

The handbook of project-based management

Improving the processes for achieving
strategic objectives

Second Edition

J. Rodney Turner

The McGraw-Hill Companies

London · New York · Chicago · St Louis · San Francisco
Auckland · Bogotá · Caracas · Lisbon · Madrid · Mexico
Milan · Montreal · New Delhi · Panama · Paris · San Juan
São Paulo · Singapore · Sydney · Tokyo · Toronto

Published by
McGRAW-HILL Publishing Company
Shoppenhangers Road, Maidenhead, Berkshire, SL6 2QL, England
Telephone: +44 (0)1628 502500
Fax: +44 (0)1628 770224
Website address: <http://www.mcgraw-hill.co.uk>

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN 0-07-709161-2

Publisher: Alfred Waller
Development Editor: Elizabeth Robinson
Produced by: Steven Gardiner Ltd
Cover by: Aricot Vert Design

McGraw-Hill

A Division of The McGraw-Hill Companies



Copyright © 1999 McGraw-Hill International (UK) Limited. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of McGraw-Hill International (UK) Limited.

2 3 4 5 BB 3 2 1

Printed and bound in the United Kingdom by Bell & Bain Ltd., Glasgow

Other books by the author

Also published by McGraw-Hill

THE COMMERCIAL PROJECT MANAGER

**Managing owners, sponsors, partners, supporters, stakeholders,
contractors and consultants**

J. Rodney Turner

ISBN 0-07-707946-9

THE PROJECT MANAGER AS CHANGE AGENT

Leadership, influence and negotiation

J. R. Turner, K. V. Grude and L. Thurloway

ISBN 0-07-707741-5

*To Edward:
who was conceived and born at the same time
as the material on which this book is based*

Contents

Foreword to the second edition	xiii
Foreword to the first edition	xv
Preface to the second edition	xvii
Preface to the first edition	xiv
Acknowledgements to the second edition	xxi
Acknowledgements to the first edition	xxiii
1 Projects and their management	1
1.1 Managing change through projects	1
1.2 Definitions	2
1.3 The three dimensions of project-based management	4
1.4 The process approach	19
1.5 The strategic management of projects	21
1.6 The goals and methods matrix	25
1.7 Project management as sailing a yacht	28
1.8 Summary	29
PART ONE THE CONTEXT OF PROJECTS	
2 Projects for implementing corporate strategy	35
2.1 Introduction	35
2.2 The business planning process	36
2.3 The role of projects and operations	41
2.4 Selecting projects	43
2.5 Summary	48
3 Projects and the parent organization	49
3.1 Introduction	49
3.2 The parties involved	49
3.3 Changing the parent organization	53
3.4 Introducing project-based management	59
3.5 Creating a culture for project management	63
3.6 Implementing project-based management	65
3.7 Summary	67

4	The strategic management of projects	69
4.1	Introduction	69
4.2	Judging project success	71
4.3	Pitfalls of project management	74
4.4	The strategic management model	80
4.5	Principles of good project management	86
4.6	Summary	89

PART TWO THE PROJECT MANAGEMENT FUNCTIONS

5	Managing scope	93
5.1	Introduction	93
5.2	The principles of scope management	94
5.3	Project definition	99
5.4	Planning at a strategic level: milestone plans	104
5.5	Planning at lower levels	114
5.6	Applications	118
5.7	Summary	122
6	Managing project organization	124
6.1	Introduction	124
6.2	Principles of project organization	124
6.3	Types of project organization	126
6.4	Responsibility charts	134
6.5	Incorporating work content	141
6.6	Equipment and drawing registers	146
6.7	Summary	147
7	Managing quality	149
7.1	Introduction	149
7.2	Quality in the context of projects	149
7.3	Achieving quality on projects	153
7.4	Configuration management	159
7.5	The cost of quality	167
7.6	Summary	168
8	Managing cost	171
8.1	Introduction	171
8.2	Estimating costs	171
8.3	Types of estimate	173
8.4	When to estimate costs	175
8.5	Structuring the estimate	178
8.6	Estimating techniques	183

8.7	Controlling costs: obtaining value for money	192
8.8	Summary	197
9	Managing time	201
9.1	Introduction	201
9.2	The time schedule	201
9.3	Estimating durations	208
9.4	Calculating the schedule with networks	211
9.5	Resource histograms and resource smoothing	222
9.6	Controlling time	224
9.7	Summary	227
10	Managing risk	229
10.1	Introduction	229
10.2	Identifying risk	230
10.3	Assessing risk	238
10.4	Reducing risk	249
10.5	Controlling risk	254
10.6	The PRAM and SCERT methodologies	256
10.7	Summary	257

PART THREE THE PROJECT MANAGEMENT PROCESS

11	Project definition	261
11.1	Introduction	261
11.2	Project start-up	262
11.3	Proposal and initiation	270
11.4	Conducting the feasibility study	271
11.5	Design and appraisal	276
11.6	Initiation, launch and kick-off meetings	283
11.7	Project Definition Report and Manual	286
11.8	Summary	290
12	Project implementation and control	294
12.1	Introduction	294
12.2	Resourcing a project	295
12.3	Implementation planning	296
12.4	Allocating work	303
12.5	Requirements for effective control	306
12.6	Gathering data and calculating progress	309
12.7	Taking action	320
12.8	The control cycle	323
12.9	Summary	324

13	Project close-out	328
13.1	Introduction	328
13.2	Finishing the work	329
13.3	Transferring the product	331
13.4	Obtaining the benefits	332
13.5	Disbanding the team	334
13.6	Post-completion reviews	336
13.7	Summary	337
 PART FOUR PROJECT MANAGEMENT PROCEDURES		
14	Programme management	341
14.1	Introduction	341
14.2	The problem of small projects	343
14.3	Programme management	345
14.4	Company-wide project management	351
14.5	The Project Support Office	356
14.6	Summary	361
15	Project management procedures and systems	364
15.1	Introduction	364
15.2	Procedures manuals	365
15.3	The PRINCE 2, ISO 10 006 and the PMBoK	373
15.4	Project management information systems	383
15.5	Types of package	388
15.6	Choosing and implementing systems	389
15.7	Assumptions and risks	393
15.8	Summary	394
16	Project health checks and audits	397
16.1	Introduction	397
16.2	The projectivity diagnostic	400
16.3	The success/failure diagnostic	411
16.4	Conducting audits	418
16.5	Summary	422
17	Project managers and their teams	424
17.1	Introduction	424
17.2	Project teams, formation and maintenance	425
17.3	Motivating the project team	429
17.4	Leading projects	434
17.5	The effective project manager	435
17.6	Summary	440

PART FIVE APPLICATIONS

18 Applications of project-based management	445
18.1 Introduction	445
18.2 Managing the product life cycle	446
18.3 New product development	448
18.4 Technological projects	454
18.5 Concurrent engineering	462
18.6 Information systems projects	467
18.7 Business process re-engineering projects	477
18.8 Summary	479
19 International projects	482
19.1 Introduction	482
19.2 Types of international project	482
19.3 The problems of international projects	486
19.4 Cultural difference	490
19.5 Projects in developing countries	500
19.6 Managing international projects	504
19.7 Summary	507
20 Epilogue	509
20.1 Principles of project management	509
20.2 Profiles for success	510
Subject index	511
Author and source index	522
Project index	526