International Business Research; Vol. 17, No. 2; 2024
ISSN 1913-9004 E-ISSN 1913-9012
Published by Canadian Center of Science and Education

Best Practices and Implementation Challenges in Effective Project Management

Sreekumar Menon[1]

[1] Business Technology Leader & Director, Board Member, Houston, Texas, United States

Correspondence: Dr. Sreekumar Menon, Business Technology Leader & Director, Board Member, Houston, Texas, United States.

Received: July 25, 2021 Accepted: March 5, 2024 Online Published: March 27, 2024

doi:10.5539/ibr.v17n2p66 URL: https://doi.org/10.5539/ibr.v17n2p66

Abstract

The purpose of this research paper is to explore the most effective project management practices and analyze the challenges organizations face during their implementation. By adopting best practices, organizations can avoid common mistakes and achieve the best possible project outcomes. This process involves establishing a Project Management Office (PMO) as the project's central hub, selecting an appropriate methodology, developing project manager competencies, and managing change and risk effectively. Additionally, assessing implementation challenges based on a critical success factor approach can help organizations overcome common issues and lead the project to success. These challenges include barriers such as unsupportive top management, ineffective stakeholders, PMO inefficiency, insufficient project planning, and factors related to people. By tackling these challenges, organizations can build a solid foundation for their projects and ensure they are on the right track to accomplish their goals.

Keywords: effective project management, best practices, implementation, critical challenges, critical success factors

1. Introduction

Effective project management is a well-structured approach that aims to deliver the expected business value using the right tools, knowledge, techniques, processes, and skills to meet the needs of the sponsor (PMI, 2021; Wysocki, 2019). In other words, it is the process of planning, organizing, and managing resources to bring about successful project completion. The importance of project management best practices is evident from the Chaos report published by the Standish group in 2015. The report shows that the percentage of successful projects has increased from 29% in 2004 to 36% in 2015. Furthermore, the number of challenged projects decreased from 53% in 2004 to 45% in 2012, whereas 19% of the total projects failed in 2015 (Standish Group, 2015). Comprehensive use of project management best practices is essential for organizations to deliver projects successfully. However, implementing these practices requires significant investments from the company. Therefore, organizations must select and manage the best practices carefully to improve the efficiency and effectiveness of the organization (Alias, Baharum, & Idris, 2012). By doing so, they can ensure that their projects are completed on time, within budget, and meet the intended objectives.

2. Best Practices in Effective Project Management

As one of the fastest growing knowledge areas, project management has evolved over time. The history of project management goes back to the last 4500 years with the building of Pyramids, Colosseum, Taj Mahal, and Transcontinental railway. As years passed by, from the industrial revolution to the modern era, project management gained much prominence as a fast-growing area of knowledge (Gauthier & Ika, 2012). However, the birth of modern project management began with Henry Gantt in the early twentieth century, and the Gantt chart became the first accepted tool in project management (Soderlund, 2004). The development of Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT) in the 1950s and 1960s further catalyzed the evolution of project management (Kozak-Holland, 2011). CPM is a technique used to identify the critical path, which is the sequence of activities that must be completed on time to ensure the project is completed on schedule. PERT is a technique that helps project managers estimate the time required to complete each activity, identify the critical path, and manage project risks. The establishment of the Project Management Institute (PMI) in 1968 marked the beginning of the development of new knowledge areas and best practices. PMI is a

professional organization that provides training, certification, and best practices in project management. PMI has developed a framework called the Project Management Body of Knowledge (PMBOK), which is a guide to best practices in project management. Studies have shown the importance of implementing best practices, which are crucial for the success of any organization (Kerzner, 2023).

According to Delisle and Olson (2004), there is no common opinion about the meaning of the term best practices. PMI (2021) describes best practice as good practices, which are applicable to projects consistently and almost all the time. Chapman (2006) argued that good practices described in PMBOK are common practices as opposed to best practices. Best practice refers to a technique, tool, method, or approach used effectively to arrive at a desired outcome. In order to improve performance and overcome challenges, the organization must use benchmarking while adopting best practices (Besner & Hobbs, 2012; Alias et al., 2012).

The concept of benchmarking is deeply rooted in Total Quality Management (TQM), which emphasizes continuous improvement and ongoing monitoring of organizational performance compared to that of other best performers (Alias et al., 2012). It's common for organizations to benchmark their processes and practices against those of top-class organizations worldwide and also benchmarking against PMI's Project Management Competency Development Framework (PMCDF) (Kerzner, 2023). Benchmarking is useful for organizations to accurately assess weaknesses and identify gaps, and it's the best way to determine whether an organization's adoption of best practices has resulted in significant improvements.

Project management best practices are crucial for organizations to achieve their objectives and goals efficiently. Implementing appropriate best practices can help improve organizational effectiveness, enhance consistency and uniformity across all departments, and ensure that the organization is running smoothly (Kerzner, 2023). However, defining the right best practices that align with the organization's goals and objectives can be a challenging task. In this section, we will discuss some of the best practices that can help organizations become excellent institutions. These practices include establishing a PMO, adopting project management methodology, developing project manager competencies, managing change, and risk management. By implementing these best practices, organizations can ensure the success of their projects and enhance their overall performance.

Establishing Project Management Office (PMO)

The Project Management Office (PMO) is a vital organizational unit that provides support to project managers and team members throughout the project management cycle. The primary goal of the PMO is to implement project management best practices, tools, and methodologies within the organization. The PMI publications, PM body of knowledge, forms, and templates serve as rich sources of information that PMOs can leverage to ensure the successful delivery of projects (PMI, 2021). The PMO is responsible for managing large and complex projects, focusing on monitoring and controlling project budgets, schedules, resources, and other administrative functions. The PMO achieves this through the use of key performance indicators and critical success factors, which are used to improve project success rates.

It is worth noting that if the PMO is not managed well, it may become a bureaucratic organization, involving more paperwork and increased costs for the organization. Conversely, an effective PMO with sufficient organizational authority can improve stakeholder expectations and manage change within the organization. Moreover, a PMO can monitor and control project deliverables, effectively manage scope creep, and ensure proper project planning, organizing, staffing, monitoring, and closing. Therefore, the establishment of a PMO is highly imperative and essential for achieving the strategic goals of the organization. By examining the best practices, processes, and methodologies, PMO can define its own best practices suitable for the organization and leverage them to ensure the successful delivery of projects.

PMO Implementation Approach

Best practice approach for the implementation of a Project Management Office (PMO) is dependent on the organization's structure and size. Establishing a PMO requires a three-stage approach that includes starting project manager training, launching the PMO, and deploying it after final consultation with the management (Andersen et al., 2007). It is essential to understand that PMOs can function at different levels of an organization, including individual project level, divisional level, or corporate level (Crawford, 2002; Andersen et al., 2007; Singh, Keil, & Kasi, 2009). The duration of implementing PMOs can vary based on the PMO level, ranging from 3 months to 1 year for a project level, 1 to 3 years for a divisional level, and 3 to 7 years for corporate level (Rad & Levin, 2002). Thus, it is crucial to benchmark against other global organizations to identify the correct PMO level for an organization. Once the level is established, the organization can proceed with the PMO implementation plan. With strong support from the top management, PMOs can define their roles and responsibilities, establish PMO authority, and successfully implement project best practices to achieve

organizational objectives (Alias et al., 2012).

Adopting Project Management Methodology

Project management methodologies play a crucial role in enhancing project performance, ensuring that an organization's strategic goals are met. Both public and private organizations invest heavily in developing and adopting project management methodologies (Wells, 2012). According to Murch (2001), any methodology comprises four key components: techniques, tools, guidelines, and templates. An effective project management methodology can help reduce resource requirements, minimize costs, encourage reuse, and boost customer confidence.

Effective Methodologies

The project management body of knowledge (PMBOK) released by PMI in 1987, was a landmark in project management, as it paved the way for standardizing the best practices in project management. The Project Management Body of Knowledge (PMBOK), a collection of five process groups, ten knowledge areas, and forty-nine processes, is a globally accepted best practice for effective project management (PMI, 2021). The process groups include initiating, planning, executing, monitoring and controlling, and closing. The process groups can overlap in the case of complex projects or used iteratively for uncertain and changing project environments (Wysocki, 2019; PMI, 2021).

PMBOK defined ten knowledge areas, which consists of integration, scope time, cost quality, human resource management, communication, risk, procurement, and project stakeholder management (PMI, 2021). Kathy Rhoads, Director of Westfield group, an American insurance and banking company, highlighted the use of PMBOK as a guideline when they developed project management methodology (Kerzner, 2004). Applying PMI global standards can help achieve professional and organizational excellence in effective project management.

A similar body of knowledge is Projects in Controlled Environment (PRINCE2) developed by Office of Government Commerce (United Kingdom) as a standard practice for managing projects (OGC, 2009). Another key methodology is Agile project management that uses iterative, adaptive, and extreme principles for managing complex projects (Wysocki, 2019). Developed by Fowler and Highsmith (2001), agile concept is the foundational principle for agile methodology that relies on value, quality, change, and quicker and faster response to stakeholders (Fernandez & Fernandez, 2009). For properly managing projects, a good workable methodology is essential. In addition, companies must integrate adopted project methodology and usable project management tools into a common process.

Key Characteristics

The key characteristics of project methodologies include life cycle approach, overlapping of phases, phase gate reviews, minimal paperwork, simple bar chart reporting, and use of templates. Mistakes that occur during phase overlapping may prove costly for the organization and therefore require proper attention during planning. Similarly, phase gate reviews are necessary for project control and monitoring purposes (Kerzner, 2004).

Developing Project Manager Competencies

The project manager must be able to meet the sponsor’s requirements (cause) and business value (effect) using the best practices that are available to produce results. Project managers must adapt to changing situations, at the same time displaying creativity and courageousness when dealing with project conditions (Wysocki, 2019). In addition to technical skills, project managers must also exhibit business skills, personal characteristics, and attitudes while managing projects. The core competencies described in the Project Manager Competency Development Framework (PMCDF) emphasize the need to develop knowledge, performance, and personal competencies for project managers (PMI, 2007).

Core Competencies

Knowledge competencies denote the knowledge of project managers about the various tools, methodologies, and processes used in executing projects. Knowledge of internal methodology adopted by the organizations can also help project managers. Performance competencies enable project managers to apply the acquired knowledge to meet project requirements. Personal competencies denote how project managers behave while performing project activities. The personal traits or attitudes of a project manager demonstrate the ability to complete a project successfully (PMI, 2007). The framework of PMCDF is a strong indicator that project performance has a direct relation to project manager’s competence.

Grooming Strong Project Managers

Project managers need to possess a set of essential skills and capabilities to manage different types of projects, be it traditional, agile, or extreme. They should have competent knowledge in different project management areas so that they can apply it effectively during project management. While delivering a project, project managers need to focus on the broader strategic picture. They should have an in-depth understanding of the organization to recognize potential hindrances to project execution. As per Morgan, Levitt, and Malek (2007), project managers must develop communication skills, challenge strategies, and select talented resources to lead from the middle. Effective use of project management skills, understanding organizational stakeholders, availability of strong technical and people competencies, and project feedback and review mechanisms are crucial for managing projects successfully (Loo, 2003). As project requirements increase, organizations may have to deploy project managers with less experience or skills. It is essential to groom and find project managers with the right skills, including soft skills, which can be a challenging task for the organization.

Using feedback mechanisms

Effective project management requires the implementation of competent feedback mechanisms. Feedback and reviews, which are part of internal communication, are essential for understanding the flaws in project conditions. Feedback mechanisms can initiate preventive and corrective actions, which are important for the success of the project (Pinto & Slevin, 1987; Loo, 2003). Feedback is an extremely useful and important mechanism for detecting project issues, challenges and shortcomings, as well as suggesting future ways of improvement. It is crucial that feedback and reviews should be an ongoing and continuous process, and not just a one-time event after the project is completed. Identifying issues at an early stage reduces risks and initiates organizational learning and training needs (Kotnour, 2000). PMO and senior leadership should actively participate in organizational changes if the feedback reviews demand it. Shying away from change management because some people show resistance to change can result in reducing employee morale, leading to project failure.

Managing Change Management

Change management is a crucial practice that organizations should adopt to achieve their desired future state. It is essential that change management aligns with the organization's culture to implement strategic changes effectively. Involving stakeholders and providing user training can help reduce resistance to change when implementing new systems or solutions (Kemp & Low, 2008). According to studies, the project's schedule and cost have a more significant impact on change management than any other best practice (Zou & Lee, 2009). Implementing changes can affect current processes and people's responsibilities within the organization. However, by maintaining continuous engagement with stakeholders, change management can overcome organizational and people's resistance (Kotter, 1996).

Change Management Model

Kotter (1996) introduced one of the foundational models in change management. The seven steps of Kotter model include create urgency, form coalitions, communicate vision, remove obstacles, and enable actions, generate wins, hold the gain –build the change, and anchor change in the culture. Managing change involves convincing people, which in turn needs aligning with like-minded helpers and thinkers who can support the change. Strong leadership support and constant communication is essential to reduce tension and resistance from people. Sufficient training can remove obstacles and motivating and communicating success early in the game help generate wins. For making change that reverberates throughout the organization, it is essential to embed the change as part of the organizational culture. For continuous improvement, capturing what is working and what is not through a continuous evaluation process is mandatory (Kotter, 1996).

Benefits of Change

Benefits of developing change management practice allows the organization to manage customers effectively. Customers can be both internal and external, and analyzing the customer change requests will provide insights into scope changes, cost, schedule, or technical requirements. Making the customer aware of the organizational change management methodology can provide an early buy-in for project recommendations during scope changes (Kerzner, 2023). Managing change helps the organization to add business value and improve operational efficiency.

Managing Risk Management

Risk is an uncertain event or condition that can create a positive or negative effect on project objectives (PMI, 2021). When a risk event occurs, it ceases to become uncertain. Threats are issues or problems and opportunities are benefits, both of which entail immediate management action. Risk management is a best practice for project management and many companies follow risk management tools, practices, and procedures effectively.

Managing risks include identification, assessment, control, avoidance, and mitigation or the elimination of unacceptable risks. Maintaining risk register and issue and risk logs are useful in managing and mitigating risks in effective project management. According to a PMI study, 37% of the respondents reported that conducting frequent project reviews on risk assessment reduced risks and improved success rates (PMI, 2010).

Aspects of Risk Management

Both top-down and bottom-up approach is valid while implementing risk management process. The approach strongly conveys to the organization that risk management is important, and the organizational culture accepts it. Top leadership must support the risk management efforts with proactive participation. It is also important to motivate good risk management practices by rewarding those who practise it. Ideally, such rewards can convince detractors about the importance of risk management. In addition, it is also important to tailor risk management to each project situation, instead of using one single design for all projects (Kerzner, 2004).

Risk Management Plan

To manage project effectively, organizations have to define an appropriate risk management plan during the start of the project. The risk management plan must include key processes such as identifying risks, performing quantitative and qualitative risk analysis, plan risk responses, and monitor and control risks. Risk management starts with risk management plan (created as early in the project) since it affects other processes such as scope, time, cost, quality, and procurement (PMI, 2021). Identifying risks forms part of the output of the risk plan, which leads to risk analysis and the generation of risk responses. Maintaining risk register is another important way of monitoring and controlling risks throughout the project life cycle.

3. Challenges in Implementing Best Practices

Best practices can lead to better results and improved project success for the organization. During implementation, organizations face certain distinct challenges. Avoiding classic mistakes from happening must be the key priority of project managers. Critical success factor studies in the field of project management have yielded results that underline some of the classic challenges faced by organization. Rockart (1979) was the first author to use the critical success factor (CSF) approach to help project managers specify their own information needs about issues that were critical to the organization. Rockart defined CSFs as limited number of areas, if satisfactory results are obtained, will ensure successful competitive performance (Rockart, 1979).

The seminal works of Pinto and Slevin (1987), Somers and Nelson (2001), Menon (2016), Menon (2019), Menon (2020) further provide deep insights into the critical success factor theories that affect project performance. Top management support, people factors, communication, project planning, change management, stakeholder management are some of the critical success factors that have shown statistical significance to project success (Finney & Corbett, 2007; Menon, 2020; Nah et al., 2001; Pinto & Slevin, 1987; Shaul & Tauber, 2013). Critical success factors provide necessary inputs to project management practice, which can ultimately lead the project to success. Based on critical factors studies, some of the key challenges that can influence best practice implementation include top management support, Effective PMO, effective stakeholder management, insufficient project planning, and human or people factors (Menon, 2020).

Top Management Support

Several success factor research have shown that top management support is the single most important factor, critical for the success of any project (Finney & Corbett, 2007; Menon, 2020; Nah et al., 2001; Pinto & Slevin, 1987). With such strong sentiments for top leadership support riding high, unsupportive top management is still a major cause for many project failures (Nelson, 2007). Identifying the right sponsor and ensuring strong commitment to project charter at the beginning of the project is necessary for reducing the implementation challenges. Maintaining relationships with the top management during the entire project life cycle can overcome the challenges in implementing best practices (Nelson, 2007; Shaul & Tauber, 2013).

Effective Stakeholder Management

Stakeholders are people or organizations, sponsors, and customers with genuine interests in the project outcome. According to Nelson (2007), the second biggest cause of project failure is the result of ineffective stakeholder management. Identifying stakeholders who need attention from project teams and assessing their levels of influence is critical for project success (Shaul & Tauber, 2013). Challenges occur due to conflicting and differing viewpoints from stakeholders. The project manager must be responsible for managing stakeholder expectations (PMI, 2021).

Effective PMO

PMO is a structured organization that can provide strong support and service to the organization while implementing and managing best practices and projects (Andersen et al., 2007). Ineffective PMO can damage the implementation efforts of the project organization. Invariably, a strong and competent project manager capable of providing expert opinion and guidance to other project managers often heads PMO.

Insufficient Project Planning

Comprehensive project planning that covers all the project processes is an absolute necessity in effective project management. While defining return on investment (ROI), every plan should explain the business value, which the project will bring to the table (PMI, 2010). Defining project objectives and discussing the project management plan with the project stakeholders is necessary for project success. For making project planning infallible, it is also important to set procedural deadlines while undertaking planning efforts (PMI, 2021). The study conducted by Nelson (2007) in 74 organizations to determine project mistakes and challenges has revealed the importance of project planning. A fastest growing leather retailer (name undisclosed) failed to create project charter and establish a business case before proceeding with a portal upgrade. The project was disastrous for the company, and the results emphasized the need for proper project planning using project charter, governance, and clear roles and responsibilities (Nelson, 2007).

Importance of Human or People Factors

Effective project management means doing the right things through people. Issues related to learning, training, and hiring the right resources can influence implementation of best practices. An organization that has decided to choose the path of agile methodology may find it difficult to implement, if there is no competent project manager who knows its foundational principles. Major people factors that may directly affect project success are use of balanced team, consultant selection, dedicated resources, utilization of right people, and team competence (Finney & Corbett, 2007; Menon, 2020; Pinto & Slevin, 1987; Somers & Nelson, 2004;). The study conducted by Nelson (2007) accentuates the significance of people dimension. According to the study, 37% experienced weak personal or team issues, which was the cause of project failures. Identifying and assigning competent and skilled resources is an extremely daunting task for project managers. Weak or incapable team members can derail the project schedule and compromise the quality of the project deliverable. Assessing people's skills and competencies early in the project can increase project performance and implementation success levels.

4. Conclusion

From a project management perspective, it is crucial for organizations to adopt the best practices that can provide them a competitive edge by delivering exceptional quality services, reduce project costs, and ensuring timely project delivery. By benchmarking with the top companies that have already implemented the best practices, organizations can analyze their weaknesses and diagnose gaps that need to be addressed. However, implementing best practices can also create unique challenges. Even though project managers are aware of the challenges that may arise during the implementation, the failure rates of projects have not decreased substantially (Nelson, 2007; Standish Group, 2015; Menon, 2016). Some of the common challenges that arise during the implementation phase are unsupportive top management, ineffective stakeholders, inefficient PMO, insufficient project planning, and people factors. By leveraging best practices and proactively managing success factors, project managers can improve project performance and increase business value.

Acknowledgments

Not applicable

Authors contributions

Not applicable

Funding

Not applicable

Competing interests

Not applicable

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Canadian Center of Science and Education.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

References

Alias, Z., Baharum, A, Z., & Idris, M. F. (2012). Project management towards best practice. *Procedia - Social and Behavioral Sciences, 68*, 108-120. https://doi.org/10.1016/j.sbspro.2012.12.211

Andersen, B., Henriksen, B., & Aarseth, W. (2007). Benchmarking of project management office establishment: Extracting best practices. *Journal of Management in Engineering, 23*, 97-104. https://doi.org/10.1061/(ASCE)0742-597X(2007)23:2(97)

Besner, C., & Hobbs, B. (2012). *Contextualization of project management practice and best practice*. Newtown Square, PA: Project Management Institute.

Chapman, C. (2006). Key points of contention in framing assumptions for risk and uncertainty management. *International Journal of Project Management, 24*, 303-313. https://doi.org/10.1016/j.ijproman.2006.01.006

Crawford, J. K. (2002). *The strategic project office: A guide to improving organizational performance*. New York: Marcel Dekker.

Delisle, C. L., & Olson, D. (2004). Would the real project management language please stand up? *International Journal of Project Management, 22*, 327-337. https://doi.org/10.1016/S0263-7863(03)00072-3

Fernandez, D. J., & Fernandez, J. D. (2009). Agile project management – Agilism versus traditional approaches. *The Journal of Computer Information Systems, 49*(2), 10-17. Retrieved from http://iacis.org/

Finney, S., & Corbett, M., (2007), ERP implementation a compilation and analysis of critical success factors. *Business Process Management Journal, 13*(3), 329-347. https://doi.org/10.1108/14637150710752272

Fowler, M., & Highsmith, J. (2001). The Agile Manifesto. *Software Development, 9*(8), 28-32. Retrieved from http://www.pmp-projects.org/Agile-Manifesto.pdf

Gauthier, J., & Ika, L. A. (2012). Foundations of project management research: An explicit and six-facet ontological framework. *Project Management Journal, 43*, 5-23. https://doi.org/10.1002/pmj.21288

Kemp, M., & Low, G. (2008). ERP innovation implementation model incorporating change management. *Business Process Management Journal, 14*, 228-242. https://doi.org/10.1108/14637150810864952

Kerzner, H. (2004). *Advanced project management: Best practices on implementation*. Wiley.

Kerzner, H. (2023). *Project management best practices: Achieving global excellence*. John Wiley & Sons.

Kotter, J. P. (1996). *Leading change*. Harvard Business School Press.

Kozak-Holland, M. (2011). *The history of project management*. Multi-Media Publications.

Menon, S. (2020). Critical Success Factors for ERP Projects: Recommendations from a Canadian Exploratory Study. *International Journal of Business and Management, 15*(2), 68-80. https://doi.org/10.5539/ijbm.v15n2p80

Menon, S. A. (2016). Critical challenges in ERP implementation: A qualitative case study in the Canadian oil and gas industry (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses. Capella University, Minneapolis, US. (Accession order No. AAT 10252616)

Menon, S. A., Muchnick, M., Butler, C., & Pizur, T. (2019). Critical Challenges in Enterprise Resource Planning (ERP) Implementation. *International Journal of Business and Management, 14*(7), 54-69. https://doi.org/10.5539/ijbm.v14n7p54

Morgan, M., Levitt, R. E., & Malek, W. A. (2007). *Executing your strategy: How to break it down and get it done.* Harvard Business School Press.

Murch, R. (2001). *Project management: Best practices for IT professionals*. Prentice Hall.

Nah, F. F., Lau, J. L., & Kuang, J. (2001). Critical factors for successful implementation of enterprise systems. *Business Process Management Journal, 7*(3), 285-296. https://doi.org/10.1108/14637150110392782

Nelson, R. R. (2007). IT project management: Infamous failures, classic mistakes, and best practices. *MIS Quarterly Executive, 6*(2), 67-78. Retrieved from http:// www.misqe.org/

Office of Government Commerce. (2009). *Managing Successful Projects with PRINCE2*. The Stationery Office.

Pinto, J. K., & Slevin, D. P. (1987). Critical factors in successful project implementation. *IEEE Transactions on Engineering Management, 34*, 22-27. https://doi.org/10.1109/TEM.1987.6498856

Project Management Institute. (2007). *Project manager competency development framework.* PMI

Project Management Institute. (2010). *The value of project management* [White paper]. PMI

Project Management Institute. (2021). *A guide to the project management body of knowledge.* PMI

Rad, P. F., & Levin, G. (2002). *The advanced Project Management Office: A comprehensive look at function and implementation*. St. Lucie Press. https://doi.org/10.1201/9781420000375

Rockart, J.F. (1979). Chief executives define their own needs. *Harvard business review, 3*(1) 81-93. Retrieved from https:/www./hbr.org/

Shaul, L., & Tauber, D. (2013). Critical success factors in enterprise resource planning systems. *ACM Computing Surveys, 45*, 1-39. https://doi.org/10.1145/2501654.2501669

Singh, R., Keil, M., & Kasi, V. (2009). Identifying and overcoming the challenges of implementing a project management office. *European Journal of Information Systems, 18*, 409-427. https://doi.org/10.1057/ejis.2009.29

Soderlund, J. (2004). Building theories of project management: Past research, questions for the future. *International Journal of Project Management, 22*, 183-191. https://doi.org/10.1016/S0263-7863(03)00070-X

Somers, T. M., & Nelson, K. (2001). The impact of critical success factors across the stages of enterprise resource and planning Implementations. *Proceedings of the 34th Hawaii International Conference on System Sciences, USA, 105,* 1-10. https://doi.org/10.1109/HICSS.2001.927129

Standish group. (2015). *Chaos Report 2015.* Retrieved from https://www.standishgroup.com/sample_research_files/CHAOSReport2015-Final.pdf

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

Wysocki, Robert K. (2019). *Effective project management: Traditional, agile, extreme, Hybrid*. Wiley. https://doi.org/10.1002/9781119562757

Zou, Y., & Lee, S. (2009). Implementation of project change management best practice in different project environments. *Canadian Journal of Civil Engineering, 36*, 439-449. https://doi.org/10.1139/L08-138