librarians working on digital projects. In 2005, they conducted a survey of 48 librarians who work with digital projects from 39 libraries in order to discover the activities, staffing patterns, skills and training required for this type of library work. When asked what courses should be added to the library and information science curriculum in library schools, courses on the tools and techniques for PM and team leadership were two common answers from the respondents. Respondents also ranked PM knowledge and skills second highest in importance in performing their work. The authors conclude that "[d]ue to the emphasis on team-based and collaborative projects, current digital librarians considered communication skills and project management skills very important in performing their roles" (sec. 4).

Methodology

In order to find out how Ontario libraries are managing their projects, a 28 question web-based survey was sent via seven listservs used by Ontario librarians, posted to LinkedIn and syndicated via the author's blog and Twitter feed. An invitation to complete the survey was sent out twice, and the survey was open for three weeks. The survey contained questions designed to collect information regarding respondent demographics (type of library worked in, number of years at library, type of work staff member is involved in, etc.), project experience, project practices (activities, tools and techniques used during management of projects), project outcomes, PM training, and project success criteria and factors. The questions were developed from a critical review of the PM literature on activities, tools and techniques, success factors and maturity models generally used by professionals in the PM field. The survey was reviewed by a librarian experienced in survey design and by the institutional research specialist at the author's employer and was pre-tested on three librarians from university and college libraries. The reviewers and testers provided feedback which was integrated into the final survey design.

The targeted population for this study was Ontario library staff. A total of 92 surveys were completed in full. There are 350 public libraries and publicly-funded college and university libraries in Ontario. Therefore, 184 unique responses would be required in order to obtain a representative sample with a 95% confidence rate and a 5% margin of error. As this was not achieved, and as 16 respondents identified their libraries as "other" when asked for library type, the sample is not representative and so cannot be generalized to the entire population.

One question on the survey asked respondents to identify the library in which they work for the purposes of determining if the results would be skewed due to many responses coming from only a few libraries. Upon analysis of the results, it was found that even though two or three responses came from a single organization, there was a great deal of variation in these responses about how projects were managed at the institution, even

so far as to indicate different levels of PM maturity in a question on PM maturity models. Two possibilities for this discrepancy are that some organizations are so large, with many branches or departmental libraries, that projects are undertaken in many different ways across the organization, or that there is a range of perspectives across the organization regarding the approaches used. The author decided to keep duplicate responses in the sample for analysis as these responses contribute to a fuller picture of the management of projects in Ontario libraries. The highest number of responses from a single organization was three.

In addition to the sample not being representative of all Ontario libraries, there was no pre-survey or other means used to ensure that respondents were experienced or had knowledge of PM practices in order to answer questions about PM value and use in their libraries. There was a risk of respondent bias in that respondents were subjectively answering questions about their own libraries and may have answered in ways they thought reflected best on their libraries even though the survey was anonymous; there was voluntary response bias in that survey respondents were self-selected and not randomly selected, and there was a risk of non-respondent bias in that libraries not subscribed to listservs, Twitter or LinkedIn would not have had access to the survey. Nonetheless, several means of assuring validity were used, such as repeating the same questions using different wording to ensure that answers were consistent and ensuring, as noted above, that no one library or library type was over-represented in the results.

In addition to a web-based survey, interviews were conducted with four librarians in management positions from college, university and public libraries, in order to yield a richer picture of how projects are managed in Ontario libraries: in particular the best practices, challenges, success factors and success criteria. It is important to note that the purpose of conducting the interviews was not to collect data from a representative sample but instead to fill in any gaps that might exist in the survey responses and to flesh out some of the issues by gathering rich, detailed qualitative data about the way PM is performed in libraries. Librarians in management positions were chosen as it was thought that they would have a broad understanding of the myriad types of projects ongoing in their libraries and how these projects are being managed. The libraries were not randomly selected but were selected instead based on convenience – proximity to the author's home library (no more than 200 kilometres away) – so that interviews could be conducted in person. It was thought that in-person, rather than telephone or email, interviews would elicit more relaxed, thoughtful answers; indeed, at least one study has found that telephone interviews do tend to elicit less detailed qualitative data (Irvine 211). These interviews were recorded using audio recording software during November and December, 2011 and then transcribed, word-for-word by the author. The responses were then categorized for analysis.

Survey Results and Discussion

Demographics – About the Respondents and Their Projects

Of the 92 Ontario respondents who completed the entire survey, 38 were from public libraries (representing 30 unique libraries), 15 were from college libraries (representing 10 unique libraries), 23 were from university libraries (representing 12 unique libraries) and 16 were from “other” types of libraries (school, school board, government, hospital, non-profit, etc.) Most respondents came from smaller libraries of 10-49 staff (32.6%) with 22.8% coming from libraries of under 10 staff. Also, when asked the type of work they performed most in the past year, “management” received the most responses (42 out of 92), with “collection development” a close second (34 respondents), then “reference/public service” (32 respondents). (Respondents could choose as many categories as applied.)

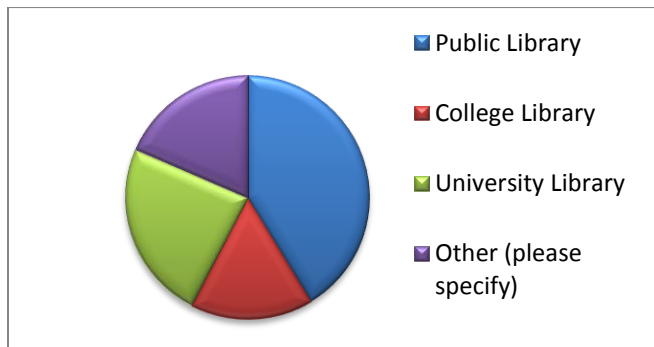


Figure 1: Respondents by type of library

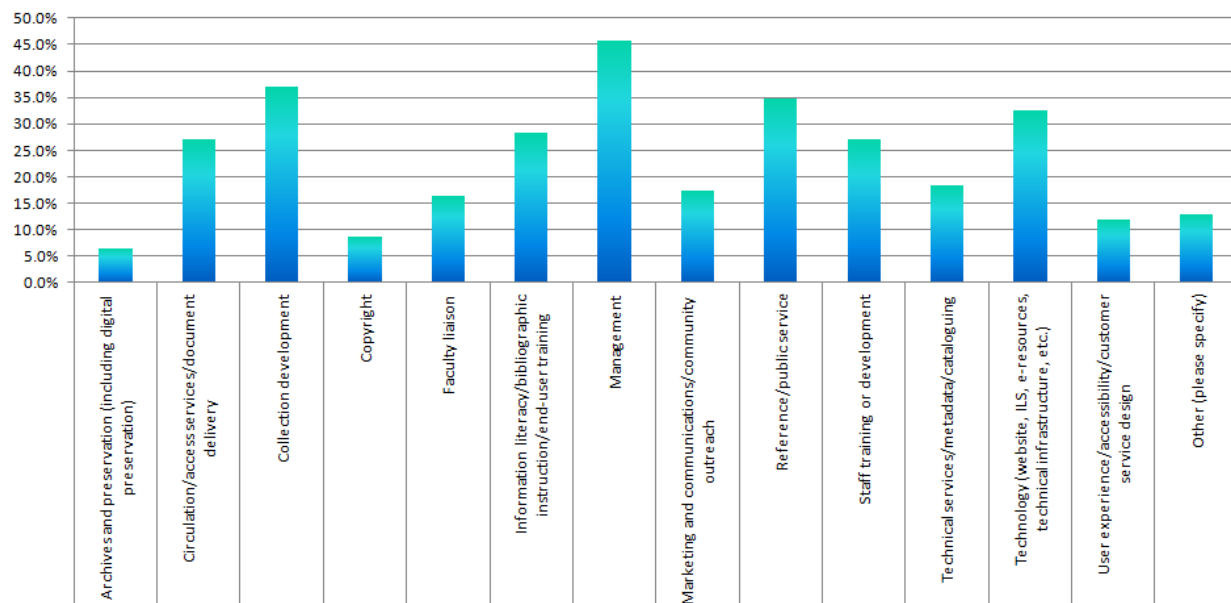


Figure 2: Respondents by type of work performed in the past year

The majority of respondents (87%) were involved in fewer than ten projects during the past year with most projects less than one year in duration (67.4%). The projects tended to be small with most respondents indicating that 2–5 people were involved (59.3%) and 27.9% indicating that 6–10 people were involved. Some library projects engage people from outside of the library as 59.3% answered that fewer than 5 people from outside the library were involved in their projects while 17.4% answered that no people from outside the library were involved. When asked what role they played in projects in the past year, an equal number of respondents selected the responses “project lead” and “project lead and project team member equally” (31.4% for each response). (The other responses were “project sponsor”, “project team member”, “project resource or subject matter expert (coming on board for part of the project)”).

When asked the subject areas where they would categorize *the majority* of projects they have been involved in at their libraries in the past year, the category “technology (website, ILS, e-resources, technical infrastructure, etc.)” received the most responses with “collection development” following closely behind and “marketing and communications/community outreach” a close third. (Respondents could choose as many as applied.) “Facilities” was not included in the multiple choice responses, but 10 respondents entered facilities or facility-related projects in the “Other” category where 17 respondents typed in their own responses. See Figure 3 for a depiction of the categories respondents could choose and the results from this question.

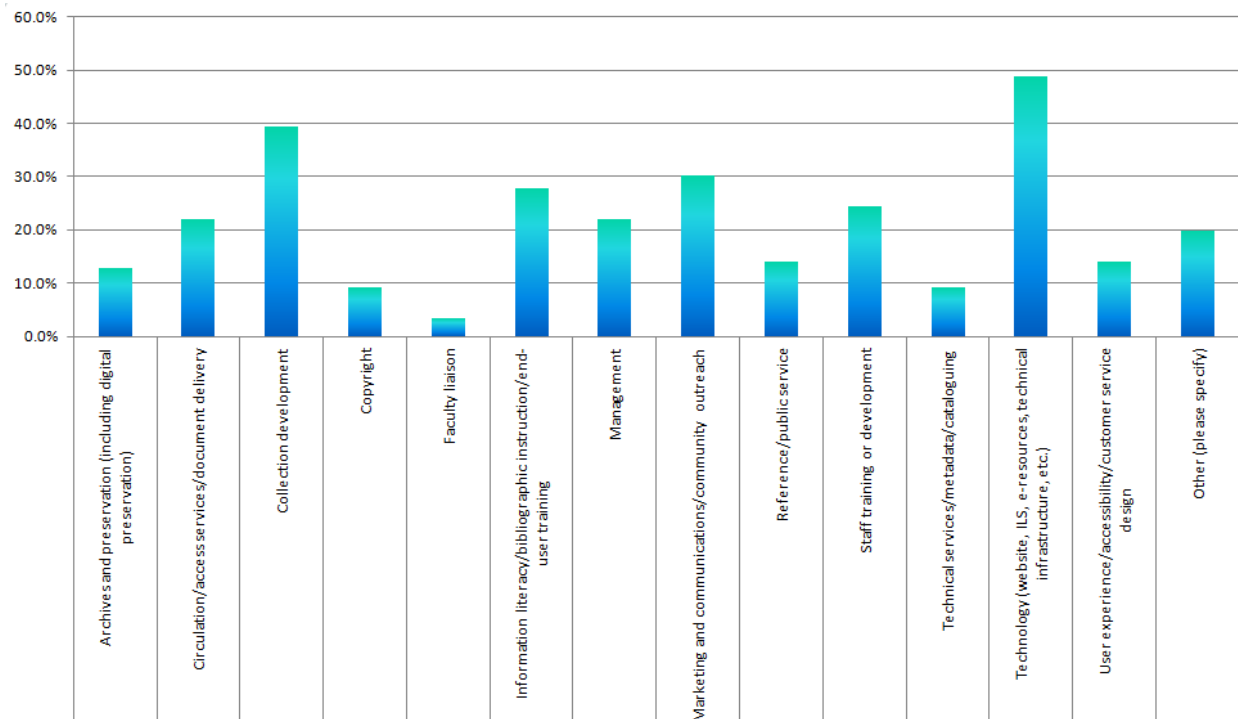


Figure 3: Types of projects respondents were involved in during the past year

How Projects Are Managed: Project Activities

To determine how projects are managed at Ontario libraries, five questions asked respondents about the activities, tools and techniques used to manage projects at their libraries during the past year. In the question about project activities, the respondents were asked to reply if they undertook the listed activity "never", "some of the time", "most of the time", "all of the time" or "don't know." The activities were drawn from the PMBOK[®] as it is the "definitive guide to project management theory and practice" (Cervone, "Standard Methodology" 30). The PMBOK[®] describes the five process groups that comprise project management: initiation, planning, executing, monitoring and controlling, and closing. Within each process group are processes, inputs, tools and techniques, and outputs such as defining project scope and developing a project schedule. For the uninitiated, these items could better be understood as project activities, and so the questions in the survey referred to them as such. Activities representing each process group were selected for the survey questions in order to represent the common activities undertaken when implementing a project according to the PMBOK[®] and the PMI.

Only two processes from the *initiation* process group were listed as the initiation process group has the least number of processes within in it in the PMBOK[®]: developing a business case for the project and designating a project leader or manager (which are part of developing a project charter). When asked if a business case is developed, the majority of respondents chose "never" (37.2%) while just under half (44.2%) responded that a project manager or leader is designated "all of the time".

Of the *planning* processes, most respondents answered that most of these processes (for example, "documenting project objectives", "creating a project schedule", "assigning project roles, responsibilities and reporting relationships", etc.) are done "all of the time" or "most of the time" with 11 of the 17 activities listed receiving these responses the most. Meanwhile, the following five planning processes and activities had the highest number of responses under "never": "documenting activities that are out of scope or not included", "having a Kickoff Meeting with project team to launch project", "identifying risks and risk mitigation strategies", "identifying which quality standards are related to the project and how to satisfy them" and "creating a communications plan". Also, "developing a scope statement as the basis for future project decisions" received responses which were evenly split across all response categories with "some of the time" receiving 27.9%, and the other categories receiving between 20% and 25% of responses. These responses seem to indicate that the more formal the activity, such as documenting plans and having a formal meeting, the less likely the activity is to be completed.

The *execution* process group deals with executing the project plan, or actually getting the work done. Respondents were asked if they undertake four processes in this group: "designating a project team", "making information available to stakeholders in a timely manner", "holding meetings to determine project status", and "keeping management apprised of project status throughout the project life cycle". Most respondents selected

“all of the time” and “most of the time” for these activities, indicating that “executing” activities are often completed on the respondents’ library projects.

For the *monitoring and controlling* process group (the part of the project during which the project progress is monitored and project cost, schedule, quality, risk, and scope are controlled), respondents were asked how often they complete six monitoring and controlling activities. The activities relating to risk management (for example, “keeping track of risks and noting new risks” and “ensuring the execution of risk plans and evaluating their effectiveness”) again received the highest number of responses in the “never” category at 29% and 42% respectively. “Evaluating project progress to create status reports” received responses that were evenly split across all categories. “Evaluating overall project performance on a regular basis to determine if the project is within budget” received the most responses in the “all the time” category, but again, the response was not overwhelming at 28% of responses. “Evaluating overall project performance on a regular basis to determine if the project is on schedule” and “evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards” had responses almost evenly split across “all of the time”, “most of the time” and “some of the time”. The results for the “monitoring and controlling” process group indicate that these types of activities are not frequently completed during respondents’ projects.

The “closing” process group deals with formally closing the project or phase. Respondents were asked about two processes in this group; 47% of respondents indicated that they formally end their projects “all of the time” while most respondents (27%) selected “some of the time” when asked if they compile lessons learned. (“Lessons learned” is information that is compiled both during and at the end of a project so that staff on future projects can see what worked and what didn’t and plan accordingly.)

Table 1: Activities Completed "All the Time" and Activities "Never" Completed

Legend:		
Yellow: Activities in Initiation Process Group	Green: Activities in Execution Process Group	Navy Blue: Activities in Closing Process Group
Orange: Activities in Planning Process Group	Blue: Activities in Monitoring & Controlling Process Group	
Activities Which Received the Most Responses in the "All the Time" Category		
Designating a project leader or project manager		
Designating a project team		
Documenting project objectives		
Creating a project schedule		
Creating a list of tasks to be accomplished and their deadlines (milestones)		
Determining what resources (people, equipment, materials, etc.) should be used to perform project activities		
Assigning project roles, responsibilities and reporting relationships		
Identifying the activities that must be performed to produce the project deliverables		
Budgeting and cost estimating		
Determining who on the project team does what		
Evaluating overall project performance on a regular basis to determine if the project is within budget		
Holding meetings to determine project status		
Keeping management apprised of project status throughout the project life cycle		
Formally ending the project by letting the project team and all stakeholders know that the project is complete		
Activities Which Received the Most Responses in the "Never" Category		
Documenting a business case for a project		
Documenting activities that are out of scope or not included		
Having a Kickoff Meeting with project team to launch project		
Identifying risks and risk mitigation strategies		
Identifying which quality standards are related to the project and how to satisfy them		
Creating a communications plan		
Keeping track of risks and noting new risks		
Ensuring the execution of risk plans and evaluating their effectiveness		

How Projects Are Managed: Tools and Techniques

Respondents were also asked to review a list of tools and techniques used to manage projects and to indicate if they use the tool or technique "never", "some of the time", "most of the time" or "all of the time". The respondents could also select "don't know". Patanakul, lewwongcharoen and Milosevic note that "several studies have suggested that the proper use of project management tools and techniques impact the success for a project" (42). In the PM literature, there have been several surveys of project management practitioners to determine which tools are used the most and the least,

which are the most and least valued in terms of contributing to the success of a project and which have the greatest and least potential (Besner and Hobbs; Patanakul, lewwongcharoen and Milosevic; Raz and Michael). Only tools in these studies that were ranked as highly used and most highly valued by PM practitioners were included in this survey question.

Of the 28 tools and techniques listed, 23 received the most responses in the "never" category. The tools and techniques that received the highest number of responses in the "never" category are "network diagram (graphical representation of activities & their dependencies)" at 72%, "risk response plan", also at 72%, and "progress evaluation techniques (e.g., earned value management, forecasting, etc.)" at 69%. The responses to this question compare to the responses to the "process" questions noted above; risk and quality plans do not seem to be undertaken very often in libraries. Like "risk response plan", "quality plan" also received the highest number of responses in the "never" category (68.8%). Two tools received the highest responses in the "all the time" category: "brainstorming" at 39.5% and "checklists" at 36%.

The survey attempted to uncover reasons why project tools and techniques are not used by asking respondents to choose among possible answers if they had selected "some of the time" or "never" when indicating how often they use the project management tools and techniques. Respondents could choose as many responses as appropriate. "Projects are too small or informal to warrant these approaches/techniques" received the most responses (50 out of 85 who responded to this question) with "lack of awareness of these approaches/techniques" (44 out of 85) close behind and then "lack of time to use these approaches/techniques" (32 out of 85) receiving the third highest number of responses. Many respondents took the time to provide comments in the comment area of this question. Nine respondents commented that their projects tend to be small, and so planning and documentation of the projects tends to be done on an informal basis. Two commented that while they saw the value of these tools and strategies, their managers did not, so they used these PM tools for their own record-keeping and management. Two others commented that they saw the value in PM tools and hoped to start using them in the future, while two others commented that many people do not know how to use strategies for PM. Indeed, Burich et al. note that "librarians, who often come from the humanities or the social sciences, are not so familiar with project management concepts and may reject them" (18, and supported by Cervone, "How Not to Run" 162). Some PM terminology, in particular, may be unfamiliar to librarians. For example, the tools "project charter" and "work breakdown structure" received the most responses in the "never" category, but perhaps this is because these are unfamiliar terms.

Table 2: Tools and Techniques Used in Projects during the Past Year (with Highest Number of Responses Highlighted in Red)

Tools & Techniques	0 (never)	1 (some of the time)	2 (most of the time)	3 (all of the time)	Don't know
Activity duration/resource estimating techniques (PERT, analogous, etc.)	53	17	8	2	6
Brainstorming	2	17	32	34	1
Change request(s) (formal requests made to change project or product features, design, timeframe, etc.)	41	27	8	6	4
Checklist(s)	8	16	30	31	1
Communication plan	21	24	18	20	3
Contingency plan	35	23	17	7	4
Cost baseline (measurement of cost relative to project schedule)	42	14	11	12	7
Cost estimating techniques (e.g., PERT, analogous, etc.)	51	12	7	8	8
Critical Path Method (CPM) (an analysis of project duration by determining which sequence of activities has the least amount of flexibility)	56	11	10	6	3
Flowchart	38	28	13	5	2
Focus group(s)	34	31	16	3	2
Gantt chart	53	12	12	3	6
Milestone chart	45	15	16	6	4
Network diagram (graphical representation of activities & their dependencies)	62	12	8	3	1
Progress evaluation techniques (e.g., earned value management, forecasting, etc.)	60	10	10	3	3
Progress report	12	26	24	21	3
Project charter	45	17	9	11	4
Quality plan	59	15	3	4	5
Requirements analysis	42	14	16	7	7
Responsibility matrix (chart displaying roles, deliverables & level of responsibility for each role (approve, review, create, etc.))	53	12	12	7	2
Risk response plan	62	16	3	2	3
Scope statement	32	21	14	17	2
Self-directed work teams	18	21	29	13	5
Skill inventory	46	22	12	2	4
Software for managing project (e.g., MSProject, Msexcel, Google Docs, etc.)	29	27	12	16	2
Stakeholder analysis	42	19	18	5	2
SWOT analysis (Strengths, Weaknesses, Opportunities, Threats)	35	21	16	11	3
Work Breakdown Structure (WBS) (detailed deliverable list)	52	10	13	7	4

Project Success Criteria and Success Factors

The author also sought to uncover information around the successful management of library projects: specifically, if librarians perceive their projects to have been managed successfully and if there are success factors present that might lead to successful outcomes. There is consensus in the PM literature around the criteria used to determine whether or not a project is successful. Completing a project on schedule, within budget while meeting scope, quality and stakeholder requirements are mentioned repeatedly as being the criteria used to determine whether or not a project has been managed successfully (Anantatmula 13; Jugdev and Müller 25; Patanakul, lewwongcharoen and Milosevic 49-50; White and Fortune 10). Respondents were asked to indicate if their projects performed over the past year were completed on time, within budget, whether requirements and quality standards were met and if the "client" of the project (management, patrons, customers, etc.), as defined at the outset, expressed satisfaction with the project outcome. The scale used for each criterion was the same as for the preceding questions about activities, tools and techniques: "never", "some of the time", "most of the time", "all of the time" with a "don't know" category also included. The majority of respondents choose "all of the time" or "most of the time" for each of the success criteria, indicating that, despite that fact that very few of the tools and techniques advocated for in the PM literature are used, library projects are perceived to be managed successfully.

There is consensus in the PM literature around factors that lead to a successful project outcome as well. Management support for and involvement in the project, adequate staffing for the project, a project plan that details goals, timelines, budget and staff, a clearly defined mission for the project, project monitoring to ensure plan targets are being met, and clear communication channels are all highlighted as being the factors that lead to a successful project outcome in studies of PM practice (Anantatmula 14; Cash and Fox 10; Hartman 9). Respondents were asked to indicate if projects performed over the past year had management involvement, management support, adequate staffing in terms of number of staff and skill sets of staff involved with the project, a project plan that detailed goals, timelines, budget and staff, a clearly defined mission, clearly established communication channels and whether or not the projects were monitored to ensure plan targets were being met. The scale used for each criterion was the same as for the preceding questions. All except one factor received the highest number of responses in the "most of the time" or "all of the time" categories, indicating that success factors are present in library projects. The one factor that does not always appear to be present is "adequate staffing for the project in terms of number of staff and skill sets of staff involved with the project" which received the highest number of responses in the "some of the time" category (39.5%).

It is interesting to note that "communication channels were clearly established for the project" received the highest number of responses in the "some of the time" and "most of the time" categories (59% combined), and yet, in the earlier survey question about project activities, "creating a communications plan" received the highest number of responses in the "never" category (26% – see Table 1 for a high level view of these responses). This could indicate that communication channels are established but not

formalized or documented in a plan. Similarly, “the project was monitored to ensure plan targets were being met” received the highest number of responses in the “all of the time” category (43% of responses), and yet, in the earlier question about activities, only one out of seven “monitoring and controlling” activities received the highest responses in the “all the time” category (see Table 1). Again, this could indicate that the activity is done but not formalized (i.e., the project is monitored but there are no formal status reports documented). “There was a clearly defined mission for the project” and “there was a project plan that detailed goals, timelines, budget and staff” both received the highest number of responses in the “all of the time” category, which relates positively to the responses to the planning activities question in which it was indicated 11 out of 17 planning activities are done most or all of the time (see Table 1).

Table 3: Success Criteria and Success Factors Present in Projects during Past Year (with Highest Number of Responses Highlighted in Red). Note: Question posed was “Please indicate how often the following has occurred in relation to projects you've been involved with at your library over the past year.”

Success Criteria & Success Factors	0 (never)	1 (some of the time)	2 (most of the time)	3 (all of the time)	Don't know
Success Criteria					
Projects were completed on time, according to schedule determined at project outset.	4	24	39	14	5
Projects were completed within budget prescribed at project outset.	4	13	28	29	12
Overall project quality objectives were met based on baseline goals, targets, or expectations.	5	14	30	27	10
Management expressed satisfaction with the outcome.	3	8	38	32	5
The “client” of the project (management, patrons, customers, etc.) as defined at the outset of the project, expressed satisfaction with the project outcome.	5	11	36	24	10
The project outcome (product, system, service, etc.) met all specified requirements.	3	14	41	21	7
The project outcome (product, system, service, etc.) was used for its intended purpose once completed (i.e., the product was not “shelved” or obsolete by the time it was completed.)	3	11	34	31	7

Success Factors					
	0 (never)	1 (some of the time)	2 (most of the time)	3 (all of the time)	Don't know
Management was supportive of the project from the outset.	2	11	27	42	4
There was adequate staffing for the project in terms of number of staff and skill sets of staff involved with the project.	7	34	30	13	2
There was a project plan that detailed goals, timelines, budget and staff.	13	25	18	28	2
Management was involved in the project (e.g., attended some meetings, received status updates, etc.)	4	23	27	30	2
There was a clearly defined mission for the project.	6	17	22	37	4
The project was monitored to ensure plan targets were being met.	3	23	19	37	4
Communication channels were clearly established for the project.	12	25	26	20	3

In addition to finding out if factors that lead to success are present in library projects, the author sought to discover librarians' perceptions of the importance of these factors. Respondents were presented with a list of success factors to be rated as "not important", "somewhat important", "important" or "very important". "Consistent project management systems, forms and processes in place for entire library", "a project plan that details the goals, timelines, budget and staff responsibilities" and "a charter that states the objectives of the project and lists in-scope and out of scope activities" were rated as "important" by the majority of respondents, but not in overwhelming numbers: each factor received less than 50% in the "important" category. Again, this result could be an indicator that librarians do not perceive high value in formal standards and approaches for library projects.

Interestingly, over half of respondents (62%) rated "a list of potential project risks and documented steps for how to mitigate those risks" as "important" or "somewhat important," contrasting with earlier responses that activities having to do with risk documentation or mitigation tended to be "never" done (see Tables 1 and 2 where responses indicate that risk activities and risk tools are not engaged). This could indicate that, while library staff perceive that it is important to do risk management, there isn't time or the project's size doesn't warrant it. Factors that received over 50% for "very important" were "a clearly defined mission for the project", "management support for the project", and "identification of a project lead or project manager".

"Tracking throughout the project to ensure the plan targets are being met" received 84.8% of responses for "important" and "very important" combined, which is interesting,

as again, tracking progress is a monitoring and controlling activity, and monitoring and controlling activities did not receive consistent responses to indicate this is done "all of the time" in earlier questions (see Table 1). Again, this could be a case where the activity is deemed to be important but there is no time or expertise, or the project size does not warrant it being completed.

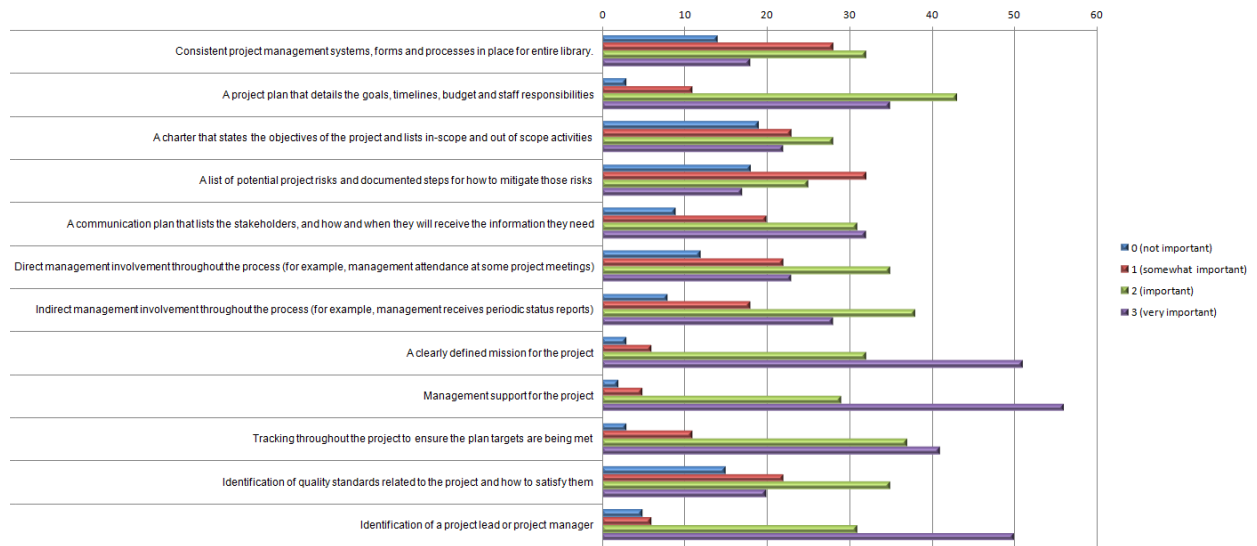


Figure 4: Importance of Success Factors to Librarians Surveyed. (Question posed: "In your opinion, how important are the following for the success of projects undertaken at your library?" There were 92 responses to this question.)

PM Maturity

To obtain an overall view of the PM practice in libraries, the author used the Project Management Maturity Model which defines five levels of PM maturity in organizations and is a way of measuring the performance of an organization when managing its projects (Kwak and Ibbs 40; Sawaya and Trapanese 45; Vandersluis 13). The five levels start with Level 1, "Ad-Hoc", where no established PM practices, processes or standards are used and staff are free to use their own methods for managing projects, to Level 5 where PM practices, processes and/or standards are adopted across the entire organization, and project performance *as well as* the management of projects are continuously measured against established metrics (see Table 4 below for a description of all levels). It is important to note that the model doesn't assume that the higher you are on the scale the better you are at managing projects. It is merely an indicator of the level of standards and processes that are used in an organization and so easily gives a snapshot. Vandersluis states that "...you can make a case for any one of these levels being appropriate for a particular organization...in some organizations, the difficulty in implementing the culture change required to do EPM [enterprise project management] outweighs its potential benefits" (13). The majority of respondents choose Level 1 or "Ad-Hoc" (43.5%) with 22.8% choosing Level 2, in which PM practices are used for high visibility projects and 20.7% choosing Level 3 in which there are consistent library-wide PM practices used for *most* projects, with management buy-in. This result is not

surprising given the responses to previous questions in which the more formalized activities did not receive responses which would indicate they are completed frequently.

Respondents were asked if they strongly disagree, disagree, agree, or strongly agree with statements about how projects are managed at their library. Most agreed with the statement "I clearly understand the project management systems (e.g., forms, processes, manuals, templates, documentation, tools, etc.) I am to use when initiating projects at my library" (40.2%), which is interesting considering that most respondents selected "Ad-Hoc" when asked what term best describes the approach used to manage projects. These responses could indicate that where there is no formal approach to managing projects many individuals have a system that they themselves use when managing projects. For the question "there is management buy-in for the use of consistent library-wide project management systems (e.g., forms, processes, manuals, templates, documentation, tools, etc.) at my library", there was a split in the responses: the majority agreed with the statement (30.4%), but 21.7% disagreed, indicating that this is not the case across the surveyed libraries.

Table 4: Project Management Maturity Model

Levels of Project Management Maturity (as described in Kwak; Sawaya and Trapanese; Vandersluis)
Ad-Hoc (Level 1): no established project management practices, processes or standards – staff are free to use their own methods for managing projects.
Level 2: there are project management practices, processes and/or standards but only for large, high-visibility projects.
Level 3: there are consistent library-wide project management practices, processes and/or standards that are used for most projects, with management buy-in.
Level 4: project management practices, processes and/or standards are adopted across the entire organization, and project performance is measured against established metrics.
Level 5: project management practices, processes and/or standards are adopted across the entire organization, and project performance as well as the management of projects are continuously measured against established metrics.

How would you characterize the approach used to manage projects at your library?

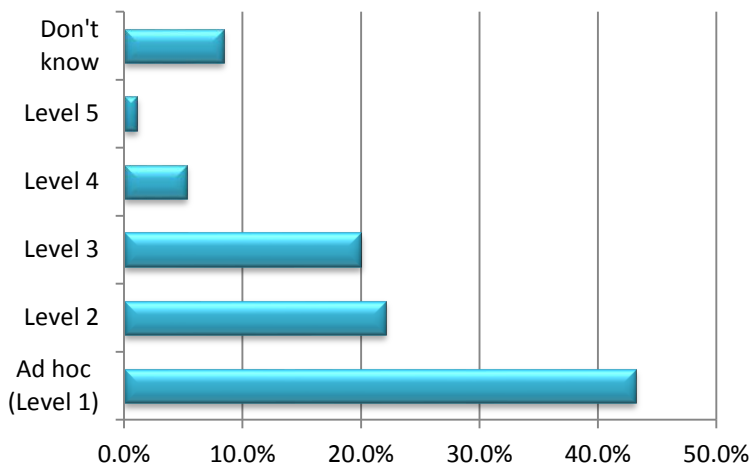


Figure 5: Responses to Question “How would you characterize the approach to managing projects at your library?” (There were 95 responses to this question.)

PM Training

Respondents were asked to select as many answers as applied regarding PM training received from a range of reading books and articles to in-house training with one's employer to formal coursework. Most respondents indicated that they had read books (42 of 92) and articles (47), attended a seminar, conference presentation or webinar (37), or read websites and blogs (34). Twenty-two responded that they had received no training. It is illuminating that there has been very little training provided to respondents given that out of the 151 respondents to the question regarding how many projects they had been involved with in the past year, 92% answered that they had been involved with at least one project, with 33.1% involved in 5–10 projects.

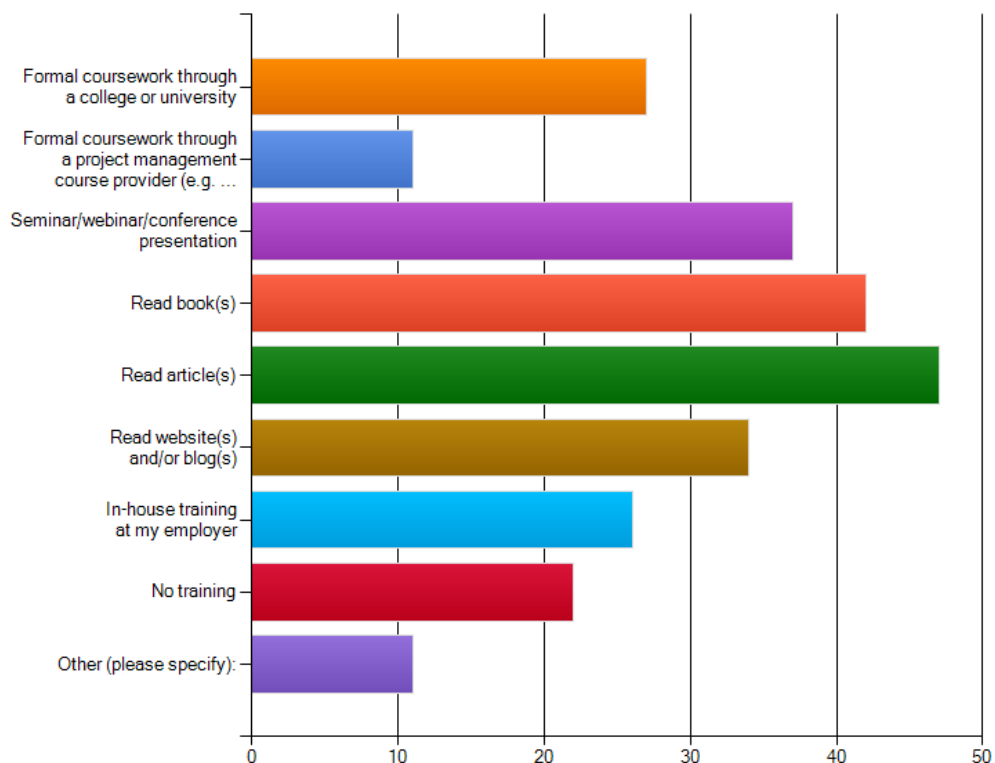


Figure 6: Responses to Question: "Please indicate the training, if any, that you have received in project management." (There were 92 responses to this question, and respondents could choose as many responses as applied.)

Interview Results

PM Maturity

Like the survey respondents, interview subjects were asked to characterize the approach used to manage projects at their library using the Project Management Maturity Model scale (see Table 4 above for description of this scale). In addition, they were asked why the selected approach was used as opposed to other approaches, and if the selected approach was helping or hindering projects reaching successful outcomes. This was asked in order to get a broad, general picture of how projects are managed in these libraries, including opinions and feelings about the chosen approach and its usefulness. Three out of the four subjects interviewed indicated that there was little time to implement a PM infrastructure or common approach to undertaking projects or that management was stretched too thin to implement a common approach; one of the subjects said that she had heard this saying at a conference and thought it summed up the general feeling at her library well: "we are building the bridge as we are crossing it." One out of the four indicated that a PM infrastructure had been implemented and that "you need to have a certain level of PM infrastructure in place... Unless you have a PM infrastructure you'll never systematically finish very many things, you'll just drift; the

projects will just roll from year to year", but she qualified this with saying that you need to use the correct level of project management tool for the project; in essence, "you shouldn't use a big hammer for a tiny nail." A summary of the levels of PM maturity, why PM was or was not implemented, and whether PM helps or hinders achieving successful project outcomes follows in Table 5.

Table 5: How Would You Characterize the Approach to Managing Projects at Your Library [Given the Project Management Maturity Scale]. Why Do You Use This Approach, and Does This Approach Help or Hinder Projects Reaching a Successful Outcome.

Libraries & Levels	College Library - Level 1	University Library - between Levels 1 and 2	University Library - Level 3	Public Library - Levels 1, 2 or 3, depending on project
<p>Questions regarding Levels</p> <p>Why was this approach chosen at your library?</p>	<ul style="list-style-type: none"> - Too many projects – too busy doing projects to implement infrastructure. - Not staff members' strength to conduct PM 	<ul style="list-style-type: none"> - No management buy-in, management is too stretched to implement a PM, but we are working on changing this. 	<ul style="list-style-type: none"> - You have to apply the right level of tool to the project depending on the size of the project – "can't use a big hammer for a tiny nail." - Need to have a certain level of PM infrastructure in place, otherwise projects will drift and not be completed. 	<ul style="list-style-type: none"> - Approach chosen depends on budget, time, scope and people involved. - Many times there isn't time to use an approach - we are "building the bridge as we are crossing it."
<p>In your opinion, does this approach help or hinder projects reaching a successful outcome at your library?</p>	<ul style="list-style-type: none"> - Helps because everyone uses an approach that works for them. - A downside is that from management's point-of-view, we do not have any metrics for projects. 	<ul style="list-style-type: none"> - Hinders - there is no "one place to look" for those affected by the project to find project documents, projects are "out of sight, out of mind." - There is no one responsible for oversight of all projects and so no tracking or measurement. 	<ul style="list-style-type: none"> - Helps - the approach is built into our infrastructure so we can monitor, keep projects on track and measure progress. 	<ul style="list-style-type: none"> - The approach selected can help or hinder, depending on approach chosen and project.

The subjects were asked about their thoughts about rigorous versus flexible PM approaches with regard to what is needed or appropriate for libraries to complete projects. One response echoed a response to the earlier question about why a particular approach was chosen; in essence, it is a question of scope or fit; you do not need a lot of infrastructure for low level or departmental projects – but for high level projects, you do need it. Another interesting response was that it depends on how you define "rigorous", but regardless of that, the approach needs to be tied into personal performance, team performance, and results: results meaning the increasing demand of the parent institution to understand the value that the library creates for the institution. Another subject indicated that rigour is needed "especially for IT projects – otherwise it's hard to get buy-in or control the whole process." Another offered that rigour might be

useful to give the library more credibility or a way to showcase its strengths, but on the other hand, it might end up decreasing project success because the approach is too inflexible and doesn't allow the library to just "get 'er done."

PM Best Practices

The subjects offered many great ideas around best practices that could perhaps be adapted for use at other libraries. All indicated that good communication is a key best practice for project success. They each discussed ways to achieve good communication on a project. Some of these ideas were to host a professional development day or "fair" at which staff can inform others of their projects, present their projects using "thunder talks" or receive feedback by setting up booths in an exhibit-style arrangement; use a central online system to store and share project information, such as LibGuides, SharePoint or BaseCamp; and set up a "project clearinghouse" so that managers can see where resources are deployed and what projects are ongoing.

Basic activities such as sending out a weekly email update about the project, or listing (and reviewing) all action items at the top of weekly meeting agendas so that team members are reminded of tasks, were mentioned as working especially well and yet not often done. One subject listed four reasons why a weekly email report works well: 1) it improves accountability, 2) it helps the person sending the update (the sender) to keep on track, 3) it gives the sender an opportunity to receive feedback from others, and 4) it helps the sender get a sense of achievement along the way. Meanwhile, listing the action items at the top of each meeting agenda reminds team members of tasks to be completed and if tasks are not completed, the action item stays on the agenda until it is completed, offering a standard and consistent approach to ensure task completion.

Ensuring "training" and "pilots" are part of all projects was also mentioned as a best practice, with one subject noting that often a project is implemented which causes change, and if staff are not trained on how to use the new product of the project, anxiety could result. Training helps to alleviate this anxiety. Meanwhile, pilots offer a way of fixing the bugs before the final product is implemented.

One subject described a very robust PM infrastructure in which the Balanced Scorecard⁴ (BSC) approach is used. The BSC identifies the strategic objectives, the measures used to determine success, and the strategic initiatives that are linked to those measures. Then for each strategic initiative, there is a project statement. For all of the high level project statements, there is the expectation that the project lead will go through the PM process and create the project charter, objectives, milestones, detail who the team members are, etc. Writing down the key project information such as goals, objectives and milestones and checking in on those plans was highlighted as a best practice integral to this system. This subject quoted respected PM trainer Pat Wagner by saying "if you haven't written it down, you don't have a plan." Meanwhile, checking in or monitoring is another best practice that ensures that what is written down is being executed. In addition, the status is reported to the leadership team so that feedback can be provided and all stakeholders are aware of the project status. This

subject noted that providing not only “an opportunity for an update but an infrastructure that forces the update” is pivotal.

Table 6: Summary of Best Practices

Type of Best Practice	Best Practice
Communication	<ul style="list-style-type: none"> - A day dedicated to staff development or “fair” at which staff can showcase their projects; - Common repository or online space where project documents can be stored, tracked and shared; - Project clearinghouse for resource management; - Weekly or periodic updates (via email or some other means) on the project to all project stakeholders; - An infrastructure that forces project updates from project leads to management; - Training phase to ensure all staff learn how to use product emanating from the project.
Task Management	<ul style="list-style-type: none"> - Action items at the top of every agenda and a review of them at the beginning of each project meeting; - A plan that is not only spoken but written down; - Monitoring of the work of the plan (including building in infrastructure that forces monitoring and updates); - Pilot or prototype phase – roll out product to small test group first to identify problems or issues.

PM Challenges

The subjects were also asked about the challenges encountered when managing projects at their library. As people perform projects, it was not surprising that many of the challenges mentioned had to do with human behaviour. One common challenge mentioned was getting staff to understand how to do project-based work and how it differs from operational work. One participant noted “I really don't think there's a full grasp of the benefits of dealing with our workflows in a project mindset and all of the elements of project management that come into play. The whole setting priorities, meeting milestones, communicating...” Another theme that emerged was that challenges are infrastructure- or system-related: that is, challenges arise because of the way operations are performed at the organization. Table 7 summarizes the challenges mentioned.

Table 7: Summary of Challenges

Type of Challenge	Challenge
Staff behavior-related	<ul style="list-style-type: none"> - Resistance on the part of project team members to either participate in the project or learn new things as required by the project; - Too many people want to lead the project and they do not allow the project manager to lead; - Staff have a hard time understanding why their operational work is not reflected in the library's strategic plan; - Staff are unaware of the nature of project-based work and the need for milestones and communication; - Staff turnover, that is, when a staff member leaves, the project is left in limbo due to a lack of project documentation; - Staff follow-through on projects, or getting staff to commit to finishing projects.
Infrastructure-related	<ul style="list-style-type: none"> - Not having a standard approach or centralized system for PM with management buy-in for the system; - Not having a common PM system across the entire organization (i.e., host organization, e.g. university or college) that would make it easier to promote or implement that system; - Many locations/branches/campuses – makes it difficult to include staff at a distance from the central location; - Too many projects running at the same time and not enough resources to able to complete them all on time; - No central PM clearinghouse so that management can see what staff are working on; - Assessment for projects is not fully implemented (but is beginning to be implemented now.)

Do Librarians Need PM Skills?

The subjects were asked if they thought librarians needed PM skills or if they thought they weren't necessary. All agreed that librarians need PM skills. The following reasons were provided: 1) libraries undertake a lot of projects, and in fact, most library strategic plans are predominately composed of projects, and so it makes it easier to undertake the projects if librarians have these skills; 2) most libraries are becoming flatter organizations, and without a hierarchy, management through projects becomes more important, and 3) it is more cost-effective if projects are managed efficiently – staff costs can be hidden, and if staff need to spend more time on a project because they do not know how to manage it well, it can add to the cost of the project. Two subjects noted that there is currently a gap in the PM skill set of librarians and that training and awareness are needed. It was also noted that PM is one of the competencies listed in the publication *Core Competencies for 21st Century CARL Librarians*, written by the Canadian Association of Research Libraries (7). Finally, one subject made the good point that, whether or not librarians have PM skills, it is up to the management of the organization to implement the infrastructure to support PM: "an individual frontline librarian can recommend a process, but at the end of the day it comes down to the leadership of the organization to adopt it as part of their culture and to implement the infrastructure."

Success Criteria and Success Factors

The interview subjects were asked to describe the success criteria they would use to determine if a project was successful or not. All subjects mentioned meeting scope or original requirements, in some form or another, as criteria for success. Others mentioned team members feeling happy or proud of their accomplishments and team members learning from the experience as success criteria. Another subject noted that if you can see the positive effect of the project or if the product resulting from the project does what it is supposed to do, even long after the project is over, success has been achieved. Two subjects mentioned the importance of evaluating the project at the end in order to determine if success was reached, and implementing metrics, even metrics that aren't perfect, in order to gauge the project outcome.

Management support for and involvement in the project, adequate staffing for the project, a project plan that details goals, timelines, budget and staff, a clearly defined mission for the project, project monitoring to ensure plan targets are being met, and clear communication channels are all highlighted as being the factors that lead to a successful project outcome in studies of PM practice. While the studies that have reported these findings examined the private sector, participants in this study mentioned similar factors: monitoring progress, communication of progress to all involved, clear goals that are measurable and defined at the beginning of the project, and a good leader and team for the project (adequate staffing). Other factors mentioned were a team that is satisfied with the work and learning something new from the project, proper sharing of credit for the success of the project (i.e., management not taking all of the credit for successes), and an infrastructure that supports PM processes and systems. Another success factor mentioned was the ability of the team to articulate the value of the project and for administration to understand the value, or why the project is being implemented. Indeed, good communication was highlighted as a success factor by all participants. Subjects stressed that PM is both "an art and a science"; it is more than monitoring deadlines and directing staff, it is also about "communicating well with, and influencing, others."

One caveat was mentioned – that the project lead not become overly involved with PM software at the expense of other project tasks: "people become enamoured with project management software and they forget about the project... they can't see the forest for the trees."

Table 8: Success Criteria and Success Factors

Success Criteria	Success Factors
- Meeting scope/requirements;	- Progress is monitored;
- Team feels happy/proud of accomplishments;	- Progress is communicated to all involved;
- Team has learned from experience;	- Clear goals set at project outset;
- End result/product meets requirements.	- Project has good leader and team;
	- Team is learning from project;
	- Credit for successes is shared among project team;
	- PM infrastructure in place to support project;
	- Good communication.

Conclusion

The limited library literature that addresses PM in libraries highlights the successful application of formal PM methodologies in library projects and the importance of adopting a formal approach in our current environment of rapid technological change, declining financial support, and rising operational complexity. The results of the survey and interviews described here show that the respondents have not overwhelmingly embraced a formal approach to PM. Instead, approaches tend to be informal or ad hoc with only a few libraries employing mature strategies with formal approaches such as consistent use of templates and forms and a PM infrastructure that supports monitoring and controlling throughout the project life cycle. The survey and interview results largely indicate that where project planning does occur it happens on an informal basis; for example, communication channels might be established, but a communication plan is not documented, and while a project might be monitored in some fashion, regular status reports are not distributed.

Much of the literature about the successful application of formal PM methodologies is about experiences with large projects at large university or college libraries in the United States or the United Kingdom. Little is written about PM methodologies used at smaller libraries or the appropriate PM tools to use for small library projects. This study attempts to uncover what is happening in all types of libraries, not just large academic institutions, and is therefore an important first step in beginning the discussion of this topic.

Some strategies to ensure validity in the survey were used. For example, questions about a single topic were asked in different ways in order to see if the respondents answered in the same way (and they did). Also, respondents were asked what library they were from in order to ensure that a single library was not over-represented in the results. There were some limitations to the research strategy employed as noted in the Methodology section, above. While the results are not representative of all libraries in Ontario, the study represents in broad strokes how libraries are managing their projects, librarians' perceptions of PM, and serves as an exploratory jumping off point to further research.

As many projects in libraries are small (short duration with few team members), one area of future research may be the appropriate use of PM for smaller projects. Indeed, the "fit" of the PM approach to both the organization (in terms of size, strategic focus, and culture) and the project (in terms of size, budget, schedule, etc.) is a topic widely discussed in the PM literature (Besner and Hobbs 46; Cooke-Davies, Crawford, and Lechler 111, 120-121; Hurt and Thomas 57; Thomas and Mullaly, "Understanding the Value" 78) with many researchers concluding that the approach should fit the organization and the project. Besner and Hobbs state that the PM field "should focus its efforts on developing a new set of project management tools and techniques, one that

focuses on small and internal projects" (46). Perhaps this is a topic for librarian researchers to explore also.

The library literature does not address failures with using PM methodologies; only successes are represented. Research on what doesn't work as well as what works for small libraries is another area for future research.

Moreover, this study was wide-ranging and attempted to cover many aspects of PM in libraries; future research might focus on a particular aspect of PM in libraries: for example, best practices for monitoring and controlling project work. While the survey attempted to divide respondents by type of library, there were not enough respondents from each type to make a comparison of the results meaningful; a comparison of the PM approaches across library sectors might be another area of future research. This research could be helpful in order to determine if there are trends within sectors and best practices that could be shared within a particular sector.

Libraries are faced with declining budgets, competition from other information sources, an increasingly complex technological environment, and an intensifying need to prove their value to stakeholders. As well, many libraries are using a project-based workflow to accomplish the goals and objectives of their strategic plans. A PM approach that attempts to ensure that projects are completed on time, on budget, within scope and with quality assured is one way to demonstrate to stakeholders that we are committed to increasing the value and relevance of our organizations.

Notes

¹ The 2002 Olympic Winter Games and the Mars Pathfinder mission are two projects that won the PMI Project of the Year Award, as listed on the PMI website: <http://www.pmi.org/About-Us/Our-Professional-Awards/PMI-Professional-Awards-History.aspx>.

² The Project Management Institute is an organization that creates project management standards and credentials for the project management profession and is described on [their website](#) as "the world's leading not-for-profit membership association for the project management profession with more than half a million members and credential holders in more than 185 countries."

³ The Project Management Body of Knowledge (PMBOK[®]) is the project management standard, authored by the Project Management Institute (PMI). It is described on the [PMI website](#) as the "pre-eminent global standard for project management... represent[ing] generally recognized good practices in the profession while reflecting project management's continually evolving knowledge."

⁴ The Balanced Scorecard is a performance measurement strategy that involves four processes: "1) clarifying and translating the vision; 2) communicating and linking; 3) business planning and setting targets; and 4) strategic feedback and learning" (Deem et al. 31).

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