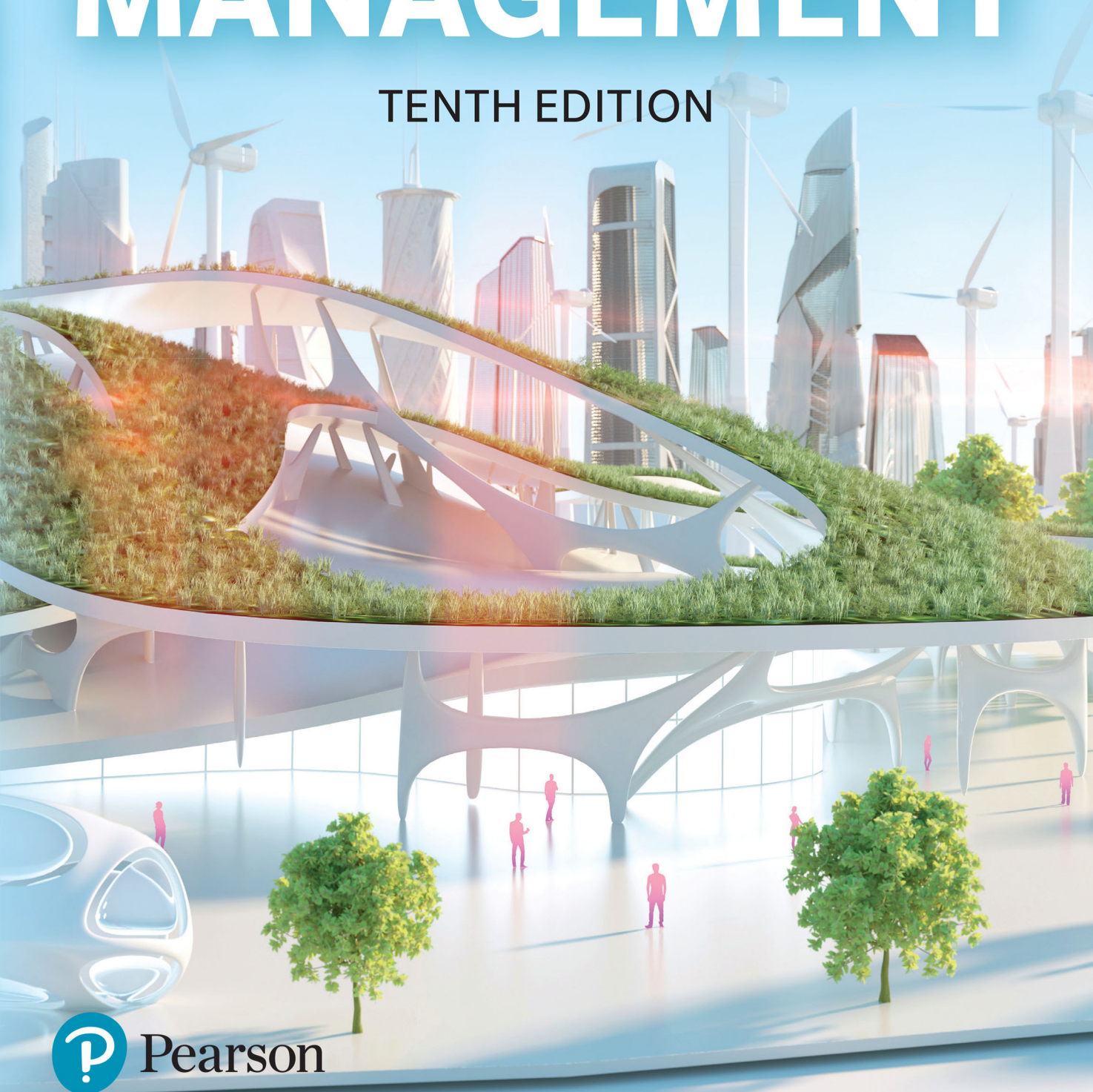


Nigel Slack • Alistair Brandon-Jones • Nicola Burgess

OPERATIONS MANAGEMENT

TENTH EDITION



Pearson

OPERATIONS MANAGEMENT

Operations Management

Table of Contents

Front Cover

Half Title

Title Page

Copyright Page

Brief Contents

Contents

Guide to Operations in practice examples and case studies

Preface

To the instructor. . .

To the student. . .

Ten steps to getting a better grade in operations management

About the authors

Authors acknowledgements

PART ONE DIRECTING THE OPERATION

1 Operations management

Introduction

1.1 What is operations management?

1.2 Why is operations management important in all types of organisations?

1.3 What is the inputtransformationoutput process?

1.4 What is the process hierarchy?

1.5 How do operations (and processes) differ?

1.6 What do operations managers do?

Summary answers to key questions

Case study: Kaston-Trenton Service (KTS)

Problems and applications

Selected further reading

Notes on chapter

2 Operations performance

Table of Contents

Introduction

2.1 Why is operations performance vital in any organisation?

2.2 How is operations performance judged at a societal level?

2.3 How is operations performance judged at a strategic level?

2.4 How is operations performance judged at an operational level?

2.5 How can operations performance be measured?

2.6 How do operations performance objectives trade off against each other?

Summary answers to key questions

Case study: IKEA looks to the future

Problems and applications

Selected further reading

Notes on chapter

3 Operations strategy

Introduction

3.1 What is strategy and what is operations strategy?

3.2 How does operations strategy align with business strategy (top-down)?

3.3 How does operations strategy align with market requirements (outside-in)?

3.4 How does operations strategy align with operational experience (bottom-up)?

3.5 How does operations strategy align with operations resources (inside-out)?

3.6 How are the four perspectives of operations strategy reconciled?

3.7 How can the process of operations strategy be organised?

Summary answers to key questions

Case study: McDonald's: half a century of growth

Problems and applications

Selected further reading

Notes on chapter

4 Managing product and service innovation

Introduction

4.1 What is product and service innovation?

4.2 What is the strategic role of product and service innovation?

4.3 What are the stages of product and service innovation?

4.4 How should product and service innovation be resourced?

Summary answers to key questions

Case study: Widescale studios and the Fierybryde development

Problems and applications

Table of Contents

Selected further reading

Notes on chapter

5 The structure and scope of supply

Introduction

5.1 What is the structure and scope of supply?

5.2 How should the supply network be configured?

5.3 How much capacity should operations have?

5.4 Where should operations be located?

5.5 How vertically integrated should an operation's supply network be?

5.6 What activities should be in-house and what should be outsourced?

Summary answers to key questions

Case study: Aarens Electronic

Problems and applications

Selected further reading

Notes on chapter

PART TWO DESIGNING THE OPERATION

6 Process design

Introduction

6.1 What is process design?

6.2 What should be the objectives of process design?

6.3 How do volume and variety affect process design?

6.4 How are processes designed in detail?

Summary answers to key questions

Case study: The Action Response Applications Processing Unit (ARAPU)

Problems and applications

Selected further reading

Notes on chapter

7 The layout and look of facilities

Introduction

7.1 How can the layout and look of facilities influence performance?

7.2 What are the basic layout types and how do they affect performance?

7.3 How does the appearance of an operation's facilities affect its performance?

7.4 What information and analysis is needed to design the layout and look of facilities?

Summary answers to key questions

Case study: Misenwings SA

Table of Contents

Problems and applications

Selected further reading

Notes on chapter

8 Process technology

Introduction

8.1 What is process technology and why is it getting more important?

8.2 How can one understand the potential of new process technology?

8.3 How can new process technologies be evaluated?

8.4 How are new process technologies developed and implemented?

Summary answers to key questions

Case study: Logaltel Logistics

Problems and applications

Selected further reading

Notes on chapter

9 People in operations

Introduction

9.1 Why are people so important in operations management?

9.2 How can the operations function be organised?

9.3 How do we go about designing jobs?

9.4 How are work times allocated?

Summary answers to key questions

Case study: Grace faces (three) problems

Problems and applications

Selected further reading

Notes on chapter

Supplement to Chapter 9: Work study

Introduction

Method study in job design

Work measurement in job design

PART THREE DELIVER

10 Planning and control

Introduction

10.1 What is planning and control?

10.2 How do supply and demand affect planning and control?

10.3 What is 'loading'?

Table of Contents

10.4 What is 'sequencing'?

10.5 What is 'scheduling'?

10.6 What is 'monitoring and control'?

Summary answers to key questions

Case study: Audall Auto Servicing

Problems and applications

Selected further reading

Notes on chapter

11 Capacity management

Introduction

11.1 What is capacity management?

11.2 How is demand measured?

11.3 How is capacity measured?

11.4 How is the demand side managed?

11.5 How is the supply side managed?

11.6 How can operations understand the consequences of their capacity management decisions?

Summary answers to key questions

Case study: FreshLunch

Problems and applications

Selected further reading

Notes on chapter

Supplement to Chapter 11: Analytical queuing models

Introduction

Notation

Variability

Incorporating Little's law

Types of queuing system

12 Supply chain management

Introduction

12.1 What is supply chain management?

12.2 How should supply chains compete?

12.3 How should relationships in supply chains be managed?

12.4 How is the supply side managed?

12.5 How is the demand side managed?

12.6 What are the dynamics of supply chains?

Table of Contents

Summary answers to key questions

Case study: Big or small? EDF's sourcing dilemma

Problems and applications

Selected further reading

Notes on chapter

13 Inventory management

Introduction

13.1 What is inventory?

13.2 Why should there be any inventory?

13.3 How much should be ordered? The volume decision

13.4 When should an order be placed? The timing decision

13.5 How can inventory be controlled?

Summary answers to key questions

Case study: Supplies4medics.com

Problems and applications

Selected further reading

Notes on chapter

14 Planning and control systems

Introduction

14.1 What are planning and control systems?

14.2 What is enterprise resource planning, and how did it develop into the most common planning and control system?

14.3 How should planning and control systems be implemented?

Summary answers to key questions

Case study: Psycho Sports Ltd

Problems and applications

Selected further reading

Notes on chapter

Supplement to Chapter 14: Materials requirements planning (MRP)

Introduction

Master production schedule

The bill of materials (BOM)

Inventory records

The MRP netting process

MRP capacity checks

Summary of supplement

Table of Contents

PART FOUR DEVELOPMENT

15 Operations improvement

Introduction

15.1 Why is improvement so important in operations management?

15.2 What are the key elements of operations improvement?

15.3 What are the broad approaches to improvement?

15.4 What techniques can be used for improvement?

15.5 How can the improvement process be managed?

Summary answers to key questions

Case study: Sales slump at Splendid Soup Co.

Problems and applications

Selected further reading

Notes on chapter

16 Lean operations

Introduction

16.1 What is lean?

16.2 How does lean consider flow?

16.3 How does lean consider (and reduce) waste?

16.4 How does lean consider improvement?

16.5 How does lean consider the role of people?

16.6 How does lean apply throughout the supply network?

Summary answers to key questions

Case study: St Bridget's Hospital: seven years of lean

Problems and applications

Selected further reading

Notes on chapter

17 Quality management

Introduction

17.1 What is quality and why is it so important?

17.2 What steps lead towards conformance to specification?

17.3 What is total quality management (TQM)?

Summary answers to key questions

Case study: Rapposcience Labs

Problems and applications

Table of Contents

Selected further reading

Notes on chapter

Supplement to Chapter 17: Statistical process control (SPC)

Introduction

Control charts

Variation in process quality

Control charts for attributes

Control chart for variables

Process control, learning and knowledge

Summary of supplement

Selected further reading

18 Managing risk and recovery

Introduction

18.1 What is risk management?

18.2 How can operations assess the potential causes and consequences of failure?

18.3 How can failures be prevented?

18.4 How can operations mitigate the effects of failure?

18.5 How can operations recover from the effects of failure?

Summary answers to key questions

Case study: Slagelse Industrial Services (SIS)

Problems and applications

Selected further reading

Notes on chapter

19 Project management

Introduction

19.1 What are projects?

19.2 What is project management?

19.3 How is the project environment understood?

19.4 How are projects defined?

19.5 How are projects planned?

19.6 How are projects controlled and learned from?

Summary answers to key questions

Case study: Kloud BV and Sakura Bank K.K.

Problems and applications

Selected further reading

Table of Contents

Notes on chapter

Glossary

Index

Credits

Back Cover