

**COLLABORATIVE RISK MITIGATION
THROUGH CONSTRUCTION PLANNING
AND SCHEDULING**

COLLABORATIVE RISK MITIGATION THROUGH CONSTRUCTION PLANNING AND SCHEDULING: RISK DOESN'T HAVE TO BE A FOUR-LETTER WORD

BY

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United Kingdom – North America – Japan – India – Malaysia – China

Emerald Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2019

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British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-78743-148-5 (Print)

ISBN: 978-1-78743-147-8 (Online)

ISBN: 978-1-78743-248-2 (Epub)



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Synopsis from Industry Professionals

Owners

“Whether you’re new to the industry or a seasoned professional; architect, project manager, contractor, or owner; and regardless the size of the project, this is a must read for all in the industry on how to ‘plan your work and work your plan’ for more successful outcomes.”

Mark Webb

Principal at Vizient

“With the construction industry challenged with a limited labor market, lack of skilled trades, competitive landscape, and reduced margins, it is imperative that owners mitigate their risk in all facets of the capital project delivery process. With Lana Coble’s thirty plus years of experience in the construction industry, serving as a general contractor, owners representative, faculty member, and architect, she brings unique and proven experiences, and perspectives in this book through case studies that predict risks, with proven solutions.”

Spencer Moore, Vice President of Facilities Management and Operations
University of Texas M. D. Anderson Cancer Center

“Embarking on a large capital project is a challenging undertaking, even for a seasoned project leader. There is so much at stake – tens to hundreds of millions of dollars, the ability for an Institution to continue its mission and Institutional reputation, to name a just a few of the larger risks. It is not for the faint of heart or the inexperienced. Lana is neither of those, to say the least.

Lana has written a book, based on her long and extensive experience, to help both industry professionals as well as inexperienced owners to anticipate those risks and challenges. By doing so, they can better plan for and ultimately manage the risks that come from designing and constructing buildings.

Lana’s depth of experience makes her extremely qualified to walk the reader through these challenges. She brings case-study experience to illuminate her concepts and assist the reader to better comprehend the ideas she wishes to share.”

Sidney J Sanders, Senior Vice President

Construction, Facilities Design and Real Estate, Houston Methodist

Program Manager

“Set aside those ‘how-to’ project management books written by self-proclaimed authorities who’ve never managed a successful project. Make way for Lana Coble who in *Risk Doesn’t Have to Be a Four-Letter Word* provides highly useful approaches, specific tools, and sage advice on reducing risks to greatly improve the chances for project success. As one of the most experienced, knowledgeable, and owner-oriented project leaders I’ve ever known, you can be assured her recommended techniques and scheduling practices have been tested in her ‘laboratory’ of real world projects. For me, she led very large, complex projects in Houston’s dense and cramped Texas Medical Center and achieved outstanding results while gaining the respect of all who worked with her. Finally, a book has been written by a proven project authority based on doing, not on philosophy.”

James A. Broaddus, PhD, P.E.
President, The Broaddus Companies

Architect

“This book will be a great resource for anyone who wants to understand the importance of integrating project planning (managing risks) with scheduling.

To most designers/architects’ project planning and schedule creation are two separate and distinct exercises. Dr. Coble’s book explains the difference between the two and how integral they are to a project’s success. Congratulations on an informative and timely read!!”

Gus Blanco, AIA, ACHA
Studio Leader, Healthcare, Senior Principal
EYP Architecture & Engineering

Construction Agency

“While the commercial construction has made great strides in utilizing the latest technology and advancing less contentious procurement practices, delivering a high-quality construction project on time and within budget remains a complex proposition. In *Risk Doesn’t Have to Be a Four-Letter Word* Dr. Coble presents in a very systematic way, strategies and implementation measures that go a long way in enhancing the likelihood of a successful project for all involved.”

Jerry Nevlud, President/CEO
Associated General Contractors of America | Houston Chapter

General Contractors

“Risk Doesn’t Have to Be a Four-Letter Word” Dr. Coble’s passion for effective, team-oriented planning and scheduling shines through. The manuscript lays

out a great roadmap for those unfamiliar with effective project schedule management and provides a well-stocked tool box to build upon. Great Read!”

Thomas Kulick

General Superintendent Hensel Phelps

“I have worked with Lana Coble for 20 years and from Day 1 it was obvious that she possessed that innate ability to get things DONE! It has led to an association (and friendship) that benefits our clients and the construction community. Well done, Dr. Coble, I am looking forward to our collaboration on your next literary effort, ‘The Art of Pre-Construction’.”

Guy Cooke

Preconstruction Manager Tellepsen

“From personal experience, I know Dr. Cobles’ energy, enthusiasm, and commitment to collaborative and effective project schedule management. For someone new to the industry, or a seasoned professional, this book is a must read for anyone eager to achieve positive project outcomes and relationships.

Dr. Cobles’ unique qualifications and experience from the vantage point of Owners, Program Managers, Contractors, Architects, and Engineers alike provides credibility to the tools and processes outlined in this book. If you want your project to succeed, this is a must read.”

Michael Dwight

Director of Operations Hensel Phelps

Subcontractor

“In a time when our industry is challenged with more complex projects being built ever faster, it is critical that we understand the risk. Lana has been one of our best thought-leaders for decades on better ways and methods to build the most complicated construction projects. In this book, she does an exceptional job of combining her experience and research to help us identify and minimize the risks that affect all members of the design and construction team.”

Graham Moore

President TD Industries

Project Delivery Consultant

“Risk mitigation [...] engaging stakeholders [...] project planning vs. project scheduling [...] creating a culture of curiosity; all of these concepts are easily said but difficult to embrace both the art and science of their successful implementation for ultimate project success. Lana Coble is one of those rare technical talents who can explain those concepts but also specifically mentor folks in how to pull them off successfully [...] and in Lana’s case, in an emotionally intelligent manner. Read this book several times. It’s like a good novel, you will learn something new each time.”

Wayne O’Neill

CEO RESET

About the Author

Dr. Lana Kay Coble CPC has dedicated her career to the advancement of construction methods, education of future and existing professionals, and promotion of diversity within the industry workforce. She has over 38 years of construction management experience, including positions as an owner's representative, executive manager in construction companies, and a professor in a major university construction management program. She has also published research in the American Institute of Constructors national journal. Her portfolio of construction projects includes healthcare, higher education, K-12 schools, commercial development, corporate campuses, mission critical data and energy facilities, athletic venues, zoo facilities, and major infrastructure systems. Her expertise includes the introduction of advanced technology to more efficiently engage all stakeholders in the construction process from concept to completion. Technologies and methods include implementation of software systems, development of document management systems, complex program management, planning/scheduling, and conflict mitigation on major high-profile construction projects. Ms. Coble's experience as an academician includes teaching at both the university level as well as in professional organizations and construction firms. Long a champion for diversity in the construction profession, Ms. Coble is an advocate for the development of women in construction and the advancement of historically underutilized businesses (HUB) through targeted affirmative action programs. Her passion for scheduling and mitigation is based upon academic fundamentals and construction experience. Within the span of her 38-year career, she has completed every project within the scheduled due date, with exception of one very complex project. Her most recent teaching endeavor was serving as the lead author of scheduling mitigation training to construction project managers and superintendents.

Dr. Coble holds a Bachelor of Arts in Construction & Design from Trinity University, a Master of Science in Architecture from Texas A&M University, and a Doctoral degree in Education from the University of Houston.

Purpose of This Book

To determine if this book has value for you, first and foremost it's important to understand what is not included in the pages to come. Specifically excluded are:

- instructions on how to utilize scheduling software,
- basic fundamentals and definitions of project scheduling, and
- historical reference to the development of critical path scheduling.

There are a multitude of publications which explain the techniques of schedule creation inclusive of logic, activity parameters, and critical path calculations. While it is beneficial to the reader to understand the fundamentals of project scheduling, this knowledge is not required to enhance schedule management. This book does not address how to implement software for schedule documentation, as Primavera and Microsoft Project primers are commonly available. While it is important to understand the origination of any process to be learned in that field, there are many textbooks which illuminate critical path scheduling. With that said, students, schedulers, and academicians may assume that this book holds little value, however the author believes the case is to the contrary. Concepts and practices listed below will demonstrate the value of this work for a breadth of construction management members ranging from students, schedulers, owners, architects, engineers, and contractors.

Content included in this manuscript is focused on real-world strategy and implementation measures to proactively avoid risk in the project schedule. Specifically included are:

- Understanding the difference between project planning vs. scheduling.
- Identifying processes which allow all key stakeholders to collaborate in the project planning phase by identifying potential risk.
- Defining a new conceptual perspective during schedule preparation that focuses on mitigating the potential risk elements before they occur.
- Forecasting the greatest areas of risk that can cause project failure and providing tangible tools to include preventive measures in the schedule.
- Providing practical application of risk mitigation strategies for commercial construction projects based upon case-study lessons learned from actual projects.
- Demonstrating periodic communication tools which allow understanding of the schedule status and risk identification in non-technical scheduling terms.
- Identifying the greatest areas of risk in actual production reporting to the scheduler which typically create late project completions, and

- Reframing the way that construction professionals and project team members think about the purpose of a schedule and its purpose during project implementation.

During the authors teaching tenure in both the higher education and practitioners classroom, the most common lack of understanding by students is the difference between planning and scheduling. Knowledge of the differentiators between both concepts is critically important when identifying who can participate in schedule preparation. Planning is for any stakeholder who can identify risk associated with execution of the project. The act of scheduling is reserved for those persons who are trained in software and understand each individual activity and the sequencing logic required to complete the scope of work. Observation has revealed that typically more time is spent on scheduling which is performed by the fewest number of persons. Common sense would suggest that greater benefit could occur by spending more time with a larger group of stakeholders in identifying which high risk activities should be tracked during project production. Suffice to say, both planning and scheduling are integral to project success, but planning is often overlooked by scheduling professionals. Hopefully, this text will bridge the communication gap between the members of the team which are not focused on production and those who are. Additionally, production personnel, that is, schedulers, and field supervisors, are not the decision-makers which emphasizes the importance that owners and key stakeholders understand the impact of risk and decisions on timely project completion. The framework presented in this book should also shape a new “way of thinking” by the construction practitioners during the development of a project schedule. By examining risk areas associated with the project, tasks can be assembled which would minimize these risks and placed in time appropriate slots of the schedule to allow anticipatory mitigation. This approach is not only proactive, but also communicates project aspects that the technical construction professional may not have been privy to prior to this risk identification process. A practical tool developed by the author, the “Risk Identification Matrix”, can be used to facilitate this communication process by all stakeholders to enhance the development of the project schedule. Additional reporting tools are also included for the ongoing identification of risk as the project is constructed. After all, processes are dynamic and outside influences are always a risk during the production period. Schedules are “not wallpaper” and will continue to evolve as circumstances change relative to project conditions. This strategic shift in perspective on how to prepare and manage project scheduling should facilitate a more collaborative environment. Owners, program managers, architects, engineers, and construction professionals do not have to understand the technicalities of scheduling, rather they can learn how to transmit their concerns, so they can be included in the overall project schedule. Technical schedulers can benefit from learning how to discern key risk concerns by other team members and then translate those risks into schedule activities. While this book does not address the basic understanding of scheduling provided by academicians, it does provide

the application framework for the content creation phase of development. Lastly, higher education students who do not have real project experience, will be provided a conceptual starting point for analyzing the project schedule based upon projected risk factors. The common beneficial thread for all team members will be a process intended to forecast risk factors for the purpose of inclusive planning for successful schedule management.

In writing this book, the author has taken into consideration that all the readers will be practitioners at some point in their careers, so the text contain summarized strategic points for quick reference. Being a construction practitioner for the last 38 years, the author understands how limited time is when executing a project and felt it is essential to provide key concepts which are easily identified. These tips have been time tested and are important to consider when building your team and providing direction for its members.

Acknowledgments

First and foremost, I want to thank all the industry practitioners who participated in the case studies for this manuscript. Your commitment to furthering the advancement of the building industry and the professionalism with which we practice is vitally important.

This book would not be possible without the tutelage of the academicians I had the privilege of working with during the pursuit of my doctorate degree. Profound appreciation to Dr. Lee Mountain whose belief in my message propelled me to pursue this project. I am eternally grateful for Dr. Cheryl Craig's ability to awaken the writing muse within me.

I would be remiss without acknowledging the many professionals who have contributed to my career as a building professional. Notably, Jay Tribble, who gave me my start as a construction project manager during a time when women project managers were an anomaly to the profession. A special thanks to the subcontractors who supported me and my projects for the last 38 years. To Donald Bonham and Jim Broaddus, thank you for the opportunities to experience project delivery from the perspective of an owner and program manager, respectively. And to Howard Tellepsen, my appreciation for providing me the opportunity to hone my skills as a general contractor. Profound appreciation to Brendan Jefferies and Guy Cooke who have been my building partners for the last 18 years of my career and for making construction fun!

Last and most especially not least, is my beloved Guusje who waited patiently for the last seven years while I sequentially completed my doctoral studies and wrote this manuscript. Your patience and support while I pursued my passion for education and giving back to the industry was truly a gift.