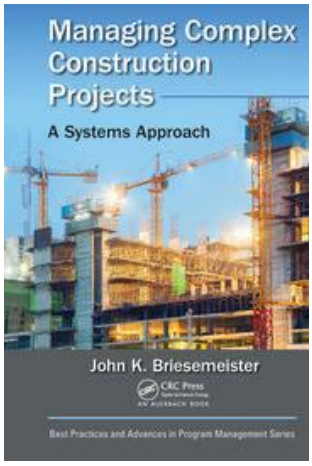
PM WORLD BOOK REVIEW



Book Title: ***Managing Complex Construction Projects: A Systems Approach*** [1]

Author: **John K. Briesemeister**

Publisher: CRC Press, Taylor & Francis Group

List Price: $71.96 (hardcover)

Format: Hardcover, softcover, eBook; 244 pages

Publication Date: 2018 ISBN: 978-1-4987-8311-8

Reviewer: **Richard Celotto, PMP**

Review Date: April 2023

Introduction

No more excuses! In his comprehensive coverage of how to manage complex construction projects, author John Briesemeister has laid out in extraordinary, but also easy-to-read and understand detail, all of the steps that should be taken to achieve project success, from preparing a bid during the initiation phase, to monitoring and controlling the project in the execution phase. Drawing upon his more than 30 years of experience as a Construction Manager, Site Manager, and Project Manager in both the United States and in foreign lands, Mr. Briesemeister provides invaluable insight into the many pitfalls that can occur, and explicit guidance on how to minimize the risk of them happening by following a tried and true approach that embodies all of the practices defined in the PMI method of project management.

What makes this book so interesting to read, especially for those who may have experience with, or interest in, large, challenging industrial, manufacturing, or civil enterprises, is that unlike for many project managers who have a tendency to ignore some or even many steps in the PMI Book of Knowledge, rationalizing that the discipline defined in the PMBoK is excessive for the size projects they undertake, those involved in very large and complex construction projects as described in this book who depart from the rigor of that bible's approach would be on a path fraught with danger.

The author's premise is that there are three systems that are the pillars of sound project management - the Project Management System, the Work Management System, and the Quality Management System – the plans for which must be carefully prepared and integrated. He walks the reader through each of them in great detail,

[1] How to cite this work: Celotto, R. (2023). Managing Complex Construction Projects: A Systems Approach, book review, PM World Journal, Vol. XII, Issue V, May.

with plenty of examples of the dozens of planning, scheduling, budgeting, and tracking tools and other artifacts that must be created and maintained. In each case, he explains the purpose of the measure being taken and often identifies the risk that is generated by not performing the step, with very specific real life examples of the problem that can occur. The author goes on to describe a fictional but completely realistic example of the early stages of a project in great detail, helping the reader to see exactly how the three systems are applied in very practical and useful terms.

Overview of Book's Structure

The book is organized to first cover those three foundational systems. Three chapters are devoted to the Project Management System (PMS), which covers the Initiation Phase (developing the bid and proposal) and the Planning Phase for the execution. The author introduces the Work Breakdown Structure, an essential building block of the PMS that is a Rosetta Stone for how most of the elements of planning and execution are integrated. He goes on to describe the outputs generated by the Project Management System, which includes 8 essential plans. The book next addresses the Work Management System (WMS) that controls the four major types of work: Civil Construction, Electrical Construction, Mechanical Construction, and Instrument & Control Construction. The WMS is designed to ensure that the work is closely monitored to ensure that milestones dates are achieved and to give early warning if some part of the plan is falling behind schedule or exceeding its budget, or both. The author then describes the Quality Management System that is the other key to successful execution. The QMS implements the Project Quality Plan prepared as part of the PMS, one of numerous examples of the interrelationship of the three systems. The QMS is designed to ensure that the quality requirements of the contract are met.

The author then "brings it all together" in a long chapter similarly titled, in which he uses a true-to-life, very large and complex construction project example (so real that this reviewer searched for it on the internet without success) to illustrate the application of the three pillar systems. In a well done blend of fiction and practical, step-by-step methodology, Mr. Briesemeister illustrates in great detail a "text book" process that starts with a decision by a company to pursue a new and challenging construction project opportunity (Project Initiation) and takes it through [spoiler alert!] successful bidding (Project Planning) into the early stages of Project Execution, with a number of typical emergent problems that the company's project team must solve.

Finally, the author devotes the last chapter to sharing "Lessons Learned from the Field", in which he describes many real life problems that he has encountered in this career, why they occurred and how they were successfully addressed. The book also contains a glossary of terms that were each defined when first introduced but which serves as a handy quick reference to refresh the reader's understanding of them. Lastly, the author provides an invaluable index to all of the covered subjects that the reviewer found to be extremely helpful when looking to refresh one's memory of a particular plan or step and where it occurred in the process.

Highlights

As someone involved in designing and building complex systems in a completely different industry, this reviewer found the description of what is involved in planning for and executing a large and complex civil construction project enormously informative and absolutely fascinating. In an early discussion about preparing a project budget, the author identifies numerous hidden costs that would not be evident except to someone who has probably discovered them the hard way. For example, on the subject of labor mobilization in a non-US country where a certain percentage of the workforce must be domestically sourced through labor brokers and there is an absence of skilled labor, the training and likely required trade skill certification of some or maybe many of the workers must be budgeted. He notes that on a large project where the peak workforce might number 5000 men-per-day, the cost and delay of not anticipating that training and certification would have a devastating impact on the project's cost and schedule.

For these large projects, much of the work is done by subcontractors under the management of a general contractor company, which is where the project manager sits. Accordingly, Mr. Briesemeister devotes extensive coverage and detail on how to monitor subcontractor performance, with many examples of how to assess whether the various subcontractors are on schedule, because the schedules of all of the work are so interrelated.

Another highlight of the book is the chapter "Bringing It All Together" mentioned earlier. This almost day-by-day description of how the bid team develops their bid delivers one clear message: planning must be detailed, thorough, and robust. The investment in time and resources to develop a comprehensive project management plan, and the many associated plans, will make all the difference in the project's execution and thus success, incidental to actually preparing the bid price. What also becomes abundantly clear is that in the world of large, complex projects, that investment to assemble a valid proposal is quite significant. However, in this example, once the project is won and execution begins, the value of all of that advance planning enables the project to get off to a good start … until a few days after the Notice to Proceed is received and the first of many unexpected problems arise. How the team responds to each of the those unplanned situations reflects the strength of the team that was built during the Initiation and Planning phases and value of having a comprehensive plan with float built into the schedule and margin built into the pricing.

What I liked!

This reviewer, who has spent a career in naval shipbuilding, which is inherently complex even for small vessels, found the book to be intriguing just from the perspective of learning how large civil construction projects are accomplished. Additionally, the commonality of being frequently confronted with unanticipated challenges between the naval shipbuilding world and that of civil construction was uncanny. In naval shipbuilding, Murphy's Law is always in play, and so it also appears in the construction of large buildings and complexes. Having experienced many unexpected problems in managing projects, it is easy to relate to the real life examples of what could go wrong described in the planning chapters, as well as what did happen covered in the Lessons Learned chapter. One of the true values of that coverage is

the author's recommendations for how to avoid some not-necessarily-rare problems, or deal with them if they are encountered.

Who might benefit from the Book

A construction industry project manager who has operated in the large, complex project arena and experienced serious setbacks and even project failure may read this book and have an "Ah ha!" moment when they learn about one of the steps that Mr. Briesemeister recommends should be taken that they had skipped. An inexperienced young civil engineer or an experienced and successful project manager in a different market who is contemplating stepping into the role of a construction project manager may find this book to be an invaluable primer for how to do it right. On the other hand, such a person exploring their career options may be deterred from plunging into the role by the rigor of the process and the surprising number of things that could go wrong and the high stakes that are at risk.

While the book is all about complex construction project management, any project manager who intends to undertake a large project in any field, or who has done that but still wants to improve their skills and their chances of success, will find this book productive to read. The specific details, examples, and tools may not be directly relevant, but the discipline of the process, aligned knowingly or coincidentally with the PMBoK method, is the best assurance for a smooth execution, minimization of risk, and being able to recover from setbacks.

A third type of reader might be one who just wants to learn about civil construction projects "from the inside", because the description of those types of projects is both thorough and enthralling, even if the reader dispenses with paying a lot of attention to the nitty-gritty details of the project management method.

Conclusion

From the perspective of a reader who is using the book to guide them through the process or to learn from a pro how to do it better, this reviewer cannot imagine a better source of guidance and insight. The level of detail is extraordinary, but not to the point of becoming boring. And it is all about paying attention to detail and following the disciplined project management method that is necessary to best assure project success, because for large complex construction projects, so many unplanned, unexpected developments can occur. If the PMBoK is a bible for general project management, this book is the must-read companion for those involved in complex construction project management.

For more about this book, go to: https://www.routledge.com/Managing-Complex-Construction-Projects-A-Systems-Approach/Briesemeister/p/book/9781032476285

About the Reviewer

Richard Celotto

Maryland, USA

Richard Celotto is a naval engineer who spent his first career as an US Navy Engineering Duty Officer involved in the operation, design, construction, and maintenance of naval vessels. He participated in five US Navy shipbuilding programs while on active duty and three US Coast Guard cutter acquisition programs as a consulting engineer following his military service, all of them complex and challenging. Also during his second career in the marine industry private sector, he served as the Vice President of Engineering and a Senior Program Manager at BMT Designers and Planners in Washington, DC. He currently works for CACI, Inc as a ship acquisition advisor. Mr. Celotto is a certified Project Management Professional. He can be contacted at rcelotto@verizon.net

---

Editor's note: This book review was the result of a partnership between the publisher, the PM World Journal and the PMI Silver Spring Chapter. Authors and publishers provide the books to the PMWJ editor or directly to the PMI Silver Spring Chapter, where they are offered free to PMI members to review; book reviews are published in the PM World Journal and PM World Library. PMI Silver Spring Chapter members can keep the books as well as claim PDUs for PMP recertification when their reviews are published.

If you are an author or publisher of a project management-related book, and would like the book reviewed through this program, please contact editor@pmworldjournal.com.

To learn more about the PMWJ book review program, go to https://pmworldlibrary.net/book-review-program/