# **CONTENTS**

Preface viii

### 01 Working with risk 1

Risk and management 1 Growth of risk management 5 Risk in supply chains 7 In summary 13

# **Defining risk** 14

Features of risk 14
Decisions and risk 18
Structure of decisions 21
Decisions with certainty 22
Decisions with uncertainty 23
Decisions with risk 26
Decisions with ignorance 31
Managing risk 31
In summary 33

# O3 Supply chain management 35

Definitions 35 Structure of a supply chain 38 Aims of supply chain management 41 Activities of logistics 43 Importance of logistics 46 Risk in the supply chain 48 In summary 50

## O4 Trends affecting the supply chain 52

Increasing risk 52 Road closure in Washington State 54 Trends in supply chain management 55 Integration of supply chains 56 Cost reduction 61 Agile logistics 63 E-business 64 Globalization 66 Outsourcing 69 Changing practices in logistics 71 In summary 74

# **O5** Approaches to risk management 75

Definition 75
Development of risk management 77
Supply chain risk management 82
Aims of SCRM 87
Steps in risk management 90
Some principles of SCRM 95
In summary 97

# 06 Identifying risks 99

Types of risk 99 World Economic Forum 103 Identifying risks 108 Tools for analysing past events 111 Tools to collect opinions 115 Tools to analyse operations 117 Problems with risk identification 122 In summary 127

# **O7** Analysing risks 129

Measuring risk 129 Likelihood of a risky event occurring 131 Consequences when a risk occurs 135 Evaluating consequences 137 Tools for risk analysis 144 In summary 150

## **08** Responding to risks 151

Responses to risk 151 Alternative responses 152 Mnemonics for risk management 160 Defining options 160 Choosing the best response 169 Implementation and activation 174 In summary 177

#### 09 A network view of risk 178

Shared risks 178 Achieving an integrated approach 181 Identifying risks 185 Analysing and responding to risks 186 Problems with integrating SCRM 188 Levels of SCRM integration 191 In summary 193

# 10 Creating resilient supply chains 195

Design of a resilient chain 195 Principles of designing a resilient supply chain 197 Physical features of a resilient supply chain 200 Relationships within a resilient supply chain 207 Risk compensation and business continuity 212 In summary 213 Features of a resilient supply chain 214

#### 11 Business continuity management 215

Emergencies and crises 215 Use of BCM 217 Steps in business continuity management 225 Deliverables 231 In summary 232

#### **12 Review** 234

Summary 240

Sources of information 241 Index of company examples 248 Index 249