

# Project Management: Methods and Studies

*Edited by*

**Burton V. DEAN**

*Department of Operations Research  
Weatherhead School of Management  
Case Western Reserve University  
Cleveland, Ohio, U.S.A.*

and

*Department of Industrial Engineering and Engineering Management  
Stanford University  
Stanford, California, U.S.A.*

TECHNISCHE HOCHSCHULE DARMSTADT	
Fachbereich 1	
<u>Gesamtbibliothek</u>	
<u>Betriebswirtschaftslehre</u>	
Inventar-Nr.	36.826
Abstell-Nr.	A15/806
Sachgebiete:	1.3.5.1
	00105316



1985

**NORTH-HOLLAND**  
**AMSTERDAM · NEW YORK · OXFORD**

## TABLE OF CONTENTS

Preface	v
List of Contributors	ix
Introduction, Burton V. Dean	xi
Part I. Project Evaluation and Selection	1
1. "The Strategic Evaluation of Projects and Programs," William King	3
2. "A Model for the Selection of an R&D Portfolio Within the Firm," Gregory Madey and Burton V. Dean	17
3. "Decision Analysis for New Process Technology," Samuel Mantel, James Evans and Vijay Tipnis	33
4. "An Aggregate Model for Multi-Project Resource Allocation," Robert Leachman and Joerg Boysen	43
Part II. Project Scheduling and Control	65
5. "Gene-Splicing PERT and CPM: The Engineering of Project Network Models," Jerome Wiest	67
6. "Precedence Diagramming: Time Computations, Anomalies and Remedies," Joseph Moder and Keith C. Crandall	95
7. "A Tracking Model for R&D Projects," R. Balachandra	111
8. "Project Scheduling for Multiple Objectives," Sang M. Lee and David Olson	123
Part III. Human Resources Management	139
9. "A Behavioral Approach to Multigoal Decision Making and Its Implications for Use in Project Appraisal," Barry G. Silverman	141
10. "The Role of Network Techniques in Team Building for Project Management," Robert Graham	163
11. "Project Management at Significant Interfaces in the R&D/Innovation Process," Albert Rubenstein and Martin Ginn	173
12. "How to Develop In-House Capability to Train Project Managers: The Allen-Bradley Experience," Leslie Finkel	201
Part IV. Applications and Studies	211
13. "Project Management and Innovative Start-Up Firms," Burton V. Dean	213
14. "The Application of GERT to Air Force Systems Development Planning," John Papageorgiou	237
15. "Multi-Project Management: A Case Study on a Voice-Activated Decision Support System," George J. Titus, Matthew J. Liberatore	253

16. "An Approach to the Measurement of Probability Using Pairwise Comparisons," G. Lockett and Tony Gear.	261
17. "Patients Take Priority-A Case Study of Scheduling in Health Care Operations," George M. Marko	283
18. "A State of the Art Survey of Research on Project Management," Sushil Gupta and Larry R. Taube	293
List of Referees	315