

# Project management in higher education: a grounded theory case study

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## Abstract

**Purpose** – This paper analyzes project and portfolio management within a major research library, while it was undergoing a complete physical renovation and reinvention of programs and services. This is a complex, almost 100-million-dollar undertaking that implemented a project management (PM) methodology known as portfolio management. The purpose of this paper is to analyze the implementation and management of this process and provide a brief overview on project and portfolio management as a discipline. Additionally, it provides strengths and weaknesses as well as recommendations when implementing PM.

**Design/methodology/approach** – The analysis uses a qualitative research methodology case study with a theoretical foundation of inductive grounded theory. The case study is based primarily on seven interviews of project managers who are involved with the project. It also uses document analysis to assist in triangulating the findings and provide a contextual overview of a complex process. A number of themes emerged into overall categories and findings.

**Findings** – The key takeaways were the perceived strengths and weaknesses of the process. The strengths were improved communication and transparency, improved organization and documentation and formal decision-making process and resource allocation. The weaknesses were the hammer and the nail problem, the tools and paperwork, rigidity and the lack of agility within the process. This study also describes the process in detail and gives recommendations for improving the methods implemented in similar circumstances.

**Originality/value** – This paper analyzes strategic management concepts from an empirical grounded theory approach and real-world perspective with key recommendations.

**Keywords** Academic libraries, Project and portfolio management, Grounded theory case study

**Paper type** Research paper

## Introduction

A major research library, which will be identified only as “The Library” within this manuscript because of confidentially issues with the participants involved, is undergoing an almost 100-million-dollar reinvention of their physical space, virtual experience and services. The vast majority of the physical collection has been transferred to state-of-the-art offsite storage facilities. The main library itself is being completely gutted and renovated with a focus on collaborative space, contemplative space, instructional space and a virtual experience that reflects this rethinking of a research library. As can be expected, this is a complex multi-dimensional project with many moving components. The scope of the physical infrastructure change is massive and the services are changing along with the physical renovations. These changes include a renewed focus on a customer service as it pertains to the public service experience, cutting edge technology, instructional services and space, makerspaces, data visualization labs and fulfilling access needs as quickly as possible. With a budget this large, and a tight timeline to design and implement the new library and services, there needed to be a rethinking of how to execute this vision. Because of this complexity, The Library has adopted the business practice of project management (PM) to administer the intricacies of the reinvention of The Library.

Business workflows and processes have become continually more common in higher education (Winston and Hoffman, 2005; Stoffle and Cuillier, 2011; Vinopal, 2012).



Mostly, this diffusion from business is an attempt to apply organizational effectiveness methods to improve efficiency in higher education and to manage the complexity of a technology-rich work environment (Vinopal, 2012). These approaches differ depending upon the needed outcome of the organizations. Within The Library, they adopted project and portfolio management as a business practice to plan and implement the project. This specific process was chosen to implement the library project because it was the process used by the campus Strategic Consulting firm and the need for a unified process because of the complexity of the undertaking. This was the perfect environment for an analysis of PM in higher education.

The objectives of this study were theoretical and applied. The first aim of the study was an attempt to understand the perceived effectiveness of project and portfolio management in a major research library, while undertaking a major reinvention of the spaces and services. The second aim of the project was to be aware of the strengths and weaknesses of the process. And finally, the third aim was to produce recommendations based off of this analysis.

The study is explored in the following order. The first section is a detailed contextual overview of project, program and portfolio management. This is a necessity to understand the complexities of the implementation of the business practice being studied and a foundational knowledge to comprehend the data emerging from the interview participants. This includes an overview of the portfolio management process. Additionally, a literature review analyzing relevant empirical library literature is incorporated. In the second section an overview on the theoretical basis of the research is discussed, which takes an inductive grounded theory approach. The third section discusses a detailed overview of the case study methodology, data collection and data analysis. In the fourth section a detailed investigation into the case narratives and themes that emerged from the research is discussed. These are the strengths and weaknesses, and recommendations for potential improvements. The final section concludes the analysis with a discussion on the findings and its implications for similar projects, and final recommendations to follow.

### **Project, program and portfolio management**

PM developed out of the detailed process-driven concept of scientific management (Taylor, 1911). Scientific management is a highly structured approach to the manufacturing processes (Taylor, 1911). Much like scientific management, PM grew out of these manufacturing processes (Winston and Hoffman, 2005). While scientific management approached production and output through a mathematical and analytical method to supervise ongoing daily operations, PM applied rigorous process-driven methods to operate major projects that have a definite start and end date (Horwath, 2012). At its most basic, “project management involves the application of principles of planning, project design, resource allocation and tracking, and evaluation to discrete projects that are a part of the overall work of organizations” (Winston and Hoffman, 2005).

In more detail, PM needs to be itemized into what constitutes a project and what constitutes proper management of a project. First, the PMI (2018) defines a project as a temporary endeavor that has both a defined beginning and end. This demarcation leads to defined resources and scope. Second, a project is unique. A project is not business as usual or daily operations (PMI, 2018). A project is created to obtain a singular goal which can bring together multiple different operating procedures and human capital to obtain that goal outside of the customary chain of command (PMI, 2018). So a project is a temporary endeavor that is unique with defined scopes and resources. Schwalbe (2015) defines this further, “Operations, on the other hand, is work done in organizations to sustain the business. Projects are different from operations in that they end when their objectives have been reached or the project has been terminated” (p. 8). A couple of examples of this are when a couple hires a firm to design or build a house, or when a college campus updates its infrastructure to improve information technology (IT) capabilities. To run a project

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successfully, there needs to be a process to manage it (Schwalbe, 2015). Managing a project, “then, is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements” (PMI, 2018). PM is broken down into five distinct groups:

- (1) Initiating
- (2) Planning
- (3) Executing
- (4) Monitoring and controlling
- (5) Closing (PMI, 2018)

This five-step process is an iterative adaptive model to control and standardize PM within an organization. What makes PM unique is the concern with standardization, communication and the defined scope, role and resource allocation within a temporary and unique project. PM as a discipline, with its roots in scientific management, has developed into its own profession and has application across industry, including the US Navy, Horizon Blue Cross Blue Shield, Boeing, Google and more (Winston and Hoffman, 2005). While PM has a defined process, it is also known for its agility and adaptability, and that is one reason it has been applied across industry, and this is especially true in IT.

In IT, companies have been applying PM principles in the implementation of new hardware, software and the launch of new products (Winston and Hoffman, 2005; Kinkus, 2007). The agility and adaptability, while keeping the project within scope and budget, is attractive to IT because of the fast moving and unpredictable nature of IT progress. Additionally, it helps keep all the specialists communicating on issues and potential problems that need to be addressed (Horwath, 2012). As the growth in IT has progressed so has the need for PM. And this is directly related to the infrastructure in academic libraries because of the reliance on IT. Thus, different command and control methodologies have been implemented. There are many different PM methods that are applied in these settings. Presently, agile PM is common and widely held as effective in environments with technical components.

Agile PM follows a similar framework described previously but focuses on short sprints, adaptive planning and iterative continuous planning (Highsmith, 2005). This has been used effectively to complete project deliverables in an uncertain environment and engage with stakeholders. However, it is not the only methodology to do so. Another methodology is program and portfolio management.

Portfolio management is another methodology commonly used in large projects with multiple related projects associated. This starts at what is known as the program level of management. A program is a “group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually” (Schwalbe, 2015, p. 14). In this methodology there is an overall program manager who provides leadership, while communicating and managing the workflows, dependencies and resource allocation, among all the projects that make up this specific portfolio.

A portfolio “is a collection of projects and programs that are grouped together to facilitate effective management to meet strategic business objectives” (Schwalbe, 2015, p. 19). Essentially, portfolio management incorporates the individual projects that make up specific related programs, and the multiple programs that incorporate an overall strategic direction of an organization. This is applicable to large organizations that have to make strategic decisions on specific processes. Schwalbe (2015) explains this strategic framework, “Organizations group projects into portfolios to help them make better investment decisions, such as increasing, decreasing, discontinuing, or changing specific projects or programs based on their financial performance, risks, resource utilization, and similar factors that affect business value” (p. 20).

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Fundamentally, this entire method is a simple hierarchal grouping moving from the tactical to the strategic on the spectrum of specific projects, programs and ultimately the portfolio. However, this is all part of PM that essentially is applied to manage a temporary development with a defined beginning and end (PML, 2018). While this is in widespread use in private industry it is less common in academic libraries. The following section breaks down the relevant library literature on project and portfolio management.

### Library literature review

Traditionally, PM in libraries has been used in relation to organization-wide or departmental-specific programs, services, IT infrastructure, facilities improvements and construction (Winston and Hoffman, 2005). Mainly this has been used for IT service implementation and user service design. Additionally, it is also helpful for managing multiple problems at once (Winston and Hoffman, 2005; Smith, 2003). However, services are rarely this siloed in modern academic libraries and IT has been infused within every department and service. This has led to a need for a formal planning and implementing processes that cut across traditional departments, which has become more common in libraries (Burich *et al.*, 2006).

In addition to the changing complex nature of library work, there is a need for resource optimization and accountability as well as an increase in efficiency. In academic libraries most of the literature has focused on this by emphasizing overall PM skills, tools and methods, with application from a specific case (Burich *et al.*, 2006; Marill and Leshner, 2006; Massis, 2010; Revels, 2010; Horwath, 2012; Searcy, 2018). In addition to the skills, tools and methods, there is a smaller amount of empirical studies on the human capital side of PM in academic libraries, specifically, a focus on change management (Fraser-Arnott, 2018). In addition to the holistic analysis and proposals of PM, there have been at multiple successful cases of portfolio management processes implemented at academic research libraries (Vinopal, 2012; Stoffle and Cuillier, 2011; Portfolio Management Group, 2009). One of these cases is at the University of Arizona Libraries, “Of the 30 monitored by PMG, 27, or 90%, have been completed successfully. Of the five library-wide projects begun in 2009–2010, four (80%) were finished within one week or less of the projected completion date” (Feeney and Sult, 2011, p. 751). While these are similar projects to the analysis under study they are not identical and the methodologies and goals of the research are much different. However, they illustrate a similar PM process.

As is evident by the literature, PM and portfolio management is not new to academic libraries. However, with the implementation of project and portfolio management as a discipline within a library, the measure of success can be ambiguous because the counterfactual is unknown and the stakeholders are various. Because of this there has been very little empirical research in academic libraries and portfolio management outside of program evaluation data on the completion statistics of projects within a case study. Additionally, the majority of the empirical literature focusing on librarians’ attitudes and perceptions of PM are on the concept of PM and the need for formal training, not a grounded theory case study (Sullo, 2017; Serrano and Arquero, 2018).

However, there is a single study that uses a mix methods case study to analyze a renovation project in an academic library (Kachoka and Hoskins, 2017). This analyzes the use of Project Management Body of Knowledge to manage the University of Malawi Chancellor College Library renovation. There are similarities between this project of The Library and the University of Malawi Chancellor College Library renovation. However, because of the differences in the PM process being studied, the methodology and the overall application of this process, results of this study are a seemingly unique theoretical direction of PM and academic libraries, and a companion piece (Kachoka and Hoskins, 2017). The next section will be a brief introduction to the specialized portfolio management process that was implemented at The Library.

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### The portfolio management process

Whereas the previous section described the discipline and the related empirical literature of project and portfolio management, this section draws on the data analyzed, including document analysis and interview data, to provide an overview on the process. It is imperative to have a contextual understanding of the process before progressing onto the analysis.

Portfolio management within The Library is a PM methodology implemented by a consultant from campus strategic consulting as the overall program manager. This implementation is an attempt to organize and make the project more efficient and effective.

Within The Library, this methodology follows a formulaic process with a focus on projects being delivered in scope, on time and within budget. The goal of portfolio management is to make the library work as efficient as possible and to make effective decisions with resource allocation. This process has included rewriting job descriptions and moving to a more matrix style organization – which is an organizational structure, with “usually two chains of command, one along functional lines and the other along project, product, or client lines” (Stuckenbruck, 1979). The traditional department structure has merged with portfolio management process. This new portfolio management process, which has partially replaced the hierarchal department level process, follows a tightly coupled method that is detailed at great length below by Participant 1, a project manager from The Library:

Okay, it starts with a charter, you have to outline what the project will be. The project manager is in charge of writing the charter, so you have to write out the deliverables, the timeline, and how it aligns with the overall vision of the library. Then you have to present that to admin. They will either approve or approve with some modifications. When it's approved you get your team together. When you get your team together there are a number of special, specialized documentation that you have to fill out to guide your thoughts throughout the project.

Crucially, in the library since so many things interact with technology there has to be a technological component. If there is any sort of technology that is needed by a project that is determined throughout this whole process. Then that technology need goes to the technology folks here at the library to start a second project to fill any technology needs that the first project has. The end results is when you have completed your deliverables and your timeline is over, you, present whatever it is you have delivered or created, or proposed at a tollgate meeting to library administration. They either approve and you move forward or they don't approve, or they approve with modifications.

As detailed above, the portfolio management system follows a step-by-step process with many different phases. Participant 1 concisely illustrated an overview of portfolio management, but even with that detailed description, there is ambiguity on how the process works, so I have coalesced the process from external documentation, documentation shared with me and interview data from Participant 1, Participant 2, Participant 4, Participant 6 and Participant 7 into the following step-by-step process:

- (1) Strategize
- (2) Plan
- (3) Execute
- (4) Monitor/control
- (5) Review/learn/control

Each step of this process represents a different phase of the portfolio management. And, each of these five phases has multiple required processes, reports and steps. This includes all the required documentation for each step of a project, i.e., Charter, Stakeholder analysis, CTQ (Critical-to-Quality Tree) and CEM (Customer Experience Matrix), Use Cases and Service Management Plans, Status Reports, SIPOC (Suppliers, Inputs, Process, Output, Customers), Project Plan, Risk and Issues Logs, Resource Logs, Monitor and Response Plan

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and the Communication Plan. When a phase is complete, the required documentation and reports are incorporated into the next phase of the project. Once the project completes all five phases, the project is finished, and then is assessed for potential improvements. This is a meticulous process that ideally controls for all potential variables and keeps open communication to all the stakeholders involved. It also follows the five-step process recommended by the Project Management Institute (PMI).

Nevertheless, at its most basic, portfolio management is a process that is used to align projects and resources to match the budget, scope and schedule of a project (PMI, 2018). It requires a project manager to create a business case, get approval for the business case, craft a portfolio of documentation to support their business case, assess this business case and present this business case to library leadership at a tollgate presentation for approval, and to tie the project into the overall budget. Yet, it is also a detailed process and a new paradigm of service and workflows for the Library. Because of the innovative paradigm and complexities of the project and processes, it was imperative to analyze this project from a holistic and data-driven viewpoint. This was done through grounded theory.

### **Theoretical foundations: grounded theory**

Grounded theory introduced by Glaser and Strauss (1967) is an inductive research methodology that is based on constant comparative analysis that begins with the data and ends with the building of theory through the analysis of that data. Much like other types of qualitative research and analysis, the researcher is the main data collection and research instrument (Merriam and Tisdell, 2016, p. 31; Yin, 2010; Strauss and Corbin, 1990). However, unlike many other qualitative research analysis and methodological stances, grounded theory uses the data to create potential theories and solutions to the primary research questions. The foundation of grounded theory is the data that are grounded in this approach (Merriam and Tisdell, 2016, p. 32).

Grounded theory can be applied in many different applications and approaches, including observations, interviews and document analysis. In grounded theory the data are constantly being analyzed and compared to previous data to triangulate and develop theory and themes (Merriam and Tisdell, 2016). Related data are grouped together in themes as they emerge. And as the themes are developed through constant analysis and comparison and as they continue to evolve, these themes are organized into categories that reflect the data. Next, these themes and categories progress into relationships to each other that reflect the data and the evolving theory and themes (Merriam and Tisdell, 2016, p. 32; Yin, 2010; Strauss and Corbin, 1990). This process demonstrates that grounded theory is the most appropriate tool to use for this specific research project because of its inductive and systematic nature of collecting and analyzing the data (Merriam and Tisdell, 2016, p. 33).

### **Methods**

Given the intentions of this study to analyze the perceived effectiveness of portfolio management within a bounded environment in an academic library, I used a single case study that had implemented this program. The purpose of this analysis was not to generalize the effectiveness of business practices throughout higher education, but to attempt to understand the perception of a specific business practice, portfolio management, within the context of The Library where it has been implemented as standard operating procedure.

The Library was a fitting environment for a case study methodology. A case study is an analysis of a bounded system. Within this context the portfolio management process at The Library is a bounded system (Merriam and Tisdell, 2016; Yin, 2010). Additionally, Merriam and Tisdell (2016) illustrate, "That the single most defining characteristics of case study research lies in the delimiting the object of study: the case" (p. 38). Using that as a reference the case under investigating is The Library and its implementation of portfolio management.

*Action researcher*

Because of my role as a faculty member and project manager within the bounded environment, I utilize the case study method with an action researcher perspective. I take the action researcher approach because of my intimate knowledge and experience within the case; and much like other forms of qualitative research an empirical case study has the researcher as the primary instrument of data collection (Merriam and Tisdell, 2016, p. 37). For that reason, the action researcher approach is appropriate to the environment. It would be inappropriate and unethical to pretend that I was not involved in the environment and the process under analysis. As the primary instrument of data collection and analysis, it is vital that the readers appreciate my role and potential biases. That said, the data collection embedded in an inductive grounded theory framework attempts to minimize any potential biases through a representative interview process and triangulation of other supporting sources.

The data collected from the environment under analysis include public documentation available from The Library's webpage, social media accounts and the library blog. However, the bulk of the data were obtained from seven in-depth interviews with key members of the library and the portfolio management process across all levels of the library. For the sake of privacy, multiple departments with similar missions and responsibilities have been merged together in description of roles. That said, it is a representative sample that reflects the mission, vision and focus of an academic library and the breadth of the institution.

*Interviews*

I conducted seven interviews within the library during the Spring of 2018. I chose a purposeful sampling for the interviews. I did this because the process in question was initially not that popular. And because of this perception, it was vital to choose measured, informed and thoughtful participants who did not have a proverbial axe to grind. To accomplish this, I only interviewed participants who I knew, as an action researcher, were not outliers in regard to personal biases. Additionally, each participant needed to have personally led a project, program and be involved with the portfolio management process. The interviews were all done face-to-face. They followed a flexible, semi-structured protocol of eight questions with multiple potential probes under each question. Many of these probes evolved from previous interviews and my own knowledge on project and portfolio management.

The interviews were roughly 30 min, but ranged from 11 to 43 min. The variation of the interview length was depended on the participant's knowledge, interest and personal energy toward the process. All participants agreed to have their interview audio recorded; however, this was under the declaration of complete confidentiality. Therefore, each participant will be labeled as Participant 1, Participant 2, Participant 3, Participant 4, Participant 5, Participant 6 and Participant 7. When referring to their role or department, it will be under the amalgamation of multiple similar departments.

The analysis of the interviews followed an in-depth inductive thematic coding process that followed grounded theory to determine emerging themes from the primary data. Initially, I went through the interviews in an in-depth thematic analysis through the data. I open coded any section of data that could potentially be relevant to project and portfolio management in higher education. Next, as I went through the data continually, I used the constant comparative analysis technique to create classes of data that represent potential themes running throughout the data (Merriam and Tisdell, 2016).

As I continued to analyze the data, categories emerged, and some evolved into subcategories of other categories. Slowly, through the constant comparative analyses these categories and subcategories emerged into foundational themes that represent the perceived effectiveness of portfolio management in an academic library. While the grounded theory thematic analysis of the primary data is the foundation of the case study, this was not enough to validate the overall emerging themes and enhance their reliability.

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### *Document analysis*

As a result of this need, substantial documents were analyzed. This analysis was broken down into two resources and themes. This was to reflect the environment being studied within the project and the implementation and inspiration of the process itself.

The two categories that the documents were pulled from and analyzed were Strategic Consulting department and The Library. The documents were all externally accessible through the two department websites. The analysis followed a thematic analysis that sorted the documentation into support documentation, themes and overall context information on the logistical processes involved. Largely, the document analysis is used for the triangulation of the data. It is a critical part of the overall research project because it is support documentation for claims made by interview participants and to assist with clarifying confusing processes. Each claim about the portfolio management, processes or tools made by the participants was cross-referenced with documentation. This was done by careful organization and thematic analysis using digital qualitative software, which made the analysis of massive amounts of text manageable. Any observation that was not supported by documentation, unless clearly opinion, was left out of the analysis. In doing this, the triangulation of the primary data is much more credible. Additionally, the documentation will give context to the overall portfolio management process within the environment of study. The documentation from Strategic Consulting was a great addition in creating a streamlined narrative on portfolio management, and it also supported the emerging themes from the primary data. On the whole, documentation was principally used as reference for triangulation of data and as secondary literature.

### **Case narratives**

Emerging from the analysis were dozens of codes and themes. However, after the inductive comparative analysis, there were clear patterns developing within these themes that began the formation of representative categories. These categories are each made up of many different themes that are related to the overarching idea of the category. For the sake of clarity these findings are presented in a policy proposal format. The overall emerging themes will be presented in the following order: strengths; weaknesses; and potential program improvements.

### **Strengths**

As previously explored, project and portfolio management is an effective tool for enabling projects to be delivered in scope, on time and on budget (Schwalbe, 2015). At The Library this is vital because of the many different interacting components of reinvention project – the library restoration project that is budgeted at almost \$100m. Throughout the analysis and interviews there were multiple data points and themes that reflected the effectiveness of project and portfolio management across all participants. These strengths were improved communication and transparency, improved organization and documentation and formal decision-making process and resource allocation. Many of these are related ideas, but they also had distinct elements within, so they were categorized accordingly. These will be explored further below.

### *Improved communication and transparency*

One of the greatest strengths of project and portfolio management is consistent and constant communication and transparency (Feeney and Sult, 2011). In academic libraries there are multiple different departments that often communicate rarely and this can be reflected throughout the library. Additionally, this new method assists in transparency. Participant 5 described this, “And I think that if it’s used correctly, and it’s not applied too liberally, I think it has its place. I think it is effective for managing projects or for keeping notified, which is one of

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the hardest things that a library is the silo-ing of information, I think it opens that up.” This is replicated throughout the interviews and the documents. Referring back to the process map detailed above, there are multiple points of communication within the process, including public presentations of the projects, detailed project plans in Workfront (which is a software tool that everyone in the library has access to), required meetings and report outs and tollgate meetings that approve or deny the project (Participant 7). Participant 4 describes the need for this process, and how it has improved communication in detail:

We did suffer from a lack of communication and I think that communication is improving particularly among those that are called project managers or program managers. They are in a sense in the loop and the number of project managers is increasing and so ideally everyone will have some opportunity to either be part of a project or ideally manage a project.

Communication is a problem in many organizations and this was previously the case at The Library. However, through clear communication channels, transparent processes that are detailed publicly, consistent report out meetings and the diffusion of information outside of traditional departmental hierarchies have led to improved communication within the library. One of the biggest improvements is the biweekly report outs that have improved communication among project managers and this has spread throughout the library (Participant 4).

#### *Improved organization and documentation*

Improved organization and documentation is another strength that reflects the goals of project and portfolio management. Within The Library, the portfolio management process has greatly improved documentation of projects, workflows, communication and the organizational capacity of the library.

As previously described, the process for any project has to go through five distinct phases with many different steps to complete each phase. Within each phase and step, there are multiple documents that must be completed and posted to the organizational intranet. This includes all the required documentation for each step of a project, i.e., Charter, Stakeholder analysis, CTQ and CEM, Use Cases and Service Management Plans, Status Reports, SIPOC, Project Plan, Risk and Issues Logs, Resource Logs, Monitor and Response Plan and the Communication Plan. In this intranet there are easy to access folders for each program, project and phase. Any member of the organization can access the documentation for any other project. All of the documentation is standard across programs and projects, so it is transferable to other applications and understandings.

Additionally, each program and project has a Workfront platform. This is a PM tool that at its most basic is a checklist that keeps tabs on each project. Each program and project manager can simply access another project for reference, or hold the program or project manager accountable (Participant 2). Participant 4 illustrates this strength:

Then virtually every decision can be traced to something on a spread sheet which is important as a public organization it's got to have that paper trail. That has been a cultural shift for our library is intense focus on documentation using standardized mechanisms for inputting information that's different than we had done in the past.

The accountability aspect is vital for a public organization; however, it also has other benefits like standardization (Stoffle and Cuillier, 2011). Now, if a department member leaves the organization, their workflows can be easily accessed and transferred to their replacement, which assists in the improvement of organizational effectiveness (Participant 2).

This is especially important for IT. In the past, the IT staff would get projects dumped in their laps without any standardization or prioritization attached. Because of the nature of an academic library almost every project that is implemented, there is an IT component, so they were often overwhelmed and besieged (Winston and Hoffman, 2005). Now, however, the

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improved documentation has improved consistency for how they approve and accept projects (Participant 6). This point is probably best left to Participant 6 to discuss:

It's good for the IT world at least, because now, we have a common way that we are receiving and evaluating and implementing projects. So, that's been a huge step in the right direction for that. I also like the documentation and the consistency with the deliverables. That's very helpful to us because in – prior to the portfolio process, we had no process really, informal process in place for taking on and accepting projects from other library staff. So, it could be anything from someone stopping you in the elevator and saying, “Hey, I've got this idea to [...] emailing your – emailing the head of IT,” and saying, “oh, let's get together and have a meeting and discuss this with the stakeholders.”

Now there is a process that must be followed, and IT has a standardized process to implement potential projects. And it is not just IT that this has helped improve efficiencies. The entire department now has a coherent way to organize, standardize and access files. Not only that, there is now a transparent organizational model that anyone in the department can access for reference (Participant 5).

#### *A formal decision-making process and resource allocation prioritization*

One of the most vital functions of project and portfolio management is a formal decision-making process that is linked to the overall budget and resource allocation of a department (Schwalbe, 2015; Feeney and Sult, 2011). And much like the aforementioned themes, the decision-making process in The Library for the reinvention project was previously disordered and often had little connection to the resource allocation within the library. Additionally, before portfolio management was implemented, decisions would be made without the executive council of the library being aware that there was a new service or program being implemented. The portfolio management process detailed previously describes this multiple step method where decisions are transparent and communicated out immediately. Participant 4 illustrates this point concisely:

So, we have things called tollgates for example and the chief executive has been on the table along with the associate deans. They are there fully present and that's important to have that certainty that the executive leadership of the organization will be there for these key moments is important and that hasn't always been the case. So, that's a positive.

What Participant 4 is describing is the tollgate process where every project must be approved to move forward. This is done by the library leadership team and they are all present and weigh in on the decision. Furthermore, the projects have a business case and other documentation that address the financial implications and budgetary concerns. In doing this, the library leadership team is completely present in the decision making and the impact on the budget is transparent and efficient. Following this information handoff to the executive team, they can then prioritize projects based on the financial and human capital needed and what is feasible.

This is a big step forward in a more efficiently run organization. Participant 6 depicts this change in operating procedures, “So, I think the reality is finally kind of starting to set in that we're going to have to start saying yes, no, or this is high priority, this is mid-priority, this is low priority if there's not a yes, no. At least, they're starting to face them into what is the most important versus not as important.” While this is just one data point, this theme cuts across every interview. The formal process and accountability on decision making within administration is essential for the budgetary and timeline of The Library reinvention project.

#### **Weaknesses**

Although project and portfolio management has improved the perceived effectiveness of The Library in many areas, as detailed above, there were also some perceived weaknesses that emerged from the data. These data points related to clear categories that formed around

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central ideas. These conceptualizations were the hammer and the nail, the tools and paperwork and rigidity and the lack of agility within the process. These will be explored further below.

### *The hammer and the nail*

One theme that was prevalent in every interview, usually representing multiple data points, was what Participant 1 described as the hammer and the nail problem, “when all you have is a hammer every problem looks like a nail, and sometimes a hammer isn’t the right tool for the job, because the problem isn’t a nail, it is a screw.” What Participant 1 is describing is the over-prescription of project and portfolio management on to processes and situations where it is not appropriate.

The over-generalization of PM methodologies is in violation of the key components of the discipline of PM. An illustration of this is defined by the PMI (2018), a project as a temporary endeavor that has both a defined beginning and end. This demarcation leads to defined resources and scope. Second, a project is unique. A project is not business as usual or daily operations (PMI, 2018). The Library’s process is in direct violation of the best practices as defined by the PMI and this violation has had a large impact on the process in question. The new methods have even been applied to projects that were finished and finalized months before the implementation of portfolio management. Participant 5 describes going through this, “I did have a situation where one of my projects was completed, and I had to retroactively fit it into a project and that felt like paperwork to me and it felt ridiculous, because it was done. It was like here’s the example, it’s done and I had to reengineer it to look, like, we’re starting from scratch.” Unfortunately, this type of “reengineering” was common throughout the data and led the project managers to feel like the work was often counterproductive in terms of efficient use of time.

In addition, the hammer and the nail problem is reflected in the over-application of portfolio management to process that are business as usual, not unique endeavors. All of the project managers described in one way or another that many of their day-to-day responsibilities and traditional library services are now falling under portfolio management, even though these specific responsibilities are an ongoing service. Participant 3 expresses this issue succinctly:

I would say portfolio management fits if you are running a project like for example, designing a cart with laptops in it. That is not a simple project necessarily, but it is making a light bulb. That is where our templates came from and so it might translate well. But to something designing a service or ongoing services like reference or instruction is not an ongoing project and isn’t designing a lightbulb, so it doesn’t really fit.

When Participant 3 describes a project being appropriate when it is similar to making a light bulb, it is a reference to where The Library’s unique methodology and documentation originated. The Library’s process was adapted from private industry, specifically, the production of light fixtures. Because of this, the methodology is often an applicable fit when being applied to a similar context, but not as appropriate toward daily operations. And this reflects what is expected based on PMI’s standards and best practices. However, parts of The Library’s portfolio management process are not reflecting the industry standards, and this is a concern for many of the project managers involved. Participant 2 described this as a long-term strategic issue, “projects are short-term. Projects have a beginning and an end, and when you think about sort of long-term of how we’re going to run the library, we can’t run the library as projects.” Essentially, Participant 2 is stating that not everything is a nail, so they do not need a hammer.

### *Rigidity and lack of agility within the process*

Every interview participant touched upon the rigidity of the process and the lack of agility in its application. This is especially clear in regard to the documentation, paperwork, formalized processes and work instructions for each phase of the process. The perceived lack of agility has led the participants to feel less empowered, less efficient and frustrated by

the tools and required documentation. As mentioned previously, much of this framework is being transferred from an industrial production model, specifically, light bulbs and fixtures. As a result of this application, all of the participants feel as if this is clunky fit and has led to aspects of the portfolio management process being rigid and unyielding. Participant 6 discussed how this was not just documentation and paperwork issue, but a strategic human capital and morale problem, “I feel like people don’t take it seriously because of the clunky documentation process. Maybe, and early on in the process, I felt like there wasn’t a lot of flexibility in what made sense for different projects.” This is a common perception from the participants. The required process and rigid tools, which are not user friendly, can lead to inefficiencies and an inflexible organization (Highsmith, 2005). Participant 3 explains how this can impact a project and organization, “So, the rigidity of the portfolio is the opposite of that flexibility. So, we definitely see that aspect of it as a con overall.”

While clunky documentation and imperfect tools may seem like an insignificant issue, the participants uniformly described it as an uncomfortable segment of the process that can lead to inefficiency and hours of lost time with awkward excel spreadsheets with embedded macros that rarely work. The program manager was reportedly fond of saying, “Use the tools, don’t let the tools use you” (Participant 7). Well, from the participant’s perception the tools were using them.

### Potential improvements

As expected, many of the suggested potential improvement of portfolio management, echo the perceived weaknesses of the process, although there are also concrete suggestions generated by all interview participants and reflected in the project and portfolio management best practices, including, the singular authority, the PMI and relevant library literature (Burich *et al.*, 2006; Marill and Leshner, 2006; Massis, 2010; Revels, 2010; Horwath, 2012).

Among the central suggestions to improve performance, efficiency and morale were applying the portfolio management process to defined projects only, simplifying the tools and processes, and embracing an agile methodology. These are policy proposals that could potentially be implemented in similar situations to have a more effective project and portfolio management process.

The hammer and the nail problem is palpable throughout the suggested improvements. It is clear that many of the participants feel that the over-application of portfolio management has been ineffective when it is applied to services or workflows that are not defined projects with a beginning and an end (PMI, 2018). Participant 5 explained how they would change the process, “I would reduce some of the numbers of projects. Not because they’re too cumbersome, but because some of them just aren’t projects.” This is a clear example of the over-application of portfolio management and in violation of the stated best practices in the discipline. And moving forward, a potential improvement would be a more streamlined limited role of portfolio management which embraced the best practices of PM (PMI, 2018; Horwath, 2012).

The most common proposed improvement was simplified tools that were user friendly. As described in the previous section the tools and processes in use are cumbersome, clunky and difficult to use. This is reflected across the participants, and many have stated that it is the main aspect of the process that could be improved. Participant 7 described this potential improvement as, “The portfolio is an improvement overall, but we have to change the tools we use.” From this quote alone, it is clear that a simple and impactful improvement of the process would necessitate simplified and user-friendly tools.

The addition of agility to the portfolio management process would assist in alleviating the lack of flexibility and the rigidity of the process that was detailed previously. One way to do so would be adapting aspects of agile PM. Agile PM is focused on flexibility, continuous improvement, team input, with the understanding that plans change so your process needs to be adaptive (Sliger, 2011). The portfolio management process at The Library is a rigid process with little flexibility. As services and projects change, the process

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remains static, and this is reflected across the participant's experiences. Participant 3 explains how this works and the need for it:

The biggest problem is the lack of flexibility, again I have taken just a little like Lynda things, but in agile and the whole idea is that you build it and you ship it, like it comes from the Silicon Valley mindset. But it is like you reiterate and say no, you have to be flexible and no, it is not going to be perfect and there might be something missing in the spreadsheet that you have documented your work on, but you just keep moving because you iterate.

Adapting a more agile framework could potentially improve the lack of flexibility in the process and minimize perceived weaknesses with the overall portfolio management process. That said, the general recommendations gleaned from the data to improve portfolio management would be to apply it to defined projects, simplify the tools and adapt agile PM, or at the least make the current process more flexible. Conversely, this aspect of the process is currently under review and Participant 6 commented that there might be changes to adapt a more agile framework in the future.

### **Discussions and recommendations**

The conceptual findings of this study, while local in application, add to the literature of PM in higher education and academic libraries. The theoretical implications using grounded theory merged with the purposeful sampling of interview participants described previously, and the addition of document analysis has added to the validity of the findings and the project insights. The case under analysis, The Library, has a unique experience based on its native culture and the intricate reinvention of the library; however, there are lessons from this experience that can be applied more liberally in future projects. These lessons are detailed below.

#### *Be agile*

Dwight D. Eisenhower must have been in an agile mindset when he famously said, "Plans are nothing; planning is everything" (American Presidency Project, 2018). This reflects the most important part of PM which is the planning process and having a compass to guide you without a restrictive road map to limit flexibility (Kogon *et al.*, 2015). Based off of the empirical literature, this data analysis and the disciplines best practices, it is a vital recommendation when implementing a PM process to be agile in the approach. This will empower the individuals involved, help react to unforeseen consequences and maintain flexibility in a chaotic environment, which is vital in a technology-infused industry (Dulock and Long, 2015; Sliger, 2011).

#### *Simplify*

Simplifying the tools is a fundamental part of successful PM. In PM there needs to be tools to outline a project plan, assign tasks, identify deadlines and communicate out to members of the team and project. However, these tools should be user friendly and minimal. This sentiment was reflected across all participants and is a simple way to improve the PM experience. This will make the PM process more streamlined, improve communication and even minimize institutional and personnel resistance (Kogon *et al.*, 2015).

#### *Defined projects*

One of the key recommendations is to implement PM processes for defined projects only. The over-application of PM processes can lead to miscommunication, poor service design and inefficiencies in daily operations (Kogon *et al.*, 2015). Additionally, as reflected in the experiences of the participants, over-application can lead to feelings of low morale and a loss of empowerment in activities. When implementing PM, follow the best practices identified by the PMI (2018) and apply it to defined projects only.

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*People first*

The most important recommendation when implementing a PM process is also the most ambiguous – “people first.” Most of this analysis has been analyzing discipline-specific processes and tools. However, none of these matter if the human capital is not empowered and energized (Kogon *et al.*, 2015). Do not focus only on strategy, tactics and tools. Take the time to communicate with and listen to the individuals involved with the processes. All of the recommendations are subgroups of this. Stay agile, simplify and restrict the processes to defined projects to empower and manage the staff effectively. Think: culture over strategy.

While this research study and the disciplines’ best practices reflect the stated recommendations, there is a need for more research in academic libraries. Future research could follow this case study methodology in a different environment to investigate for comparable themes, investigate human capital in PM or survey an agile PM methodology to see if it eliminates the stated weaknesses. Regardless, there are lessons to be learned on PM in an academic library that emerged from the case study. Overall, PM seems to be an effective methodology within The Library; however, there were weaknesses that should be accounted for moving forward – although most of these are malleable with the appropriate implementation of the methodology. Additionally, in the time since the data analysis the participants have shared, The Library has adopted many of these recommendations, i.e., a focus on human capital and embracing an agile methodology, based off of internal assessments and excellent decisions by leadership.

While the singular nature of the case under study and the investigators role as a project manager makes many of the findings less generalizable, there are still important insights for future PM methods and managers in similar environments. Additionally, the empirical grounded nature of the methodologies and results create a new theoretical direction that should be investigated further.

**References**

- American Presidency Project (2018), “Dwight D. Eisenhower”, available at: [www.presidency.ucsb.edu/ws/?pid=10951](http://www.presidency.ucsb.edu/ws/?pid=10951) (accessed July 3, 2018).
- Burich, N., Casey, A., Devlin, F. and Ivanitskaya, L. (2006), “Project management and institutional collaboration in libraries”, *Technical Services Quarterly*, Vol. 24 No. 1, pp. 17-36, doi: 10.1300/J124v24n01\_02.
- Dulock, M.J. and Long, H. (2015), “Digital collections are a sprint, not a marathon: adapting scrum project management techniques to library digital initiatives”, *Information Technology and Libraries*, Vol. 34 No. 4, pp. 5-17, doi: 10.6017/ital.v34i4.5869.
- Feeney, M. and Sult, L. (2011), “Project management in practice: implementing a process to ensure accountability and success”, *Journal of Library Administration*, Vol. 51 Nos 7/8, pp. 744-763, doi: 10.1080/01930826.2011.601273.
- Fraser-Arnott, M. (2018), “Combining project management and change management for project success in libraries”, *Project Management in the Library Workplace*, Vol. 38, pp. 167-186, available at: [www.emeraldinsight.com/doi/abs/10.1108/S0732-067120180000038005?fullSc=1](http://www.emeraldinsight.com/doi/abs/10.1108/S0732-067120180000038005?fullSc=1)
- Glaser, G. and Strauss, A. (1967), *The Discovery of Grounded Theory Strategies for Qualitative Research*, Aldine Transaction, New York, NY.
- Highsmith, J. (2005), *Agile Project Management: Creating Innovative Products*, Pearson Education/Addison-Wesley, Boston, MA.
- Horwath, J.A. (2012), “How do we manage? Project management in libraries: an investigation”, *Partnership: The Canadian Journal of Library and Information Practice and Research*, Vol. 7 No. 1, pp. 1-34.
- Kachoka, N. and Hoskins, R. (2017), “Using project management strategy to evaluate the challenges of managing a renovation project at the chancellor college library, university of Malawi”, *African Journal of Library, Archives & Information Science*, Vol. 27 No. 2, pp. 189-200.

- Kinkus, J. (2007), "Project management skills: a literature review and content analysis of librarian position announcements", *College & Research Libraries*, Vol. 68 No. 4, pp. 352-363.
- Kogon, K., Blakemore, S. and Wood, J. (2015), *Project Management for the Unofficial Project Manager*, BenBella Books, New York, NY.
- Marill, J.L. and Leshner, M. (2006), "Mile high to ground level: getting projects organized and completed", *The Serials Librarian*, Vol. 52 Nos 3/4, pp. 317-322.
- Massis, B. (2010), "Project management in the library", *New Library World*, Vol. 111 Nos 11/12, pp. 526-529.
- Merriam, S. and Tisdell, E. (2016), *Qualitative Research. A Guide to Design and Implementation*, 4th ed., Jossey-Bass, New York, NY.
- PMI (2018), "What is project management? Project Management Institute", available at: [www.pmi.org/about/learn-about-pmi/what-is-project-management](http://www.pmi.org/about/learn-about-pmi/what-is-project-management) (accessed April 10, 2018).
- Portfolio Management Group (2009), "Six questions for strategic project proposals", available at: <http://intranet.library.arizona.edu/xf/projmanage/documents/SixQuestionswithContextStatement.pdf> (accessed July 6, 2018).
- Rajkumar, S. (2010), "Art of communication in project management", paper presented at PMI® Research Conference: Defining the Future of Project Management, Project Management Institute, Washington, DC, available at: [www.pmi.org/learning/library/effective-communication-better-project-management-6480](http://www.pmi.org/learning/library/effective-communication-better-project-management-6480) (accessed April 10, 2018).
- Revels, I. (2010), "Managing digital projects: 'accidental' project managers can benefit from following these useful tips", *American Libraries*, Vol. 41 No. 4, pp. 48-50.
- Schwalbe, K. (2015), *An Introduction to Project Management*, 5th ed., CreateSpace Independent Publishing Platform, Scotts Valley, CA.
- Searcy, C. (2018), *Project Management in Libraries: On Time, On Budget, On Target*, 1st ed., ALA Editions, Chicago, IL.
- Serrano, S. and Arquero, R. (2018), "Project management techniques at the Complutense University: academic librarians' perceptions", *New Review of Academic Librarianship*, Vol. 24 No. 2, pp. 124-135, doi: 10.1080/13614533.2017.1406378.
- Sliger, M. (2011), "Agile project management with scrum", paper presented at PMI® Global Congress, Project Management Institute, Dallas, TX.
- Smith, L. (2003), "The rural library project: building libraries in rural communities", *Rural Libraries*, Vol. 23 No. 1, pp. 81-85.
- Stoffle, C. and Cuillier, C. (2011), "From surviving to thriving", *Journal of Library Administration*, Vol. 51 No. 1, pp. 130-155.
- Strauss, A. and Corbin, J.M. (1990), *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, Sage Publications, Thousand Oaks, CA.
- Stuckenbruck, L. (1979), "The matrix organization", *Project Management Quarterly*, Vol. 10 No. 3, pp. 21-33.
- Sullo, E. (2017), "Academic librarians at institutions with LIS programs assert that project management training is valuable", *Evidence Based Library and Information Practice*, Vol. 12 No. 3, pp. 180-182.
- Taylor, F.W. (1911), *The Principles of Scientific Management*, Loker's Publishing, New York, NY.
- Vinopal, J. (2012), "Project portfolio management for academic libraries: a gentle introduction", *College & Research Libraries*, Vol. 73 No. 4, pp. 379-389, doi: 10.5860/crl-277.
- Winston, M. and Hoffman, T. (2005), "Project management in libraries", *Journal of Library Administration*, Vol. 42 No. 1, pp. 51-61.
- Yin, R. (2010), *Qualitative Research from Start to Finish*, 1st ed., The Guilford Press, New York, NY.

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