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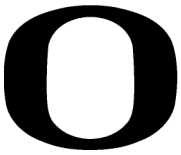

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Best Practices for Tailoring and Implementing a Project Management Methodology

CAPSTONE REPORT

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Abstract

Research has shown that the use of a project management methodology (PMM) contributes to a project's success (Joslin & Muller, 2014). As the field of project management continues to evolve, it is incumbent on project management practitioners to exercise best practices in tailoring and implementing project management methodologies (Project Management Institute, 2017). Utilizing peer reviewed studies between 2006 and 2019, this study aims to define these best practices for use by other project management professionals.

Keywords: project management methodology, project tailoring, change management, methodology implementation, organizational project management

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Introduction to the Annotated Bibliography

Problem

Project Management Methodologies. A Project Management Methodology (PMM) is defined as a documented and discoverable set of policies, practices, processes, tools, techniques and templates that provide guidance on how projects are run within an organization (Whitaker, 2014). Over the years, government bodies and non-profit organizations have established different project management methodologies that seek to enforce industry standards with these tools, techniques, processes, and procedures (Morris, Crawford, Hodgson, Shepherd, & Thomas, 2006). These methodologies were developed to provide predictable frameworks that organizations could leverage to ensure consistency in the successful delivery of projects and products (Joslin & Muller, 2014).

As part of their annual *Pulse of the Profession* survey of industry professionals, the Project Management Institute (PMI) (2018) found in 2018 that one of the top three cited drivers for project success was the maturity of an organization's value delivery capabilities through a defined organizational project management methodology. Within the same study, PMI (2018) noted that organizations who used a formal project management methodology reported a 73% project success rate compared to a 58% success rate of those organizations that did not. Furthermore, PMI (2018) estimated that 9.9% of every dollar an organization invests in a project is wasted due to poor project performance, equating to nearly $99 million lost for every $1 billion invested.

In 2019, PMI published their *2019 Pulse of the Profession – Research Highlights by Industry and Region* study comparing the project management practices employed in the information technology (IT) industry versus other industries. In the study, PMI (2019) found that only 55% of IT projects were completed on time, 60% were completed within budget, and 69%

of projects actually met their stated project goals and business intent. Further context for these numbers are included in the same PMI study (2019) that indicates only 26% of the participating organizations utilized a standardized project management methodology throughout the whole organization.

The monetary and non-monetary costs of project failures continue to remain high; in a collaborative study, McKinsey Digital and the University of Oxford found that on average, IT projects with budgets greater than $15 million experience a 45% cost overrun while providing 56% less value than predicted (Bloch, Blumberg, & Laartz, 2012). Furthermore, project failures can result in enduring implications for an organization such as low employee morale (Shepherd et al., 2013), delays in starting new projects or developing new products (Kusek et al., 2013), and general organizational disruptions to systems and processes (Glass, 2005).

Project Tailoring. Because each project is unique in its complexities and inherent risks, organizations must employ different approaches when managing projects (Burgan & Burgan, 2104). Usually, project managers apply a project management methodology to their work and tailor aspects of the chosen methodology by determining the appropriate combination of processes, inputs, tools, techniques, outputs, and life cycle phases that addresses the competing constraints of scope, schedule, cost resources, quality, and risk (Project Management Institute, 2016, p. 724).

In 2014, the Project Management Institute (2014) conducted a survey of 202 project management professionals where respondents were asked to provide evaluations of project success, indicate whether they had employed a formal project management methodology, and, if they had, how much tailoring was done to that methodology. The results of the survey indicated that when no methodology was employed, projects were deemed successful only 67% of the time and when a methodology was employed with moderate tailoring, that number only increased to

68% (Whitaker, 2014). However, within that same study, PMI (2014) found that when a methodology was completely tailored, the number of projects that were successful jumped to 82% (Whitaker, 2014). These numbers provide evidence that once a project management methodology is appropriately tailored, the likelihood of success for that project increases.

Project Management Methodology Adoption and Implementation. Implementing a project management methodology generally is a long-term endeavor (Plewinski, 2014). In addition, the implementation requires continuous executive support, patience, time, and effort to establish a mature project management culture at an organization (Plewinski, 2014). Given the differences in organizational structures, project life-cycles, and employee knowledge of project management principles, implementing a project management methodology at an organization may require varying approaches (McHugh & Hogan, 2011). For example, in some organizations, the establishment of key project management standards that are aligned to internationally recognized standards, such as the Institute of Electrical and Electronic Engineers (IEEE) Standard 1058-1998, can aid in the adoption and implementation of a new project management methodology, as the standard provides a common reference point for those responsible for developing the infrastructure to support the project management methodology (Garcia, 2005). Similarly, in large enterprise organizations, the adoption of a unified project management methodology that is aligned to the organization's strategic goals may be further aided by the use of an organizational project management standard such as the Project Management Institute's *Organizational Project Management Maturity Model (OPM3)* (Matassa, 2006).

While the need for a project management methodology is often well understood, many organizations have tried unsuccessfully to implement an off-the-shelf or ready-made project management methodology that was ultimately incompatible with particular projects, the organization, or the level of organizational project management maturity (Whitaker, 2014). As a

result of these ineffective attempts at implementing a project management methodology, organizations may experience misalignment between organizational strategic objectives and project goals, increasing inflexibility in managing project changes, and the assignment of inappropriate standards for measuring project success, and ultimately, may hurt the success of project deliveries (Wells, 2012).

Purpose

The purpose of this annotated bibliography is to present literature that addresses the problem of incorrectly selecting and applying or tailoring a project management methodology with respect to organizational and project characteristics. Organizations who fail to use a project management methodology may jeopardize an organization's efforts and overall effectiveness with respect to knowledge management and the repeatability, comparability, and quality of future projects (Ozmen, 2013). Therefore, it is imperative for project management professionals and business leaders to understand not only the processes for tailoring and applying a project management methodology, but also the organizational and project criteria that dictate which components of a methodology will yield the highest chances of project success (Kurt & Karaman, 2015).

Research Questions

Main Question. What are the best practices for tailoring and implementing project management methodologies to address unique project or organizational needs?

Sub-questions.

- Why should an organization use a tailored project management methodology versus a traditional off-the-shelf methodology?
- What characteristics of a project define how a project management methodology should be tailored?

- How does an organization successfully implement a newly tailored project management methodology and ensure adoption?

Audience

The specific stakeholders who can benefit from this study can be broken up into three main categories: those who are ultimately responsible for the implementation and refinement of a project management methodology, those who are directly involved in the application of the methodology and adhering to the defined standards, and those who have a vested interest in the efficacy of the project management methodology as a resource manager, budget owner, or business stakeholder impacted by the efficiency of project deliveries. Ultimately, all of these stakeholders are responsible for varying aspects of a project and have vested interests in aligning to a uniform approach for delivering solutions to end users. Without a consensus from each stakeholder for how best to manage a project, an organization may risk misalignment between organizational and project objectives and ineffectual efforts in implementing an eventual project management methodology (Project Management Institute, 2014).

The stakeholders responsible for the implementation and monitoring of the application of a project management methodology may include:

- Project Management Office (PMO) leaders,
- business process managers, and
- project steering committee members.

The stakeholders who are responsible for appropriately utilizing a project management methodology and who will directly benefit from the successful application of the tools, processes, and procedures are:

- portfolio managers,
- program managers,

- project managers,
- product managers,
- project team members, and
- project sponsors or customers.

Finally, the stakeholders who have vested interests in the success of project deliveries and the efficient use of resources involved in projects and the project management methodology include:

- organizational executives
- individual resource managers,
- business unit managers,
- sales account executives, and
- shareholders.

Search Report

Documentation approach. To ensure that I am focused my research efforts efficiently, I chose to develop a source cataloging system that tracks the database in which the source was found, the relevant author and publisher details, and a weighted 1-5 system that I used to quickly establish the authority, timeliness, quality, relevance, and any bias of the sources. When I found a source that initially looked appropriate, I quickly scanned the contents of the source and applied the weighted criteria. This allowed me to build a catalog that I could quickly reference at a later date when I was ready to further review and analyze my sources to identify those that were most appropriate for my annotated bibliography.

Key words and phrases. To keep my search focused, I performed an initial search of potential literature sources in four specific areas:

- Best practices for tailoring a project management methodology or approach,
- Developing a change management plan for the new methodology,
- Implementing a tailored project management methodology, and
- Evaluating the success of a tailored project management methodology once implemented.

When I identified a high-quality source, I paid particular attention to the key words mentioned in that source, as this step allowed for easier identification of other relevant key terms that might not have been immediately obvious. I used the following key words in my research:

- Project management methodology,
- Project management methodology AND tailoring,
- Project management methodology AND tailoring best practices,
- Project management methodology AND hybrid,
- Project tailoring,
- Project tailoring AND benefits,
- Project tailoring AND implementation
- Hybrid project management,
- Project driven value creation,
- Project context,
- Project governance,
- Project success,
- Contingency theory,
- Agile, waterfall, Lean, XP, PRINCE2, Kanban, Waterfall, Scrum,
- Implementing a tailored project management methodology,

- Adoption of a project management methodology,
- Managing the change with a project management methodology, and
- Organizational change management required for a new project management methodology.

Search engines and databases. I began my search for references with the UO Libraries site's quick search tool, using the previously mentioned key words, and found that the sources returned varied across disciplines and industries. To further narrow my search, I chose to focus on the databases found in the "Computer & Information Sciences" category, as well as databases found outside of this category such as Google Scholar and the Project Management Institute's Library. Of those databases, I the following to be the most helpful:

- IEEE Xplore,
- Association for Computing Machinery (ACM) Digital Library,
- CiteSeerX,
- Journal Storage (JSTOR),
- Computer Source,
- ArXiv.org, and
- ScienceDirect
- Web of Science.

Reference Evaluation Criteria. I evaluated references using the five characteristics described in the *Evaluating Information Sources* guide by the University of Florida's Center for Public Issues Education (CPIE) (2014).

1. **Authority**: I limited my research to authors who have significant industry experience in project management, are frequently cited by other industry professionals or

academics, are associated with respected professional institutions (both academic and non-profit), are referenced in peer-reviewed scholarly journal articles, and who have contributed notably to the general project management body of knowledge through published works.

2. **Timeliness**: I limited my list of sources to works that have been published within the past 15 years, as changes in project management technologies and approaches have been most pronounced during this period.
3. **Quality**: I selected my sources based on the grammatical integrity of the work, avoiding sources with spelling or punctuation errors; the structure of the writing; and the overall flow of the content. I excused errors found in peer-reviewed articles or from sources where English is not the author's first language.
4. **Relevancy**: I selected works that were focused primarily on my topic of tailoring and implementing project management methodologies or that contained additional context required to understand a foundational principle often cited in one of my chosen sources.
5. **[Lack of] Bias**: I selected sources from peer-reviewed, scholarly journals; articles posted by non-profit professional organizations that manage the body of knowledge for project management; and academic materials from a University of Oregon project management course. I excluded sources from vendors who sell project management software or courses, as well as sources from unfamiliar organizations.

Annotated Bibliography

Introduction to the Annotated Bibliography

The following sources were chosen due to their applicability to the salient topics covered in this literary review. Each source was vetted using the previously mentioned criteria and summarized in order to show relevancy to either the problem posed in this paper, the specific best practices being investigated, or the expected benefits that can be realized by the defined audience. Each annotation includes: (a) a bibliographic citation conforming to APA guidelines, (b) the abstract provided by the author(s), and (c) a summary of the salient sections of each source.

Project Management Methodologies and Project Success

Dolan, K. (2006). Achieving strategic objectives through programme and project methodologies. Paper presented at *PMI® Global Congress 2006—Asia Pacific, Bangkok, Thailand.* Newtown Square, PA: Project Management Institute.

Abstract: The basic principals of project management have changed little over the decades yet there is an inconsistent application of these practices. This paper will discuss the need for best practice methodologies to provide visibility and accountability to the project management process. In addition the duration of many projects, and particularly leads to situations where key personnel will change throughout the project and programme. The key aspect of all methodologies is to drive consistency and regimen into the process. This repeatability of the management process drives quality into the management of programs and projects. The implementation of methodology has the added advantage of placing reliance on the system and not specifically on the abilities of the personnel involved. The paper will discuss the sectors and specific organizations which have taken on these best practice methodologies and demonstrate the flexibility of

the methodologies and the need for adjusting the management approaches to deal with multi-cultural and multi-disciplinary nature of programs. The paper will discuss historical and contemporary examples of the need to apply the basic principals of project management and programme management and the need to develop a workable methodology to guide the decision-makers to ensure that the success of programs and projects to achieve strategic objectives.

Summary: This conference paper presented at the Project Management Institute's (PMI's) 2006 Asia-Pacific Global Congress addresses the need for utilizing a project management methodology to ensure consistency in the application of project management techniques across an organization. The relevancy of this source to the literary study lies in the paper's supported conclusions that a project management methodology significantly contributes to project success. The author opens by defining a project management methodology as a system consisting of processes and elements designed to consistently achieve a technical goal independent of individuals. The author provides benefits that a defined framework may provide: repeatability, alignment in processes across programs and projects, and a predictability that supports project decision makers.

The author references General Electric and the critical factors that contributed to the organization's success in project deliveries, ultimately concluding from this example that consistency is required for an organization to successfully execute projects. The author explains that consistency contributes to project success by mitigating the impact of interchanging project team members or stakeholders, supports a common understanding of information analysis regardless of cultural differences within the project team,

facilitates communication across technical disciplines, and assists newly appointed project managers in getting up to speed quickly.

Another effective project management methodology the author discussed is the process-based methodology, PRINCE2. Standing for PRojects IN Controlled Environments, this methodology was developed by the Central Computer and Telecommunications Agency (CCTA) to help manage information technology (IT) and telecommunications projects within the British Government. In proving to be a highly effective methodology, the IT industry in the UK and Europe quickly adopted the processes, components, and techniques of the methodology. While this methodology requires seemingly exhaustive processes, its thoroughness lends well to complex projects. Of the many stated benefits this methodology provides, the most consistently referenced benefit is the intensive documentation required and the methodical approach to defining which management activities should be undertaken at certain points in the project lifecycle.

Similar to projects, the author explains that programs also require consistency in how they are defined and managed. Programs are designed to achieve organizational objectives through the successful management of a portfolio of projects that responsibly balance limited resources. Using the UK government's program management methodology, Managing Successful Programs (MSP) as an example, the author explains that by using a consistent, yet lightweight approach to identifying and defining programs, critical decision-making processes can be optimized and program benefits realized more quickly.

Based on his assessment of the benefits that project and program management methodologies provide, the author concluded that for multi-national organizations in the

Asia-Pacific region (the geographic focus of the conference) to improve the success of their projects or programs, the adoption of project management methodologies was required. The author asserts that through a standardization of project management processes, multi-national organizations would be able to expand into other geographic regions more easily as well-understood approaches to project execution would ultimately transcend location and personnel intricacies.

Joslin, R., & Muller, R. (2015). Relationships between a project management methodology and project success in different project governance contexts. *International Journal of Project Management, 33*(6) 1377-1392. doi:10.1016/j.ijproman.2015.03.005

Abstract: This study looks at the relationship between the use of a project management methodology (PMM) and project success, and the impact of project governance context on this relationship. A cross-sectional, world-wide, online survey yielded 254 responses. Analysis was done through factor analysis and moderated hierarchical regression analysis. The results of the study show that the application of a PMM account for 22.3% of the variation in project success, and PMMs that are considered sufficiently comprehensive to manage the project lead to higher levels of project success than PMMs that need to be supplemented for use by the project manager. Project governance acts as a quasi-moderator in this relationship. The findings should benefit project management practitioners by providing insights into the choice of PMM in different governance contexts. Academics should benefit from insights into PMMs' role as a success factors in projects.

Summary: The authors of this article conducted a study that evaluated the relationship between the use of a project management methodology (PMM) and a project's success in varying project governance environments. This particular study further supports the

literary study being performed in this paper by highlighting the positive correlations between project success and the use of a PMM.

The authors chose to incorporate project governance into their study, as the project environment that is shaped by a project governance structure influences the manner in which PMMs are employed. The authors defined project success as the fulfillment of the overall objectives of the project and project management success by the success criteria that are measured at the end of a project: cost, time, and quality. They note that an effective application of a PMM is dependent on the comprehensiveness of the methodology, regardless of how customized or standardized the methodology may be.

In referencing previous studies, the authors found that organizational PMMs often have limitations or drawbacks, requiring project managers to supplement elements of their organization's PMM to fit their project's needs. Similarly, rather than supplementing certain elements of an organizational PMM, project managers may instead choose to apply only relevant parts of their organizational PMM to their projects. In building the framework of their study, the authors looked to confirm four key hypotheses: (a) there is a positive relationship between a PMM and project success, (b) there is a positive relationship between a comprehensive set of PMM elements and project success, (c) there is a positive relationship between supplementing missing PMM elements and project success, and (d) there is a positive relationship between applying relevant PMM elements and project success.

In addition to evaluating the relationship between PMMs and project success, the authors also wanted to explore the potential moderating impact different project governance contexts have on the use of a PMM and project success. The reason for considering project governance as a contextual factor in the effectiveness of a PMM is

because corporate governance, which defines project governance, provides the structure through which projects are set up, run, and reported. The authors formulated four additional hypotheses to cover this area of their study: (a) the relationship between the project PMM and project success is moderated by project governance, (b) the impact of a comprehensive set of PMM elements on project success is moderated by project governance, (c) the impact of supplementing missing PMM elements on project success is moderated by project governance, and (d) the impact of the application of relevant PMM elements on project success is moderated by project governance.

To collect the data needed for their analysis, the authors sent a questionnaire to 254 respondents. The questionnaire addressed three areas: (a) facts about recently completed projects, (b) any PMMs and governance paradigms used and project successes, and (c) demographic information. After compiling the data and performing regression analysis, the authors found that the three independent factors (the comprehensiveness of the PMM, the amount of supplementation of the PMM, and the application of specific elements of a PMM) were all positively correlated to a project's success. Moreover, the results further demonstrated that the project governance environment does have a moderating impact on the effectiveness of a PMM, but the impact can be mitigated by tailoring the PMM appropriately.

Ultimately, the authors were able to conclude that utilizing a PMM does contribute to project success. However, they also concluded that the appropriate tailoring of the chosen PMM to the project governance environment and project itself is required in order to ensure project success.

Kurt, M., & Karaman, E. (2015). Comparison of project management methodologies: Prince 2 versus PMBOK for IT projects. *International Journal of Applied Sciences and Engineering Research, (4)*4, 572-579. doi:10.6088.ijaser.04059

Abstract: Project management methodology provides a guideline for managing the projects and it is one of the important factors for successful completion of the projects. Project Management Body of Knowledge (PMBOK) and PRojects IN Controlled Environment Version 2 (PRINCE2) are most widely used project management methodologies in the world. The aim of this study is to compare PRINCE 2 and PMBOK to identify the characteristics of these best practices in order to provide decision criteria for organizations with regard to selecting IT project management methodology.

Summary: The purpose of this study was to compare the applicability of the best practice elements of two project management methodologies (PMMs), the Project Management Body of Knowledge (PMBOK) and Projects IN Controlled Environment Version 2 (PRINCE2), to information technology (IT) projects. Through this comparison, this study supports the efforts of this literary review to identify whether a project management methodology is needed to ensure project success.

In setting the context of the study, the authors reference multiple prior studies that show IT projects are more prone to failure than other types of projects given their complexities. Based on their analysis of these studies, the authors found that having a PMM in place greatly increased the chances of a successful IT project delivery.

Prior to conducting the comparison between PMBOK and PRICE2, the authors first noted five key considerations when choosing which methodology is most appropriate: (a) the overall company strategy and how competitive the company is, (b) the size of the project team and/or scope to be managed, (c) the priority of the project, (d)

how critical the project is to the company, and (e) how flexible the methodology and its components are. Once these considerations are understood, a project manager would then be able to align specific elements of a methodology to support the required decision-making criteria of an IT project.

In order to conduct their comparison, the authors compiled several studies from different perspectives that evaluated the efficacy of each methodology for IT projects. Then, in order to compare the general themes versus the knowledge areas and processes, the authors combined those perspectives with the specific standards language of each methodology provided by the Project Management Institute (PMI) for PMBOK and the UK Office of Government Commerce (OGC) for PRINCE2. In selecting the features for comparison, the authors chose: (a) practical versus comprehensive, (b) themes versus knowledge areas, (c) processes versus activities, (d) guiding principles (e) techniques, (f) interpersonal skills of the project team, (g) core focus of the methodology, (h) role of the project board, (i) organizational assets and environment factors, and (j) requirements for management intervention of project work.

In conjunction with the elements of each methodology, the authors also identified the key characteristics of IT projects and how well each methodology supported each: (a) requirements maturity, (b) the stability of the development environment, (c) project size, (d) clarity of project risks, (e) clarity of scope, (f) client's commitment, (g) team relationship, (h) team size, (i) contracting approach, (j) level of outsourcing, and (k) stakeholders' flexibility and engagement requirements.

The authors concluded that utilizing either methodology is advisable to ensure project success. However, there were some notable differences between the two methodologies that influence the decision for which methodology to use based on key

characteristics of the IT project. In some cases, an analysis of the project characteristics enables a clear choice between the two methodologies; namely, PRINCE2 is preferable for small IT projects where there are only a few stakeholders to manage, whereas PMBOK is preferable for IT projects with high client commitment, large and complex project teams, high levels of outsourcing, comprehensive contracts and high levels of stakeholder engagement.

Pace, M. (2019). A correlational study on project management methodology and project success. *Journal of Engineering, Project, and Production Management*, *9*(2), 56-65. doi:10.2478/jeppm-2019-007

Abstract: This non-experimental correlational study extends previous research investigating the relationship between project management methodology and reported project success, as well as the moderating variables of industry and project manager experience. The sample included North American project managers with five years' experience, 25 years of age or older, and experience with multiple project management methodologies. The survey instrument consisted of 58 questions, utilizing a 5-point Likert scale to record responses. The survey contained three sections, including demographic information, questions related to a successful project, and questions related to a less-than successful (failed / challenged) project. 367 usable responses were received. The examination of the constructs included Pearson's correlation coefficient as well as linear regression to determine the impact of moderating variables. Results indicated that project management methodology has a weak correlation with reported project success, and this correlation is not moderated by industry nor project manager experience. The results did not align with previously conducted studies, illustrating a need to continue the

study of methods impacting success including investigating additional moderating variables.

Summary: The focus of this study was the correlation between project success and the use of a project management methodology (PMM). The author solicited feedback from project management professionals on the use of PMMs and corresponding project success. By illustrating the relationship between project success and PMMs, this study reinforces one of the salient points of this literary review; that project success can be greatly improved by the use of a PMM.

The author begins by providing contextual statistics on the rate of project failures and the consistency in critical factors contributing to these project failures. Leveraging previous studies that explored the association between PMMs and project success, the author sought to fill in gaps that previous findings identified by focusing the research effort on one main question and three sub-questions. The main question was: To what extent does project management methodology influence reported project success among North American Project Managers and is this relationship influenced by industry (technology versus non-technology) or experience? The sub-questions were: (a) To what extent does project management methodology influence reported project success within non-technology industries? (b) To what extent does project management methodology influence reported project success within technology industries? (c) To what extent does the project manager's years of experience influence project outcomes?

Before delving into the methods of data collection and results, the author first conducted a brief literary review of how PMMs are generally defined across the different project management standards bodies, the two most common categories of PMMs and how the definition of project success has evolved over the years. The common definition

of a PMM is the "collections of different approaches, tools, templates, and techniques whereby project management activities are organized and standardized to consistently deliver project results" (p. 57). The two most widely known categories of project management are traditional waterfall and iterative agile. Traditional waterfall methods of project management spur methodologies that focus on compartmentalization of project work efforts with considerable effort dedicated to project planning and requirements collection up front and a linear approach to project execution. Conversely, iterative approaches to project management provoked the creation of the agile methodologies where project work is broken up into iterative cycles of planning and execution with a focus on individuals and interactions over processes and tools.

Regardless of which methodology approach is chosen, the author contends that the definition of project success has evolved to transcend the historical success criteria of scope, time, and budget. Now, project success is generally defined by the project's efficiency, where scope, schedule, and budget are considered, and stakeholder success, where the satisfaction of stakeholders' expectations is paramount. Within this relatively new definition, the author ultimately concludes historical research up to this point supports the notion that employing a PMM helps to satisfy both sets of criteria.

The methods of research and analysis that the author employed for this study involved a questionnaire and 367 usable responses from project management professionals in North America across multiple industries. Utilizing different regression techniques for each of his hypotheses, the author found that while there was an appreciable but not strong correlation between reported project success and the use of a PMM, there were other additional notable variables that influenced the perception of

project success: (a) adoption of project management practices, (b) maturation of project management practices, and (c) the tailoring of PMMs to the organization or project.

In concluding his study, the author notes that while it was surprising that PMMs are not more strongly correlated to project success, the results could be further explained by the attempted application of a PMM by a project team that was inappropriate to the project or program and therefore resulted in a perception of a weak correlation between project success and a PMM. Additionally, his methods of data collection by using a simple online survey prevented more substantive answers from respondents. Finally, one of the most notable areas detailed for further study is the potential relationship between a PMM and adoption or tailoring. The author asserts that if a PMM was found to be ineffective, it could be because of a lack of proper adoption by the project team or an absence of needed tailoring.

Wells, H. (2012). How effective are project management methodologies? An explorative evaluation of their benefits in practice. *Project Management Journal*, *43*(6), 43-58. doi:10.1002/pmj.21302

Abstract: This article investigates the benefits and supports provided by project management methodologies (PMMs) to project managers for the management and delivery of information technology/information system (IT/IS) projects. Using a qualitative approach, through case study strategy, the role of PMMs is examined in different business and project contexts. This article evaluates the benefit of PMMs based on their traits and characteristics and investigates PMMs in their operational context: where PMMs come from and how they support practitioners. The findings suggest a misalignment between the intended benefit of PMMs at the strategic level and the reported benefits by project managers at the project level. Additionally, it is shown that

practitioners' expertise, accountability, and attitudes all have a direct influence on the extent to which PMMs contribute to and benefit the management of projects.

Summary: This article explores the application of project management methodologies (PMMs) in different organizational and project contexts. Utilizing multiple case studies from both the private and public sector in the United Kingdom (UK), the author found evidence that PMMs contribute to project success.

Information technology (IT) and information systems (IS) projects are responsible for a large percentage of all projects in the UK. Well established PMMs, such as PRINCE2, have historically dominated the preferred approaches to managing complex IT/IS projects. However, over the years, both the private and public sectors have seen an increase in tailoring and customization of existing PMMs, indicating that there still is not a clear choice in PMM for successfully delivering IT/IS projects. While it is generally understood that PMMs can contribute to project success, the author asserts that the number of studies addressing PMMs and project success are limited and inconsistencies between the studies further obfuscate any clear conclusions that could be drawn. Therefore, to date, there is still no single set of PMMs that have been identified as ensuring the successful delivery of IT/IS projects.

To help shape his qualitative study, the author chose to focus on specific questions that addressed the perceived benefits and advantages offered by a PMM to an organization and project as well as who are the main beneficiaries of the PMM being used. The author used a multiple-case study approach, focusing on PMMs as the unit of investigation. The four case studies spanned disciplines, project contexts, and types of PMMs used for the IT/IS project. The first case focused on PRINCE2, a widely used structured PMM in the UK; the second case involved an in-house, comprehensively

structured PMM; the third case employed a waterfall-like, gate-phased PMM that was linear in its approach and the fourth case hosted a gate-phased PMM that was in the process of being phased out and replaced by an agile approach.

The method of data collection was qualitative and involved interviews with 48 individuals, each in different roles with varying levels of accountability in the design, development, and management of projects. Through his interviews, the author found that across all the cases, there existed a general consensus that traditional, structured PMMs were beneficial for projects and organizations. However, the types of perceived benefits and contribution to a project's success varied depending on the individual, the individual's involvement with the project, the individual's accountability, and the current level of project management maturity within the organization.

The most commonly reported benefits with each case and PMM were: (a) better control and tracking of a project's progress, (b) a common way of thinking and data interpretation, (c) improved cost management, (d) enforced consistency despite cultural or geographic differences, (e) improved efficiency in defining the scope of work, and (f) increased flexibility with changing project requirements. However, while there were stated benefits that traditional PMMs could provide, the study also found that a significant portion of respondents felt that PMMs do not contribute to project success as much as expected. The author noted his assumption that these negative perceptions of traditional PMMs resulted from perceived limitations and an ineffective application of the traditional PMMs into different project types and organizations.

Ultimately, the author concludes that the majority of project managers within the study gained suboptimal advantages from using a traditional PMM, implying that PMMs require tailoring in order to optimize project success. Additionally, the author concluded

that PMMs are perceived to play an important role in management, control, and compliance, but not do not play an important role in providing proper support and guidance to the project team. Furthermore, the author concluded that at an organization and strategic level, the intended benefits of a PMM are not aligned with the actual benefits and support the PMM offers at a project level. In order for PMMs to be effectively utilized for project deliveries, the author asserts that expectations must be appropriately aligned across the project team and management and the PMM must be appropriately selected or tailored to the specific IT/IS project.

Best Practices for Tailoring a Project Management Methodology

Araujo, M., Fernandes, G., & Ward, St. (2013). Identifying useful project management practices: A mixed methodology approach. *International Journal of Information Systems and Project Management, 4*(2013) 5-21. doi:10.12821/ijispm010401

Abstract: This paper describes a mixed methodological research approach for identifying practitioner perceptions of the most useful project management (PM) practices to improve project management performance. By identifying the perceived most useful tools and techniques, as having the most potential for increased contribution to project management performance, practitioners and organizations can select their priorities when improving PM practices. The research involved a program of thirty interviews with Project Management professionals in Portugal, followed by a global survey. Completed questionnaires were received from 793 practitioners worldwide, covering 75 different countries. The results showed that the top twenty of the list of the most useful tools and techniques is composed of very well-known and widely used tools, such as: progress report; requirements analysis; progress meetings; risk identification; and project scope statement. PM practices in the top of list cover the overall PM life cycle from initiation to

project closing, but particular relevance is given to tools and techniques from planning. The areas of knowledge, scope, time, risk, communication and integration, assume a high relevance, each with at least three PM practices on the top of the list.

Summary: The purpose of this article is to present a mixed methods research approach to identifying the most useful project management practices that aid in improving project management performance. Because project management methodologies (PMMs) consist of a collection of project management practices, this source lends well to the focus of this literary review because the process of tailoring a PMM involves the identification of the most relevant project management practices for a particular project.

The authors of this study first provide a contextual foundation by explaining that project management (PM) "tools and techniques are the mechanisms by which PM processes within the organization are delivered and supported" (pg. 67). By properly utilizing PM tools and techniques, the authors assert that an organization will have better success in implementing a PMM that includes processes where those tools and techniques are effectively applied. There are a variety of published PM bodies of knowledge that educate project management professionals on the appropriate use of supporting tools and techniques. However, in referencing multiple recent studies at the time of publication, the authors note that variability still existed in which tools and techniques project management professionals identified as providing the most intrinsic value. As a result, the researches felt that an updated approach to conducting research of PM best practices was warranted.

Their method of research involved semi-structured interviews as well as questionnaires. By combining these two research approaches, the authors were able to

identify opportunities for additional insights through the interviews once the questionnaires were complete.

The semi-structured interviews were carried out across seven different organizations with questions that focused on personal experiences with PM, organizational business strategies and types of projects, current initiatives to improve organizational PM, and the most appropriate PM practices that were currently being employed. Of the identified PM practices, the top eight identified as the most useful were: (a) establishing baseline plans, (b) holding progress meetings, (c) employing re-baselining techniques, (d) using earned value management, (e) using PM software for resource scheduling, (f) providing progress reports, (g) holding project kick-off meetings, and (h) holding lessons learned sessions.

In conjunction with the interviews, the authors provided a survey questionnaire to 793 practitioners covering 75 different countries. The authors used a 5-point grading scale to measure the perceived usefulness of the listed tools and techniques. The top eight tools and techniques identified through an analysis of the survey responses were: (a) progress reporting, (b) requirements analysis, (c) progress meetings, (d) risk identification, (e) project scope statement, (f) kick-off meetings, (g) milestone planning, and (h) work breakdown structures. The authors also noted that the top tools and techniques identified in the questionnaire closely aligned with the interview responses.

In drawing their conclusions, the authors point out that even with the identified tools and techniques, PM is highly contingent on the organizational context, such as the structure of the business, industry sector, size, and corporate environment. However, by identifying which tools and techniques are generally the most valuable, a project

management professional would be better able to tailor an existing PMM by selecting specific elements of that PMM that align to the identified PM best practices.

Bass, J.M. (2013). Agile method tailoring in distributed enterprises: Product owner teams. In *Proceedings of the 2013 IEEE 8th International Conference on Global Software Engineering* (pp. 154-163). Washington, D.C.: IEEE Conference Publishing Services. Retrieved from https://ieeexplore.ieee.org/document/6613080

Abstract: This paper explores practitioner descriptions of agile method tailoring in large-scale offshore or outsourced enterprise projects. Specifically, tailoring of the product owner role is discussed. The product owner identifies and prioritizes customer requirements. But in globalized projects, the product owner must reconcile large numbers competing business interests and generate prioritized requirements for many development teams. The study comprises 8 international companies in London, Bangalore and Delhi. Interviews with 46 practitioners were conducted between February 2010 and May 2012. A grounded theory approach was used to identify that product owner teams comprise nine roles: Groom, Prioritizer, Release Master, Technical Architect, Governor, Communicator, Traveler, Intermediary and Risk Assessor. These product owner roles arbitrate between conflicting customer requirements, approve release schedules, make architectural design decisions, provide technical governance and disseminate information across teams. Understanding these roles will help agile coaches guide large scale agile teams.

Summary: This article presents the findings of interviews that the author conducted with project management practitioners, addressing the methods used to tailor an agile project management methodology (PMM) to large enterprise projects. While the paper specifically focuses on only one PMM, agile, the author's findings do provide a useful

example for what considerations should be made when tailoring a PMM. The article therefore provides a credible source of information worth mentioning in this literary review.

In providing the necessary background, the author highlights the increasing use of agile PMMs in varying project environments. Studies have shown that because of the three prevailing principles of agile – achievement of customer satisfaction through continuous delivery, a business representative and development team members working together frequently throughout the project, and face-to-face conversations in order to convey information – agile has become a chosen methodology for practitioners as the perceived rates of project success are higher. However, while the underlying principles of agile may be well understood, the author noted that, at the time of publication, organizations were still struggling with how best to implement an agile PMM for large and complex projects. The purpose of the study was to expose how agile can be successfully tailored to large scale enterprise projects by referencing the best tailoring practices employed by participating organizations.

To collect the necessary data for the study, the author identified eight international companies who were engaged in onshore and offshore information technology (IT) projects and conducted 46 interviews of individuals across all of the organizations. In conjunction with the interviews, the author was granted access to commercially confidential corporate agile development methods and guidelines and attended daily coordination meetings onsite. In analyzing the collected data, the author found that with large enterprise projects, organizations would tailor their agile methodologies by tailoring the roles commonly referenced in agile approaches. Specifically, the product ownership functions would be tailored to specific individuals,

with tailored functions and titles such as: groom, prioritiser [*sic*], release master, technical architect, governor, communicator, traveler, intermediary, and risk assessor. Additionally, the author further elaborated on the tailoring of the scrum master role and approach by detailing how organizations ended up refining the required attendance and frequency of scrum meetings depending on the project; for example, in large enterprise organizations, a *scrum of scrums* approach was used where the scrum masters of each scrum team met daily, as well as meeting in their own scrum, to ensure proper coordination of work.

Through the analysis of how large enterprise organizations tailor their agile PMMs for scalability, the author concluded that for large complex projects, distributing the responsibilities of the product owner across multiple roles allowed for better management of scaled projects. The author found that this distribution of product owner activities serves as an effective approach to tailoring a PMM.

Ng, J. J. (2018). Tailoring a project management methodology that suits one's needs. *IEEE Engineering Management Review, 47*(2), 128-132. doi:10.1109/EMR.2018.2839670

Abstract: This paper aims to review several project management frameworks that are widely used in the industries. Studies on how to adopt and adapt such frameworks remain limited. Three project management (PM) frameworks widely used in the information technology (IT) industry, such as PMBOK, PRINCE2, and ITIL, were analyzed and compared. The objectives of the review are twofold. First, to allow one to have a quick understanding of the widely used project management frameworks; and second, provide how these frameworks can be used together and complement each other at the different phases of a project lifecycle to address the specific needs of the industries managing IT products or services.

Summary: The author investigates common project management frameworks and methodologies while proposing how these frameworks can be tailored to different phases of an IT project lifecycle to meet specific project needs. The relevance of the source to this literary review lies in the proposed best practices for tailoring existing project management methodologies (PMMs) to improve project performance.

The author begins by detailing the prominent project management associations and their respective PMMs: (a) The Project Management Institute (PMI) and their Project Management Body of Knowledge (PMBOK), (b) the Association for Project Management (APM) and their Association of Project Management Body of Knowledge (APMBOK), (c) the Office of Government Commerce and AXELOS (OGC) and their PRojects IN Control and Environments (PRINCE2) as well as (d) their IT Infrastructure Library (ITIL), and (e) the International Project Management Association (IPMA) and their IPMA Competence Baseline, Excellence Baseline, and Organizational Competence Baseline.

The author explores how three notable PMMs can be combined and tailored to complement each other throughout the different phases of a project lifecycle. Specifically, he explores the use of the PMBOK, PRINCE2, and ITIL and how elements of each methodology can be tailored and combined. The author chose these three methodologies because these frameworks had recently seen an appreciable uptick in certification demands by practitioners.

The method of research involved both a comparative analysis of each methodology and an online survey posted to popular project manager forums. The comparative analysis involved looking at similarities, differences, and gaps for improvement within important areas of consideration for each project: (a) initiating and

closing a project, (b) cost, (c) time, (d) quality, (e) stakeholders, (f) scope, and (g) risk. Additionally, the author noted which characteristics of each methodology could be collaboratively combined. The online survey focused primarily on the best practices currently employed by project management professionals and which elements of the three frameworks they found most relevant to their current projects. The feedback predominantly highlighted the need to use a combination of frameworks and a focus in the IT industry on service lifecycle requirements and management.

Once the author detailed the similarities, differences, and gaps of each methodology, he provided an example of how the methodologies could be combined and further tailored. Using a real-life case study of an organization with over 2,000 employees, the author described an organizational PMM comprised of stages and varying levels of management involvement. PRINCE2's Manage by Stages principle was therefore relevant to include in the tailored methodology. While the specifics of the organization could not be released due to sensitivity, the PMM of this organization typically involved an exploration of a project's viability and value through a proof of concept in order to secure the required funding. Once the business case was well justified, the project team then moved to the acquisition and development phase of the PMM where they leveraged PMI's PMBOK processes and techniques. As the project moved to operations and support, the PMM then included components of ITIL for building a management plan that includes specific details of configuration and asset management, incident management, and change management.

Based on the comparative analysis, the real-life case study, and the feedback obtained from project management practitioners, the author concludes that because of the uniqueness each project, one methodology rarely suffices. Instead, tailoring and

combining relevant elements of traditional PMMs can improve project success as well ensure the most up to date tools, technologies, skills, and knowledge areas are leveraged in increasingly complex project environments.

Papadakis, E., & Tsironis, L. (2018). Hybrid methods and practices associated with agile methods, method tailoring and delivery of projects in a non-software context. *Procedia Computer Science*, *138*(8), 739-746. doi:10.1016/j.procs.2018.10.097

Abstract: Nowadays the business world is characterized by complexity since market environment is changing quickly. Delivery practice and methods for project, program and portfolio management have changed over the decades to align themselves to the changing environment. Unlike traditional methods used in delivery of projects and programs, agile methods are marked by responding to change over following a plan and by extensive collaboration with customer over contract negotiation and offering a variety of benefits that make them attractive to researchers. Although the latter methods [1] claimed to be beneficial presenting advantages such as accelerate time to market, increase in quality and productivity, new trends and hybrid methods and tailored processes are being discussed and developed. In this study the authors provide a report analysis of proposed tested frameworks already presented in the relative literature, tailored methodologies, a review of most used and popular agile practices and approaches and the trends in our subject area conducting a literature review ranging from 2000 to 2017. Our research strategy following a systematic approach [2] revealed 524 studies, of which 71 had been identified to answer our research questions. This is part of further work based on the first authors' PhD work. The results will be a guide to choose the most appropriate blend of practices for a given project, adapt them to the changing needs and develop an innovative framework methodology.

Summary: The purpose of this paper is to present the authors' analysis of current trends in agile methodology tailoring as well as an innovative framework for identifying the most appropriate blend of agile practices based on certain project characteristics. Because the paper discusses best practices in tailoring an agile methodology to a particular project or organization, it is deemed as highly applicable to this literature review.

In presenting the background and related works to their study, the authors begin by providing a historical context to the present-day expansion of agile approaches in organizations of all sizes. They note that while the use of agile has grown considerably within the last decade, the original methods once presented at its inception have been fundamentally adapted and blended with other traditional project management methodologies. As a result, *hybrid methodologies* have appreciably increased adoption and have been further popularized in recent literature. A hybrid methodology consists of blending agile and traditional methodologies and reflects an acceptance of the fluidity of projects. Recognizing the potential benefits to applying a hybrid methodology, the authors sought to better understand the current state of literature as it pertains to adapting and tailoring a hybrid methodology within an organization.

The design of the authors' study consisted of a dual effort in initially identifying possible sources from 2000-2017, developing research questions, and then vetting their selected sources for appropriateness to their study. Of the 524 possible studies, the authors chose 71 due to their ability to address their research questions: RQ1: What emerging agile practices, development approaches and methods in creating tailored methodologies (e.g., hybrid methods and practices associated with agile and plan-driven) are currently popular in the delivery of projects? Selection and adoption process. RQ2 Are there any evolving hybrid methodologies and method tailoring efforts? RQ3: Can

agile tailored/hybrid methodologies be applied and adopted in different contexts other than software (e.g, services)? Of those studies, 31% were case studies, 23% were framework proposals, and 15% were reviews and surveys.

In answering their first research question, the authors summarized nine best practices currently employed as agile development approaches that commonly have elements selected during methodology tailoring and blending efforts. The first is the use of *scrum,* where self-organizing teams incrementally plan project work that is broken into *sprints* that consist of planning, work execution, and retrospectives. A backlog is maintained by registering features that is ultimately managed by the product owner who decides which items should be developed during each sprint. The second best practice is the use of *extreme programming (XP),* where a lightweight methodology is applied with small release cycles and an emphasis on key values of communication, simplicity, feedback, courage, and respect of all project team members. The third best practice is the *dynamic systems development method (DSDM),* where the framework is based on three phases and nine principles: user involvement, empowerment of the project team, frequent deliveries, prominence of current business needs, continuous integration, iterative and incremental development, allowing the reversal of changes, a fixed high-level scope, testing throughout the project lifecycle, and efficient and effective communication. The fourth best practice is *lean* thinking, which consists of seven principles: (a) eliminate waste, (b) amplify learning, (c) decide as late as possible, (d) deliver as fast as possible, (e) empower the team, (f) build integrity, and (g) see the whole. The fifth best practice is the use of *hybrid* approaches. The most commonly cited hybrid approach consists of agile and lean practices that appropriately modularize project processes between high and low risk activities. The sixth best practice is the use of *crystal* principles that are agile based

and stress the importance of three distinct factors in choosing which methodology elements to employ for a project: (a) the amount of communication required between members of the development team, (b) the presence of life-threatening implications when defects are present in deliverables, and (c) the presence of corporate priorities that make the development process more complicated. The seventh best practice is the *feature driven development (FDD)* approach consisting of five steps. The first three steps develop the overall model of the system, develop the list of desired features and prioritize that list into an implementation plan. The fourth and fifth steps consist of the actual development work. The eight best practice is the *rational unified process (RUP)* approach that entails a framework consisting of five distinct phases: (a) business modeling, (b) analysis and design, (c) implementing, testing, and deployment. The ninth and final best practice the authors note is *Kanban.* The Kanban method is based on the lean principles by trying to avoid and remove waste. It is considered an adaptable method that focuses on cost savings given its penchant to allow for less impactful changes to scope due to the limited amount of work approved to be in progress.

Expanding on their first research question, the authors further investigated the evolving hybrid methodologies and method tailoring efforts currently employed by organizations. The authors reference a few notable examples of methodologies that have been blended together that ultimately culminate in a successful hybrid approach. For example, a new approach to IT project development and management could consist of scrum and traditional plan-driven development processes. The benefits of this hybrid approach would consist of the project team and customer employing waterfall type processes up front to specify requirements, formulate documents, bind the stakeholders together contractually, and ensure clarity in project scope, goals, and deliverables. Next,

the team could apply an agile method towards iteratively designing, implementing, and unit testing the project work throughout the development lifecycle. In tailoring these two methodologies before blending, a project manager would assess the need for early scope and goal development as well as time constraints and need for frequent end user feedback. Such project characteristics would dictate which elements of each methodology are required and how each individual one should be tailored.

To answer the third and final research question, the authors explored the use of tailored or hybrid methodologies in different project contexts other than software. Through their research, they found that multiple approaches have been developed to address projects of varying complexities in a multitude of industries and sectors. Presenting examples of product development methodologies that are adapted to non-product development projects, the authors illustrate the potential application of tailored methodologies in different contexts.

In closing their paper, the authors conclude that there still exists a gap in understanding for how traditional software development methodologies could be applied in different contexts. However, they were able to successfully find numerous examples of methodologies that have been successfully tailored and combined to form effective hybrid approaches. As the traditional measures of scope, time, and cost become increasingly insufficient in measuring project success, the authors propose that tailored methodologies will inevitably be required to address the full spectrum of evolving project success criteria.

Srivannaboon, S. (2006). Toward a contingency approach: Tailoring project management to achieve a competitive advantage. In *2006 Technology Management for the Global Future*

– *PICMET 2006 Conference.* Washington, D.C.: IEEE Conference Publishing Services. doi:10.1109/PICMET.2006.296807

Abstract: This study addresses the ways projects are managed as influenced by the business strategy in form of a theoretical framework. In particular, examples of how market leader companies tailored their project management - project strategy, organization, process, tools, metrics, and culture - to achieve a competitive advantage is presented. Additionally, general guidelines of how to tailor project management are provided. In essence, the study offers a "one size does not fit all" mindset, leading to an adaptation of appropriate project management styles to different types of business strategy.

Summary: Presented at the 2006 PICMET Conference, this study addresses the ways in which market-leader organizations tailor their project management approaches in order to gain competitive advantage. As this study involves proven industry best practices for tailoring a project management methodology (PMM), it is relevant to this literature review.

In developing the context for the study, the author highlights the importance organizations place on project management and its ability to align project work with organizational business strategies. The author found scant literature discussing the best practices for tailoring a PMM to accomplish a competitive advantage set by an organizational business strategy. In addressing this knowledge gap, the author seeks to clarify how a PMM could be tailored to align to a business strategy through a theoretical framework supported by real-world examples of how market-leaders configured their PMM to gain a competitive advantage.

To support her analysis, the author begins by defining the three critical strategies that provide an organization a competitive advantage: (a) cost leadership, (b) differentiation, and (c) focus. Next, the author defines the PMM elements that are critical in contributing to project success: (a) project strategy, (b) project organization, (c) project process, (d) project tools, (e) project metrics, and (f) project culture.

The design of the research consisted of a literature review focused on business strategy and project alignment as well as a case-study of market-leader organizations consisting of interviews to discover how those organizations tailor their PMMs to their business strategy. In total, she interviewed individuals at varying hierarchical levels in seven different organizations, across nine different projects, and four different industries. The author reviewed documents collected from participants such as meeting notes, risk logs, and project plans and then developed eight different case studies based on the project artifacts collected.

The results of her case studies had some notable points of exemplification. The author found a company or business unit makes its strategic choice by selecting competitive attributes that are advantageous such as time-to-market, quality, cost, and feature. Using a project that focuses on a time-to-market competitive advantage as an example, the author explains that the PMM elements chosen for this type of project would be tailored to support a schedule-driven development approach where project management phases, milestones, and activities overlap more than normal.

The author provides another example where the competitive advantage is cost reduction. Within this context, a PMM focus that is process improvement driven is required. This type of focus would therefore necessitate that the PMM be tailored to be highly standardized and templatized in order to ensure continuous improvement and mitigation of possible costly quality defects.

In concluding her study, the author noted that the relatively small number of cases she used was a limitation. Additionally, there may have been perceived biases towards the contributions of a PMM to a project's success by the individuals interviewed. However, she was able to conclude through her case studies that the degree to which a PMM is aligned to an organizational strategy is dependent on the specific tailored elements. By recognizing and defining the project or product traits that provide an organization with a competitive advantage, organizations will be able to appropriately tailor their PMMs to meet those strategic business needs.

Whitaker, S. (2014). The benefits of tailoring: Making a project management methodology fit. *Project Management Institute White Paper*. Retrieved from https://www.pmi.org/learning/library/tailoring-benefits-project-management-methodology-11133

Abstract: Abstract provided by the author of this annotated bibliography in the absence of a published abstract. Sean Whitaker (2014), a well-known industry professional, defines a model and process for tailoring a project management methodology based upon a variety of published works from the Project Management Institute (PMI), the International Organization for Standardization (ISO), and the American Productivity & Quality Center (APQC). By utilizing the best practices advocated by PMI, ISO, and APQC, he articulates a nine-step approach broken into three stages for tailoring and delivering a project management methodology: (a) applying the change management required for successful adoption, (b) establishing a process for continuous improvement, and (c) ensuring that the benefits are realized quickly.

Summary: The purpose of this paper is to provide project management practitioners with a practical model for tailoring a project management methodology (PMM) as well as presenting the findings of a study conducted by the author that explored possible links

between the use of a PMM and project success. The framework detailed by the author for tailoring a PMM aligns well to one of the core research questions of this literary review: What are the best practices for tailoring a PMM? The inclusion of this source is therefore important for this study and warranted.

The author begins by defining a PMM as a defined, documented, and discoverable set of policies, practices, processes, tools, techniques and templates that provide guidance on how projects are run within an organization. Referencing traditional project management frameworks or standards such as the Project Management Body of Knowledge (PMBOK), the author explains that project management practitioners can leverage traditional PMMs during their tailoring efforts by choosing which elements of these existing PMMs are most appropriate for the project and organization. In providing an example of how a market-leader organization tailors their PMM to specific projects based on their complexity, the author highlights Dell Services, a business unit of Dell, Inc. Within this organization, a four-level ranking system is used to categorize a project's complexity. Projects with high degrees of complexity are managed with processes and techniques that emphasize rigor and thorough monitoring while projects with low degrees of complexity are managed less meticulously with fewer required processes and documents. Ultimately, PMMs that are adequately tailored tend to enjoy greater commitment from the team members who helped create them, are more customer focused, and are more efficient in resource utilization.

After providing the background and context that illustrates the need for a tailored PMM, the author then presents his proposed three-stage process for tailoring and implementing a PMM. The first, *initial tailoring* stage consists of an assessment of the current level of project management maturity in the organization that encompasses an

examination of the types of projects previously undertaken; relevant project inputs such as organizational process assets, templates, and processes; known constraints; and existing PMM frameworks. Next, the PMM is iteratively developed and monitored during project execution for possible improvement using any number of key performance indicators such as total expenditures versus the budget, number of defects found, number of changes requested, or number of adjustments to the project schedule. The second stage involves *pre-project tailoring*. With the baseline PMM established in the initial tailoring stage, the project team would then adhere to the tailoring guidance provided in the baseline PMM to further select the elements of the PMM that are best suited to a specific project. The third stage involves *intra-project tailoring* and reflects and confirms the customizing nature of tailored PMMs throughout the project lifecycle. It is in this stage that the PMM is further tailored throughout the project as specific elements of the PMM are evaluated for applicability and usefulness. Finally, the author further acknowledges that one critical factor in successfully utilizing a tailored PMM is the degree to which the project team is able to be assist with the organizational change management required to ensure the PMM is implemented productively.

Through an online survey of 202 project management practitioners, the author investigated the current use of PMMs and tailored PMMs across multiple industries. He found that nearly half (48%) of respondents do not have a PMM in their organizations, with the other half (52%) utilizing a tailored PMM. Of those practitioners who indicated they do not have a formal PMM in place, 71% felt that if they had a PMM to use, the rate of project successes would increase.

After further analyzing respondent data, the author concludes that there is a direct relationship between a tailored PMM and project success. Organizations utilizing a fully

tailored PMM reported an average 82% project success rate while those with no PMM only reported an average 66% project success rate. By having a PMM tailored to an organization's size, industry, and project complexities, the author asserts that an organization will appreciate higher levels of project success.

Best Practices in Implementing a Tailored Project Management Methodology

Berzisa, S., & Rasnacis A. (2017). Method for adaptation and implementation of agile project management methodology. *Procedia Computer Science, 104*(2017) 43-50. doi:10.1016/j.procs.2017.01.055

Abstract: Agile methodologies are widely implemented and used around the world. There are over 20 different agile methodologies and their types. Choosing and adaptation of the methodology depends on project types, company and its employees. Employee characteristics, their mutual relations and motivation is one of aspects that can seriously impact success of the methodology implementation. So, these factors also need to be evaluated and considered during the adaptation of methodology. The purpose of this paper is to introduce a method for adaptation and implementation of the agile project management methodology according to the project team specific. The proposed method includes the best practices from change management, methodology adaptation and implementation and uses sociometric and motivation research methods. The method is evaluated with industry case study.

Summary: The focus of this paper is to present a method for adaptation and implementation of the agile project management methodology (PMM) based on specific elements of a project and organization. While processes for tailoring an agile methodology have been previously explored in this literary review, this source is the first

to present a model for implementing a tailored agile methodology and is therefore relevant to the overall focus of this paper.

The authors introduce their paper by first presenting the factors supported in research that contribute to a successful implementation of a tailored agile PMM: people, training, customers, team size, team capability, team motivation, company culture, planning, and scheduling. However, while these general factors are well understood, the authors contend that there is still a need to further investigate the relationship between a successful implementation of a tailored agile PMM and specific project team characteristics. Their proposed method includes best practices from change management, methodology adaptation and implementation while also using sociometric and motivation research methods to analyze the role of the project team in implementing a PMM. Finally, the authors present a case study where their method was employed and analyzed the real-world results of its application.

The design of the authors' method for tailoring and implementing an agile PMM involves five phases consisting of: (a) preparing the organization for the change that results from the implementation of the PMM, (b) an analysis of the relevant employees' motivation, interpersonal relationships, micro groups, formal and informal leaders and the possible agile methodology roles, (c) an initial selection of an existing agile PMM based on enterprise, team, and project characteristics, (d) the adaptation of the initially chosen agile PMM through customization of the existing agile roles, and (e) the implementation of the tailored agile PMM through an implementation model that is similar to the Deming cycle or ShuHaRI principles.

The authors follow their proposed method with a case study of a small information technology (IT) organization that utilized their adaptation and

implementation method of an agile PMM. The results of the case study indicate that the IT team experienced greater team cohesion, improved risk management, a reduction in software bugs, and increased communications due to the implemented agile PMM. As improvements to the development process were felt more acutely, the authors note that implementing additional aspects of the methodology became more efficient as the project team experienced greater motivation and self-organization.

While the case study provided a credible example of the effective employment of their method, the authors do acknowledge that the relatively small size of the project team and the singular case study was a limitation with their study. They recommend that future work include analysis of additional team characteristics; further examination of team motivation using other methods; an inclusion of guidelines for how agile roles, artifacts, processes and practices can improve team motivation in adopting an agile PMM; and the application of their method to new case studies.

Plewinski, P. (2014). Design and implementation of a project management methodology: From ad hoc project environment to fully operative PMO in three years. Paper presented at *PMI® Global Congress 2014—North America, Phoenix, AZ*. Newtown Square, PA: Project Management Institute. Retrieved from https://pmi.org/learning/library/design-implementation-project-management-methodology-9280

Abstract: This paper shows the process of implementation of a mature project management methodology in a 2000+- employee organization, from gathering requirements from the board of directors to supporting project managers in the implementation of the methodology in all strategic projects and getting involved in the local PMI® chapter. The process lasted for three years and finished with a fully operative project management office (PMO).

Summary: The motivation for this paper is to provide a framework for project management practitioners that supports the implementation of a project management methodology (PMM). Although the author discusses implementing a general PMM, the processes described in the paper lend well to the implementation of a tailored PMM. As a result, the source is a useful addition to the focus of this literary review.

The author discusses his personal experience working as a consultant who was tasked with implementing a PMM specific to an organization of over 2,000 employees. He explains that when implementing a PMM in an organization that has an immature project management culture, time, patience, and continuous executive support are required. Additionally, in order to utilize a PMM, an organization must first establish a project management culture that ensures commitment by all relevant employees and assuages any concerns of required organizational change.

Prior to formalizing the project to establish a project management culture and PMM, the author first investigated the stated reasons for implementing a PMM by interviewing board members and key personnel in the client organization. The referenced reasons had to do with improved efficiencies in project deliveries, greater insights into resource utilization on projects, and optimized processes for project prioritization.

After completing a brief requirements analysis, the author developed a project plan that was broken into three stages. The first stage involved a maturity assessment consisting of an audit of the organization's strengths and weakness pertaining to project management practices. Additionally, the author held multiple project management workshops within the organization to help establish the necessary context and employee buy-in required to move to the next stage of developing a tailored PMM. The second stage involved actually developing a PMM tailored to the organization's needs. The

developed PMM contained two sets of separate project management processes focused on strategic projects and improvement projects. Next, in conjunction with the client's project team and key stakeholders, the author ran the developed PMM through simulation workshops in order to further refine the tools and techniques while also securing management approval. Finally, in the third stage, the tailored PMM was implemented across a number of pilot projects of varying sizes and complexities. This allowed the author to further refine the PMM and offered an opportunity to train the project managers within the organization on how to use the PMM.

After successfully deploying a tailored PMM into the client's organization, the author further reflects on the organization's efforts to establish a mature Project Management Office (PMO). Using the newly developed PMM as a guide, the author details how the organization was able to successfully stand-up a PMO to monitor and improve upon the initial PMM.

In summarizing his experience, the author notes that one of the most important elements of a successful PMM implementation is the strong and consistent support from C-suite stakeholders. Without their involvement in the process, it is unlikely that a PMM will take hold and be utilized enough by the project teams so that an iterative improvement process can be established. However, once a PMM begins to deliver tangible benefits to an organization, any potential resistance to continuously refining a PMM will be mitigated.

Project Management Institute (2014). *Implementing Organizational Project Management: A Practice Guide.* Newton Square, Pennsylvania: Project Management Institute, Inc.

Book Inside Cover: *Implementing Organizational Project Management* demonstrates how an effective project management methodology integrates globally-accepted best

practices with business-specific processes and techniques. The guide will help practitioners develop relevant and effective methodologies for their organizations, with emphasis on:

- Important elements of a methodology;
- Essential tools, templates, and resources;
- Custom-fit approaches for consistent management of all projects;
- Alignment of project management practices across the organization's portfolio of projects;
- Application of lessons learned to capture organizational knowledge and learning, resulting in regular updates and refinements; and
- Consistent application of project management practices within the organization.

This practice guide provides the necessary tools to help project management practitioners develop a living, evolving methodology that will allow them to assess and refine their practices and become "best in class" performers.

Summary: Developed by the Project Management Institute (PMI), this guide provides a framework that can be used to align project, program, and portfolio practices with organizational strategy and objectives while customizing or fitting these practices to the organization's context, situation, or structure. Organizational project management (OPM) contributes to the development and implementation of a tailored project management methodology (PMM) within an organization by providing project managers with guidelines and standards for executing specific elements of a methodology based on certain project characteristics. By defining the best practices for implementing an organizational project management methodology, the guide provides support to an important aspect of this literary review; namely, how an organization can effectively

implement a tailored project management methodology (PMM) as part of an OPM methodology.

The guide is organized into five distinct sections. The first section covers the basic concepts, principles, and definitions of OPM as well as the benefits of utilizing a standardized OPM methodology. It then summarizes the main themes of the guide and briefly explains its relevancy to other PMI published works, such as the *Organizational Project Management Maturity Model (OPM3).*

Detailing the first step in implementing an OPM, the second section provides a high-level screening method for an organization to appropriately assess its readiness to implement a new or revitalize an existing OPM program. This evaluation mechanism is defined as a project management maturity model that organizations can leverage to monitor and improve upon their OPM methodology. With this maturity model, leaders within the organization will be able to better develop a business case for an approved OPM as well as build the necessary support needed see it executed effectively.

In the third section, the guide outlines the phased approach an organization can take to implement an OPM that supports organizational leadership in aligning project management with other business management processes that provide a strategic advantage. The guide explains that the implementation approach is tailored to an organization's business environment, similar to the tailoring of a PMM to an organization's project environment. The referenced phases include a discovery and analysis of the current state of project management within the organization, the development of an implementation roadmap, the actual implementation of an OPM, and the continuous monitoring and improvement activities by the OPM governing body.

Following a successful implementation of an OPM, the fourth section then defines how an organization can ensure it appropriately exploits four key processes that enable the realization of its strategic objectives more quickly through portfolio, program, and project management. These processes include strategic alignment of portfolios, programs, and projects; the use of PMM; the definition and establishment of a governance body; and the approach to managing the necessary project management competencies of the organization's project management practitioners. With these processes, an organization will not only be able to ensure a smooth implementation of an OPM, but also any preceding PMMs that support its overall project management strategies.

In the fifth and final section, the guide further expands on the previous section's elaboration of how a PMM can be implemented and leveraged as part of a larger OPM implementation strategy. Specifically, it addresses the process by which an organization develops and tailors an organizational project management methodology that becomes the heart of the OPM. Because an OPM consists of an organizational PMM, the processes of implementing an OPM and PMM are the same. Both are required to be present in order for an organization to be successful in achieving strategic alignment.

Tripp, J., & Armstrong, D. (2014). Exploring the relationship between organizational adoption motives and the tailoring of agile methods. Paper presented at *The 47th Hawaii International Conference on System Sciences*. doi:10.1109/HICSS.2014.589

Abstract: Advocates of agile information systems development methods originally called for implementation of the method in full - either perform all of the method's practices, or don't call it "agile". Over time this quest for orthodoxy was replaced by the pragmatic tailoring of agile methods to the organization's environment. However, little empirical research has investigated the forces that impact the manner in which agile

methods are tailored. This article described an exploratory study that investigates the relationships between the motives for adopting agile methods, and the agile practices adopted. Using the source data from the VersionOne State of Agile 2011 survey, we identified a sample of 2304 agile practitioners. Our study finds that three motives for agile adoption - a desire for increased software quality, increased efficiency, or increased effectiveness are each associated with different configurations of project management focused agile practices and agile practices related to the software development approach. **Summary:** The authors provide evidence of the motives influencing the adoption of a tailored agile methodology while also focusing on how to tailor an agile methodology. By understanding the motives that encourage or discourage the use of a tailored agile methodology, one might be able to better assess how to most appropriately implement tailored project management methodologies (PMM) in general. Therefore, this source provides relevant information to this literary review.

In providing the background to their study, the authors explain that the use of agile methodologies in software development has evolved considerably over the last decade as agile practitioners tailor their approaches to specific circumstances of the project environment. They further explain that the methods and recommended approaches for tailoring an agile methodology have been well researched. However, the authors argue that the actual application or implementation of a tailored agile methodology needs further study. To focus their research, the authors specifically wanted to investigate the motivating factors that influence the manner in which an agile methodology may be tailored. By understanding these motivations, the authors contend that a tailored methodology is much more likely to experience a successful implementation as the chosen practices conform to the actual needs of the practitioners.

Their research approach involved the use of a dataset consisting of 2,304 agile practitioners that responded to a survey given by an agile team coordination and management software company, VersionOne. The survey focused specifically on the motivations for using a tailored agile methodology and some of the challenges associated with the methodology's adoption. During their analysis, the authors determined that there were three notable factors of motivation for adopting a tailored agile methodology. These factors included the motivation to improve software quality by enforcing engineering discipline, the motivation to improve project efficiency through increased productivity, and the motivation to improve project effectiveness by managing changing priorities and improving alignment between information technology and business objectives.

With the motivating factors defined, the authors then identified which agile practices most strongly correlated to each. For example, for the motivating factor of improving efficiency, the agile practice of using a burndown chart to track resource utilization was positively correlated. This correlation implies that when tailoring an agile methodology to an organization that is focused on cost reduction and project efficiency, including the practice of using a burndown chart may encourage greater adoption of the entire methodology during the actual implementation. By remaining cognizant of the key motivating factors for using and tailoring an agile methodology, project management practitioners will be able to improve the overall implementation of that tailored methodology, as the incentives for its adoption are appropriately aligned to the organizational needs.

In concluding their study, the authors acknowledge that most respondents were information service (IS) professionals who have already adopted the use of agile practices, and the findings therefore could not be generalized beyond the population of

their study. Additionally, the way in which the questions were asked left open the possibility that differing responses may have originated from within the same organization and therefore influenced the categorization of the data. However, despite the stated limitations, the authors felt that they were still able to provide support to the notion that specific motivating factors influence not only the choice of which agile practices are utilized, but also the manner in which the agile methodology is implemented. If project teams feel appropriately incentivized to adopt a tailored agile methodology, then the overall implementation of that methodology is much more likely to be a success.

Conclusion

As strategic projects continue to increase in complexity, organizations will want to foster predictability and repeatability in their project management practices (Project Management Institute, 2014). Project management methodologies provide organizations with the opportunity to standardize the tools, techniques, processes, and procedures that are used to manage a project (Whitaker , 2014). By further tailoring traditional project management methodologies to specific project and organizational characteristics, project management professionals will improve the efficacy of their project management approach and increase the chances of project success (Project Management Institute, 2014). However, the degree to which a tailored project management methodology is useful is predicated on how well that methodology is ultimately implemented and adopted (Plewinski, 2014). For organizations in every industry, challenges exist not only in the selection and tailoring of a methodology, but also the method in which it is deployed (Project Management Institute, 2014).

This annotated bibliography summarizes literature that defines and exemplifies the best practices for selecting, tailoring, and implementing a project management methodology. The sources were selected based on a stringent set of criteria and their relevancy to industry-proven methods for adapting and implementing a project management methodology in varying project environments. As the complexity of projects continues to increase, future research of project management methods will be required as the field of project management continues to evolve.

The Need for a Project Management Methodology

The Project Management Institute (PMI) has found a strong correlation between project success and the use of a project management methodology (Project Management Institute, 2019).

Market leaders have espoused the use of project management methodologies as highly effective in providing consistency in project deliveries, mitigating the impact of interchanging project team members or stakeholders, supporting a common understanding of information analysis regardless of cultural differences within the project team, facilitating communication across technical disciplines, and assisting newly appointed project managers in getting up to speed quickly (Dolan, 2006). Studies have also shown that the benefits of utilizing a project management methodology manifest in better control and tracking of a project's progress, improvements in the ability to manage costs, increased flexibility in changing project requirements, and enforcement of needed consistency across project teams (Wells, 2012).

As projects continue to evolve and become more complex, it will be incumbent on organizations to ensure alignment between organizational objectives and relevant portfolios, programs, and projects (Project Management Institute, 2014). The use of a project management methodology can help to promote this needed alignment by enhancing the achievement of organizational goals and objectives through standardized project management practices (Srivannaboon, 2006). However, failure to provide a project management framework can result in project outcomes that result in cost overruns (Project Management Institute, 2018), schedule delays (Pace, 2019), a decrease in employee morale (Whitaker, 2014), and misalignment between organizational strategy and project execution (Srivannanboon, 2006). By employing a project management methodology, organizations can greatly improve the effectiveness of their project management practices and ensure efficient, repeatable project deliveries (Joslin & Muller, 2015).

Assessing Organizational Readiness for a Project Management Methodology

Once the need for a project management methodology is understood, the next critical step is to assess the organizational readiness for adopting a project management methodology

(Plewinski, 2014). As part of this assessment, an organization can develop a baseline understanding of their current project management capabilities through the use of a project management maturity model, similar to the Project Management Institute's *Organizational Project Management Maturity Model (OMP3)* (Project Management Institute, 2014). With this maturity model, leaders within the organization will not only be able to better develop a business case for an approved project management methodology, but also monitor the effectiveness of the developed methodology once implemented (Project Management Institute, 2014). Finally, to further aid the organization in evaluating their current state of preparedness, project management workshops can be given to internal employees that help to educate them on the project management fundamentals needed so that they can adequately self-reflect on the organization's readiness (Plewinski, 2014).

Choosing and Tailoring a Project Management Methodology

Project management practitioners recognize the need to use a variety of project management tools, techniques, and frameworks that are effectively combined to meet a project requirements (Ng, 2018). In an attempt to leverage industry-proven best practices in project management, these same practitioners frequently resort to established project management methodologies consisting of defined processes and procedures that encompass a multitude of different project types (Araujo et al., 2013). However, while the need for a project management methodology is often well understood, many organizations have tried unsuccessfully to implement off-the-shelf or ready-made project management methodologies that are ultimately incompatible with particular projects, the organization, or the level of organizational project management maturity (Whitaker, 2014). As a result, negative perceptions of the stated benefits that a project management methodology provides can manifest internally within the organization (Pace, 2019).

To assist the organization in choosing which traditional project management methodology is most appropriate to tailor, the organization should first contemplate which competitive advantages it is trying to achieve with its projects such as cost leadership, differentiation, or focus, as doing so will influence the chosen practices and approach (Srivannaboon, 2006). These strategic objectives will encourage the use of a project management methodology that generally falls into two broad categories, waterfall or agile, and will help further narrow the search for an existing methodology to tailor (Pace, 2019; Papadakis & Tsironis, 2018).

With the strategic priority defined and a general project management methodology category chosen, an organization will then identify which established methodology to tailor or which methodologies can be collaboratively combined (Ng, 2018). This is done by evaluating specific project characteristics such as the required project team roles and responsibilities (Bass, 2013); the size, complexity, and duration of the project; the existing organizational assets used to manage projects; and the current level of organizational project management maturity (Whitaker, 2014).

Next, the organization should refer to industry-proven project management tools and techniques (Araujo et al., 2013). Araujo et al. (2013) identified the most useful project management techniques through interviews and questionnaires administered to practitioners, such as establishing baseline plans, milestone planning, holding progress meetings, employing re-baselining techniques, using earned value management, using project management software for resource scheduling, providing progress reports, holding project kick-off meetings, and holding lessons learned sessions. They also identified the most useful tools, including project scope statements and work breakdown structures (Araujo et al., 2013). Finally, once a

preliminary methodology is developed, an organization should conduct project simulations to further refine the processes and tools being employed to ensure optimal fit (Plewinski, 2014).

Implementing a Tailored Project Management Methodology

The implementation of a tailored project management methodology is highly dependent on the capabilities of the organization to manage change (Project Management Institute, 2014), the organizational context of the methodology, employee characteristics, and employee motivations (Berzisa & Rasnacis, 2017). Whether it is improving software quality through engineering discipline or improving project effectiveness through better priority management, understanding the employee motivations for tailoring and adopting a project management methodology are critical to a successful implementation (Tripp & Armstrong, 2014). For example, Tripp and Armstrong (2014) analyzed the survey results of over 2,000 practitioners and found a positive correlation between the motivating factor of improving efficiency and the agile practice of using a burndown chart to track resource utilization. The implications of their discovery for a successful implementation are that when tailoring an agile methodology to an organization that is focused on cost reduction and project efficiency, including the practice of using a burndown chart may encourage greater adoption of the entire methodology during the actual implementation (Tripp & Armstrong, 2014). By remaining cognizant of the key motivating factors for using and tailoring an agile methodology, project management practitioners will be able to improve the overall implementation of that tailored methodology, as the incentives for its adoption are appropriately aligned to the organizational needs (Tripp & Armstrong, 2014).

In addition to recognizing the motivating factors for adopting a tailored methodology, the implementation of any organizational project management methodology, off-the-shelf or tailored, should follow a phased approach that begins with a discovery and analysis of the current

state of project management within the organization and the development of an implementation roadmap prior to execution (Project Management Institute, 2014). The implementation of a tailored project management methodology is an iterative process requiring frequent review, refinement, and continued support (Plewinski, 2014; Project Management Institute, 2014). Without the consistent support of executives within the organization, a project management methodology may suffer from a lack of proper use, negating any potential benefits that may be incurred and ultimately diminishing the methodology's effectiveness (Plewinski, 2014).

Final Thoughts

The literature provides evidence that supports the contribution of a project management methodology to a project's success (Dolan, 2006; Joslin & Muller, 2015; Pace, 2019; Project Management Institute, 2018; Project Management Institute, 2019; Srivannaboon, 2006; Wells, 2012; Whitaker, 2014). The predictability and repeatability that a framework provides ensures an organization has a baseline in which to measure the effectiveness of their project management practices (Project Management Institute, 2014; Whitaker, 2014). Absent any methodology, an organization will struggle to manage complex projects and be unable to identify where inefficient project management processes originate (Project Management, 2014; Whitaker 2014). Furthermore, the effectiveness of a project management methodology and how well it aligns to the organizational strategy is highly dependent on the degree to which it is tailored and employed (Ng, 2018; Plewinski, 2014; Srivannaboon, 2006). Once appropriately tailored, a project management methodology will provide enduring benefits to an organization by helping to cultivate a project management culture supportive of any future initiatives (Plewinski, 2014).

While the sources referenced in this literary study do provide valuable insights into best practices for tailoring a methodology, there is an opportunity for further research; specifically, a comprehensive collection of case studies that cover a variety of organizational and project types

that detail the exact project characteristics used to make tailoring decisions. Rather than defining the general project and organization characteristics that should be considered, the expanded research would include greater specificity around the exact project circumstances that warranted certain practices to be employed.

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