

CONTENTS

List of figures and tables xiv
*List of case studies and snapshots – by sector and
company name* xviii
About the author xxi
About the contributors xxii
How to use this book xxiv
Acknowledgements xxviii

Introduction 1

PART ONE An overview of the circular economy 7

01 The circular economy – what is it? 9

Background 10
Evolution of the concept: architects, scientists and sailors 13
Other supporting approaches 19
Scaling it up: companies, think tanks, business groups 20
The circular economy: a generic framework 25
Summary 29
Notes 30
Further resources 33

02 The design and supply chain 35

Supply chain scope 36
Terminology 37
The design and supply chain 42
Rethinking 58
Summary 59
Notes 59
Further resources 61

03 Circular economy business models 63

- Global trends and drivers 64
- Business models and commercial frameworks 69
- Commercial models 70
- Circular operating models 80
- Summary 82
- Notes 83
- Further resources 85

04 Circular economy enablers and accelerators 87

- Enablers: thinking differently 88
- Enablers: technology 92
- Accelerators 106
- Summary 110
- Notes 111
- Further resources 114

PART TWO How are businesses adopting circular economy models? 115

05 Drivers for change 117

- Industrial revolutions 117
- The ‘Great Acceleration’ 120
- A global stocktake 121
- Welcome to the Anthropocene 125
- Demand exceeding supply 126
- Rethinking and redesign 128
- Summary 130
- Notes 130
- Further resources 132

06 Food and agriculture 133

- Sector overview 134
- Traditional supply chain – issues and challenges 135
- Demand versus supply 142
- Circular economy developments 145
- Coffee sub-sector 151

Supply chain implications 159
Summary 159
Notes 161
Further resources 166

07 Fashion and textiles 167

Global trends 167
Traditional supply chain: issues and challenges 168
Circular economy developments 180
Summary and supply chain implications 194
Notes 195
Further resources 200

08 Consumer electricals and electronics 201

Traditional supply chain: issues and challenges 202
Demand versus supply 206
Circular economy developments 212
Summary and supply chain implications 225
Notes 226
Further resources 230

09 Industrial manufacturing 231

Traditional supply chain: issues and challenges 231
Demand versus supply 232
Circular economy developments 235
Sub-sector: office furniture 239
Conclusions and supply chain implications 255
Notes 255
Further resources 258

PART THREE What does this mean for supply chains? 259

10 Supply chain strategy and planning 261

Global drivers and megatrends 262
Traditional supply chains 263
Supply chains for a circular economy 265

Delivering access and performance	271
Supply chain planning	276
Summary	283
Notes	283
Further resources	285

11 Supply chain – upstream: Product design, sourcing and procurement 287

Traditional supply chains	287
Global trends	289
Supply chains for the circular economy: upstream	291
Value opportunities	299
Summary	300
Notes	301
Further resources	302

12 Supply chain – midstream: The manufacturing process 303

Traditional supply chains: issues and trends	303
Supply chains for the circular economy	305
Packaging	312
Enabling technologies	315
Relationships	316
Value opportunities	316
Summary	317
Notes	317
Further resources	318

13 Supply chain – downstream: Distribution and reverse logistics 321

Traditional supply chains	321
Trends, scope and complexities	322
Supply chains for the circular economy	330
Summary	336
Notes	337
Further resources	338

PART FOUR Implementation 339

14 Making the business case and starting the journey 341

Trends and drivers 342

The business case 344

Setting the strategic direction 345

External factors 347

Overcoming barriers 350

Beginning the journey 352

Systems thinking 355

Priorities and phased approaches 364

Measurement and assessment tools 366

Summary 370

Notes 370

Further resources 374

Glossary 375*Index* 387