

Sixth edition

LOGISTICS MANAGEMENT AND STRATEGY

Competing through the supply chain

Alan Harrison, Heather Skipworth
Remko van Hoek and James Aitken

Contents

Personal foreword	xv
Professional foreword	xvii
Preface	xix
Authors' acknowledgements	xxiii
Publisher's acknowledgements	xxv
How to use this book	xxxiii
Plan of the book	xxxv

Part One COMPETING THROUGH LOGISTICS

1 Logistics and the supply chain	3
Introduction	3
1.1 Logistics and the supply chain	4
1.1.1 Definitions and concepts	8
1.1.2 Supply chain: structure and tiering	9
1.2 Material flow and information flow	14
1.2.1 Material flow	14
1.2.2 Information flow	16
1.3 Competing through logistics	17
1.3.1 Hard objectives	18
1.3.2 Supportive capabilities	21
1.3.3 Soft objectives	28
1.3.4 Order winners and qualifiers	28
1.4 Logistics strategies	30
1.4.1 Defining 'strategy'	30
1.4.2 Aligning strategies	32
1.4.3 Differentiating strategies	32
1.4.4 Trade-offs in logistics	34
Summary	35
Discussion questions	36
References	36
Suggested further reading	38
2 Putting the end-customer first	39
Introduction	39
2.1 The marketing perspective	40
2.1.1 Customer value	42
2.1.2 Rising customer expectations	42

2.1.3	The information revolution	43
2.1.4	Marketing segmentation	46
2.2	Demand profiling	53
2.3	Segmented supply chain strategy	60
2.3.1	Supply chain and marketing alignment	62
2.3.2	The supply chain strategy drivers	64
2.3.3	Selecting drivers for segmentation	66
2.3.4	The four-step approach to developing segmented supply chain strategy	70
	Summary	74
	Discussion questions	75
	References	76
	Suggested further reading	77
3	Value and logistics costs	78
	Introduction	78
3.1	Where does value come from?	80
3.2	How can conventional return on capital employed (ROCE) be measured?	81
3.2.1	ROCE and implications for supply chain management	81
3.2.2	Financial ratios and ROCE drivers	84
3.3	Why is liquidity important and what are the implications for supply chain management?	85
3.3.1	Supply Chain Finance (SCF)	90
3.4	How can logistics costs be represented?	92
3.4.1	Fixed/variable	94
3.4.2	Direct/indirect	98
3.4.3	Engineered/discretionary	101
3.5	Activity-based costing (ABC)	103
3.5.1	Cost-time profile (CTP)	106
3.5.2	Cost-to-serve (CTS)	108
3.6	How can capital investment decisions be made?	111
3.6.1	Four investment appraisal approaches	111
3.6.2	What are discounted cash flows?	112
3.7	A balanced measurement portfolio	117
3.7.1	Balanced scorecard	119
3.7.2	Supply chain management and the balanced scorecard	120
3.7.3	Supply chain operations reference model (SCOR)	122
	Summary	126
	Discussion questions	127
	References	128
	Suggested further reading	130

Part Two LEVERAGING LOGISTICS OPERATIONS

4	Managing logistics internationally	133
	Introduction	133
4.1	Drivers and logistics implications of internationalisation	135
4.1.1	Logistical implications of internationalisation	139
4.1.2	Time-to-market	139
4.1.3	Global consolidation	140
4.2	The tendency towards internationalisation	143
4.2.1	Focused factories: from geographical to product segmentation	143
4.2.2	Centralised inventories	144
4.3	The challenges of international logistics and location	148
4.3.1	Extended lead time of supply	148
4.3.2	Extended and unreliable transit times	148
4.3.3	Multiple consolidation and break points	149
4.3.4	Multiple freight modes and cost options	150
4.3.5	Price and currency fluctuations	150
4.4	Organising for international logistics	151
4.4.1	Location analysis	152
4.4.2	Different tiers in the network	154
4.4.3	The evolving role of individual plants	155
4.4.4	Reconfiguration processes	156
4.4.5	The changing and critical role of logistics service providers	157
4.5	Managing for risk readiness	162
4.5.1	Immediate risk readiness	164
4.5.2	Structural risk readiness	167
4.6	Reverse logistics	168
4.7	Corporate social responsibility in the supply chain	170
4.8	Establishing global governance of the supply chain	176
4.8.1	Decentralised centralisation	176
4.8.2	Incorporating new regions into global governance	177
4.8.3	Ownership of goods in the international flow of goods	179
	Summary	179
	Discussion questions	180
	References	180
	Suggested further reading	181
5	Managing the lead-time frontier	182
	Introduction	182
5.1	The role of time in competitive advantage	183
5.1.1	Time-based competition; the virtuous circle of speed	183

5.1.2	Variety and speed	185
5.1.3	Time-based opportunities to add value	186
5.1.4	Time-based opportunities to reduce cost	188
5.1.5	Limitations to time-based approaches	190
5.2	Time-based process mapping	191
5.2.1	Stage 1: Create a task force	192
5.2.2	Stage 2: Select the process to map	192
5.2.3	Stage 3: Collect data	192
5.2.4	Stage 4: Flow chart the process	192
5.2.5	Stage 5: Distinguish between value-adding and non-value-adding time	193
5.2.6	Stage 6: Construct the time-based process map	193
5.2.7	Stage 7: Solution generation	193
5.3	P:D ratios and differences	194
5.3.1	Using time as a performance measure	194
5.3.2	High variety poses a challenge to conventional clock-time	199
5.3.3	Using time to measure supply pipeline performance	200
5.3.4	Mapping P-time and D-time	202
5.4	Managing timeliness in the logistics pipeline	205
5.4.1	Strategies to cope when P-time is greater than D-time	205
5.4.2	Practices to cope when P-time is greater than D-time	207
5.4.3	Technologies to cope when P-time is greater than D-time	208
	Summary	217
	Discussion questions	217
	References	217
	Suggested further reading	218

6 Supply chain planning and control 219

	Introduction	219
6.1	The supply chain 'game plan'	221
6.1.1	Planning and control within manufacturing	222
6.1.2	Sales and operations planning (S&OP)	228
6.1.3	Managing inventory in the supply chain	234
6.1.4	Planning and control in retailing	239
6.1.5	Inter-firm planning and control	241
6.2	JIT and material requirements planning	244
6.3	Overcoming poor coordination in retail supply chains	247
6.3.1	Efficient consumer response (ECR)	248
6.3.2	Quick response (QR)	254
	Summary	256
	Discussion questions	257
	References	257
	Suggested further reading	259

7 Lean thinking and agile supply chains	260
Introduction	260
7.1 Lean thinking	262
7.1.1 Types of waste	262
7.1.2 The principles of lean thinking	263
7.1.3 Application of lean thinking to business processes	267
7.1.4 Lean manufacturing practices	268
7.2 The concept of agility	269
7.2.1 Product design for agility	277
7.2.2 Manufacturing for agility	280
7.2.3 Logistics for agility	287
7.2.4 Supply chain partnerships for agility	290
7.2.5 Preconditions for successful agile practice	294
7.3 Combining lean and agile	298
Summary	302
Discussion questions	304
References	305
Suggested further reading	307

Part Three WORKING TOGETHER

8 Integrating the supply chain	311
Introduction	311
8.1 Integration in the supply chain	313
8.1.1 Internal integration: function to function	314
8.1.2 External integration: company to company	321
8.2 Electronic integration	332
8.2.1 Electronic data interchange (EDI)	335
8.2.2 Radio frequency identification devices (RFIDs)	336
8.2.3 Blockchain	339
8.3 Choosing the right supply relationships	343
8.3.1 The transaction cost economics (TCE) view of relationships	349
8.4 Strategic partnerships in the supply chain	350
8.4.1 Economic justification for partnerships	351
8.4.2 Advantages of partnerships	351
8.4.3 Implementing strategic partnerships	352
8.4.4 Lambert's partnership model	353
8.4.5 Barriers to developing strategic partnerships	355
8.5 Managing supply chain relationships	357
8.5.1 Tensions in closer relationships	357
8.5.2 Factors in forming supply chain relationships	358
8.6 Supplier networks	359
8.6.1 Supplier associations	359

8.6.2	Japanese <i>keiretsu</i>	364
8.6.3	Italian districts	365
8.6.4	Chinese industrial areas	368
	Summary	372
	Discussion questions	374
	References	375
	Suggested further reading	377
9	Sourcing and procurement	379
	Introduction	379
9.1	What does procurement do?	381
9.2	Key drivers of procurement effectiveness	384
9.2.1	Operating Principle I: Business alignment	386
9.2.2	Operating Principle II: Developing strategies for procurement categories	389
9.2.3	Operating Principle III: Total cost of ownership, not just price	391
9.2.4	Operating Principle IV: Supplier relationship management (SRM)	393
9.3	Managing the supply base	395
9.3.1	Segmenting the supply base	396
9.3.2	Establishing policies per supplier segment	401
9.3.3	Vendor rating	403
9.3.4	Executive ownership of supply relationships	406
9.3.5	Migrating towards customer of choice status	406
9.4	Procurement technology	408
9.5	Markers of boardroom value	409
9.6	What does top procurement talent look like?	410
	Summary	411
	Discussion questions	411
	References	412
	Suggested further reading	413

Part Four CHANGING THE FUTURE

10	Logistics future challenges and opportunities	417
	Introduction	417
10.1	Changing economics?	418
10.2	Internal alignment triad	420
10.3	Corporate social responsibility: same trade-offs	422
10.3.1	Reputational integrity	423
10.4	Logistics and economic development and humanitarian logistics	426
10.4.1	Humanitarian logistics	426
10.4.2	Preparedness phase	427

10.4.3 Immediate response phase	428
10.4.4 Reconstruction phase	428
10.5 New technologies impacting supply chains	431
10.6 Selecting collaboration opportunities to accelerate time to market	432
10.6.1 Selecting upstream collaboration opportunities	433
10.6.2 Selecting downstream opportunities; which customers to give the keys to our car	433
10.7 The supply chain manager of the future	435
10.8 Changing chains	438
10.9 A great function to be in	440
Summary	441
Discussion questions	441
References	442
 Index	 445