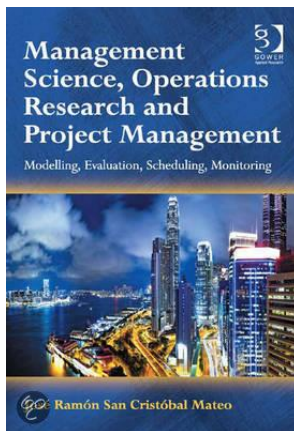


## PM WORLD BOOK REVIEW



Book Title: *Management Science, Operations Research and Project Management*

Author: Jose Ramon San Cristobal Mateo

Publisher: Gower Applied Business Research

List Price: \$124.95      Format: Hard Cover

Publication Date: 2015      ISBN: 978-1-4724-2643-7

Reviewer: Jack Gao

Review Date: 10/2015

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### Introduction

This book combines Management Science, Operations Research Discipline modelling, Evaluation, Scheduling and Monitoring techniques with project management theories and methodologies to lay down the foundation for further multi-disciplinary research and expand the Project Management Body of Knowledge.

It applies modern modelling techniques such as Network Models, Multi-Objective Decision-Making Models, Multi-Criteria Decision-Making Models, Forecasting Models, Simulation Models, Markov Models and Operations Research quantitative techniques such as Game Theory, Dynamic Programming, and Data Envelopment Analysis to Project Management Practices.

### Overview of Book's Structure

The book organizes chapters by **model types and quantitative techniques**. Each chapter has summary, project management related process and activities flow chart, Mathematical Model and Formula, Data Tables, and applications of these models and quantitative techniques.

Most of chapters have real world data, chart, and example to demonstrate how to apply these models and quantitative techniques to project management concepts and practices.

### Highlights

The book emphasizes quantitative approaches in project management practices through the development of models and algorithms. Especially, it applies these models and techniques to big size, long term projects which involve many variables and multiple phase decision making, and it helps project managers redesign their project and program processes and models.

Project managers need formal training in decision-making but sometimes, they do not have enough knowledge of Operations Research or lack a guide book for how to form a mathematical model for their project cost and operation models such as minimizing total project costs, meeting contracted project phase completion dates, and ensuring that activities achieve certain quality level. This book provides project managers with the tools and methods necessary to make sound decisions and manage projects successfully.

The author has added valuable insights to the body of knowledge dealing with the optimization of the project management.

### **Highlights: What I liked!**

I like the chapter 2 Multi-Objective Decision-Making Models in the book. In my many years of project management experience in big ERP or Supply Chain Management Software implementation projects, we were focused on one objective: either the shortest possible project duration or the minimum possible cost. In reality of big projects, the optimization problems are multi-objectives where two or more independent objectives must be optimized simultaneously, such as the utilization of resources available and balance of workload. I especially liked the time-cost trade-off model, and fuzzy linear programming decision making models.

### **Who might benefit from the Book?**

The book is most useful for project managers who are in charge of big size and multiple year projects to forecast cumulative project budget, minimize total project cost, and meet contracted project deliver dates; It will also help the educators who teach quantitative project management courses.

### **Conclusion**

All in all, the book is most useful for project managers or program managers who are in charge of big budget, big scale, multiple year projects or programs. It helps educators who teach quantitative project management courses; It also helps project management professionals who want to learn more quantitative approaches and techniques in the project management discipline. Author uses his in-depth knowledge in operations research and management sciences to provide readers a framework for understanding how to develop mathematical models for the projects they are managing and to help them forecast cumulative project budget, minimize total project cost, and meet contracted project delivery dates.

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For more about this book, go to: <http://www.gowerpublishing.com/isbn/9781472426437>

*Editor's note: This book review was the result of cooperation between the publisher, PM World and the Dallas Chapter of the Project Management Institute (PMI Dallas Chapter – [www.pmidallas.org](http://www.pmidallas.org)). Publishers provide the books to PM World; books are delivered to the PMI Dallas Chapter, where they are offered free to PMI members to review; book reviews are published in the PM World Journal and PM World Library. Reviewers can keep the books and claim PDUs for PMP recertification. PMI Dallas Chapter members are generally mid-career professionals, the audience for most project management books.*

*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@peworldjournal.net](mailto:editor@peworldjournal.net).*

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## About the Reviewer



**Jack Gao**

Texas, USA



**Jack Gao** has a PhD in Operations Research and Management Sciences from the University of Iowa in the United States. He has had several publications in Management Science and Operation Research Conferences. He is an active PMI member and certified PMP project manager. Currently he is CEO of Netstar Systems LLP, an IT consulting firm.

Email address: [jgao@netstarit.com](mailto:jgao@netstarit.com)