

Purchasing and Supply Chain Management

Kenneth Lysons
Brian Farrington



SEVENTH EDITION

Taking an integrated approach to the supply chain and purchasing process, this comprehensive book draws upon the many disciplines that affect the purchasing and supply chain, and that contribute to a full knowledge of purchasing practice and techniques.

Features

- > Cases and discussion questions enable students to think critically and debate real scenarios.
- > Comprehensive glossary for quick reference.

ISBN 978-81-317-3348-6



www.pearson.co.in

This edition is manufactured in India and is authorized for sale only in India, Bangladesh, Bhutan, Pakistan, Nepal, Sri Lanka and the Maldives.

Lysons
Farrington
Purchasing and Supply
Chain Management

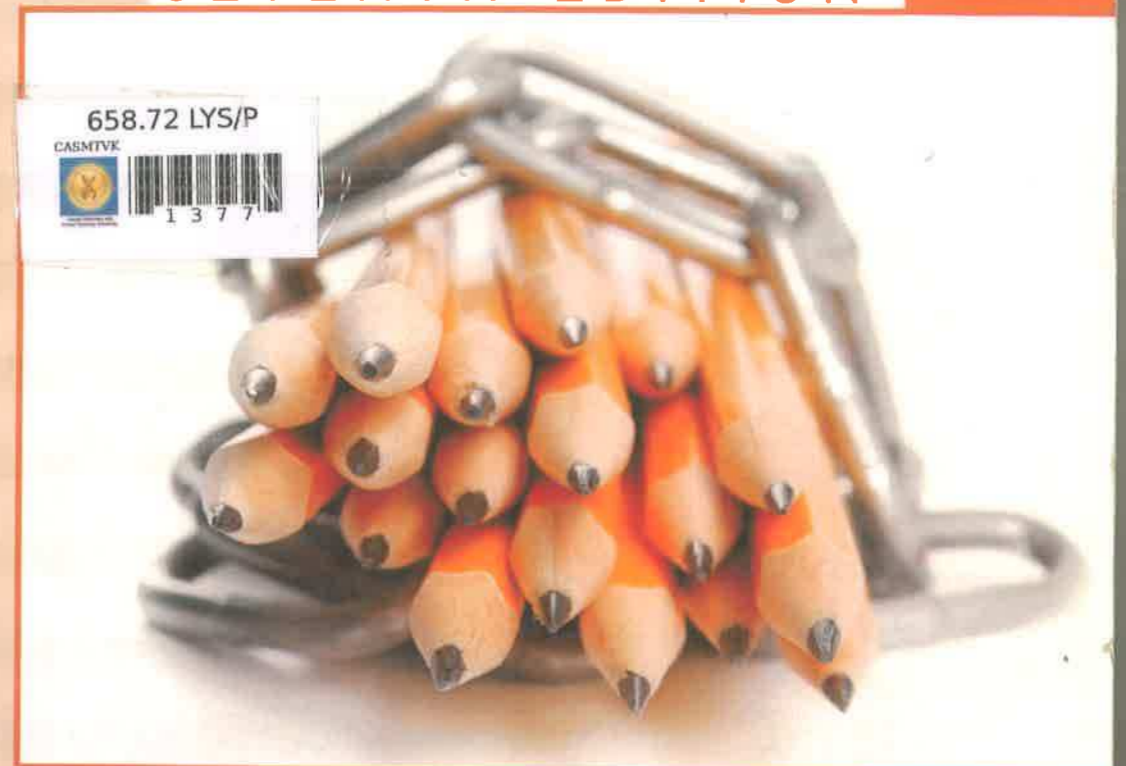
SEVENTH
EDITION

PEARSON

Copyright of this
edition outside the
Indian subcontinent is
UNAUTHORIZED

Purchasing and Supply Chain Management

SEVENTH EDITION



Kenneth Lysons
Brian Farrington

ALWAYS LEARNING

PEARSON

PEARSON

We work with leading authors to develop the strongest educational materials in purchasing, bringing cutting-edge thinking and best learning practice to a global market.

Under a range of well-known imprints, including Financial Times Prentice Hall, we craft high-quality print and electronic publications that help readers to understand and apply their content, whether studying or at work.

To find out more about the complete range of our publishing, please visit us on the World Wide Web at: www.pearsoned.co.uk

Seventh Edition

Purchasing and Supply Chain Management

KENNETH LYSONS

MA, MEd, PhD, Dipl.PA, Ac.Dip.Ed.,
DMS, FCIS, FCIPS, Finst M, MILT

BRIAN FARRINGTON

BSc(Econ), MSc, PhD, FCIPS

PEARSON

Contents

<i>Preface to seventh edition</i>	xv
<i>Acknowledgements</i>	xvii
<i>Publisher's acknowledgements</i>	xviii
<i>Plan of the book</i>	xix
Part 1 Introduction and strategy	1
1 What is purchasing?	3
Learning outcomes	3
Key ideas	3
1.1 Perspectives on purchasing	3
1.2 Definitions	5
1.3 The evolution of purchasing	9
1.4 Purchasing and change	14
1.5 Purchasing in the future	16
1.6 World class purchasing	16
1.7 The status of purchasing and supply management (PSM)	18
Case study	26
Discussion questions	27
Past examination questions	28
References	28
2 Strategy and strategic procurement	30
Learning outcomes	30
Key ideas	30
Introduction	31
2.1 Strategic thinking	31
2.2 What is strategy?	32
2.3 Strategy development	34
2.4 Levels of organisational strategy	38
2.5 Corporate strategy	38
2.6 Growth strategies	39
2.7 Business-level strategy	42
2.8 Strategic management	44
2.9 Strategic analysis	44
2.10 Important environmental factors	46
2.11 Internal scrutiny	50
2.12 Strategy formulation	52
2.13 The evaluation of alternative strategies	58
2.14 Strategy implementation	70
2.15 Post-implementation evaluation, control and review	72
2.16 Strategic purchasing and supply chain process models	76

Original Edition entitled *Purchasing and Supply Chain Management, Seventh Edition*, by Lysons & Farrington, authors published by Pearson Education Limited, © Macdonald & Evans Limited 1981, © Longman Group Limited 1989, 1993, © Pearson Professional Limited 1996, © Pearson Education Limited 2000, 2006.

Indian edition published by Dorling Kindersley India Pvt. Ltd. Copyright © 2010

All rights reserved. This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, resold, hired out, or otherwise circulated without the publisher's prior written consent in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser and without limiting the rights under copyright reserved above, no part of this publication may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording or otherwise), without the prior written permission of both the copyright owner and the above-mentioned publisher of this book.

ISBN 978-81-317-3348-6

First Impression, 2010

Published by Pearson India Education Services Pvt.Ltd,CIN:U72200TN2005PTC057128.
Formerly known as TutorVista Global Pvt Ltd, licensees of Pearson Education in South Asia

Head Office: 7th Floor, knowledge Boulevard, A-8(A) Sector-62, Noida (U.P) 201309, India

Registered Office: Module G4, Ground Floor, Elnet Software City, TS -140,Block 2 & 9
Rajiv Gandhi Salai, Taramani, Chennai, Tamil Nadu 600113.,Fax: 080-30461003,
Phone: 080-30461060, www.pearson.co.in email id: companysecretary.india@pearson.com

Digitally Printed in India by Repro Knowledgecast Limited, Thane in the year of 2016.

Case study	78
Discussion questions	79
Past examination questions	81
References	81
3 Logistics and supply chains	84
Learning outcomes	84
Key ideas	84
Introduction	85
3.1 What is logistics?	85
3.2 Materials, logistics and distribution management	86
3.3 Reverse logistics	90
3.4 Supply chains	91
3.5 Supply chain management (SCM)	95
3.6 Supply chain vulnerability	100
3.7 SCM and logistics	101
3.8 Value chains	101
3.9 Value chain analysis	106
3.10 Supply chain optimisation	109
3.11 Supply chains and purchasing	112
Case study	115
Discussion questions	116
Past examination questions	118
References	118
4 Structure and supply chains	121
Learning outcomes	121
Key ideas	121
Introduction	121
4.1 Organisational structures	122
4.2 New type organisations	129
4.3 Networks	131
4.4 Factors in configurations	138
4.5 Lean organisations	141
4.6 Agile organisations and production	144
4.7 Supply and value chain mapping	148
Case study	151
Discussion questions	152
Past examination questions	153
References	154
5 Purchasing structure and design	157
Learning outcomes	157
Key ideas	157
Introduction	158
5.1 Business environmental factors and purchasing structures	158
5.2 Purchasing as a functional department	159

5.3 Horizontal organisations and processes	161
5.4 Teams	163
5.5 Cross-functional purchasing	164
5.6 Some problems of cross-functional teams	165
5.7 Cross-organisational teams	166
5.8 Divisional purchasing structures	166
5.9 Centralised purchasing	168
5.10 Decentralisation	169
5.11 Purchasing in multiplant organisations	169
5.12 Evolving purchasing structures	172
5.13 Organisational change	174
Case study	177
Discussion questions	179
Past examination questions	180
References	180
6 Purchasing procedures	182
Learning outcomes	182
Key ideas	182
Introduction	182
6.1 Traditional purchasing procedures	183
6.2 Inefficiencies of traditional procedures	184
6.3 E-commerce, e-business, e-SCM and e-procurement	185
6.4 The evolution of e-procurement models	187
6.5 Electronic data interchange (EDI)	188
6.6 E-hubs, exchanges, portals and marketplaces	192
6.7 E-catalogues	195
6.8 E-auctions	198
6.9 Reverse auctions	199
6.10 E-payment	204
6.11 The advantages of e-procurement	205
6.12 Small-value purchases	205
6.13 Purchasing manuals	207
6.14 Supplier manuals	209
6.15 Legal aspects of purchasing	211
Case study	215
Discussion questions	216
Past examination questions	218
References	218
Part 2 Strategy, tactics and operations 1: purchasing factors	221
7 Supplier relationships	223
Learning outcomes	223
Key ideas	223
Introduction	223

7.1	Relationship purchasing and purchasing relationships	223
7.2	The differences between transactional and relationship purchasing	224
7.3	Relationship formation	225
7.4	Models of supplier relationships	226
7.5	The Cox model	226
7.6	The Bensaou model	229
7.7	The IMP model	232
7.8	The practical usefulness of supplier relationship models	234
7.9	The termination of relationships	236
7.10	Further aspects of relationships	238
	Case study	239
	Discussion questions	240
	Past examination question	241
	References	241
8	Purchasing: product innovation, supplier involvement and development	243
	Learning outcomes	243
	Key ideas	243
8.1	Innovation and <i>kaizen</i>	243
8.2	Environmentally sensitive design	248
8.3	Purchasing and new product development	250
8.4	Relationships between purchasers and suppliers in new product development	252
8.5	Early supplier involvement (ESI)	253
8.6	Advantages and problems of ESI	254
8.7	Supplier development	255
8.8	Supplier associations (SA)	259
	Case study	261
	Discussion questions	262
	Past examination questions	263
	References	263
9	Specifying and managing product quality	265
	Learning outcomes	265
	Key ideas	265
9.1	What is quality?	266
9.2	Quality systems	268
9.3	The importance of TQM	268
9.4	Specifications	273
9.5	Alternatives to individual specifications	277
9.6	Standardisation	280
9.7	Variety reduction	285
9.8	Quality assurance and quality control	285
9.9	Tests for quality control and reliability	286
9.10	The cost of quality	298
9.11	Value management, engineering and analysis	299

	Case study	309
	Discussion questions	310
	Past examination questions	312
	References	313
10	Matching supply with demand	315
	Learning outcomes	315
	Key ideas	315
10.1	Inventory, logistics and supply chain management	315
10.2	Reasons for keeping inventory	316
10.3	Inventory classifications	316
10.4	Scope and aims of inventory management	317
10.5	Some tools of inventory management	318
10.6	The economics of inventory	323
10.7	Inventory performance measures	324
10.8	Safety stocks and service levels	325
10.9	The right quality	328
10.10	The nature of demand	329
10.11	Forecasting demand	330
10.12	'Push' and 'pull' inventories	335
10.13	Independent demand	336
10.14	Dependent demand	340
10.15	Just-in-time (JIT)	340
10.16	Materials and requirements planning (MRP)	347
10.17	Manufacturing resource planning (MRP II)	351
10.18	Enterprise resource planning (ERP)	353
10.19	Supply chain management systems	355
10.20	Distribution requirements planning (DRP)	355
10.21	Vendor-managed inventory (VMI)	357
10.22	Purchasing and inventory	360
	Case study	360
	Discussion questions	361
	Past examination questions	364
	References	364
11	Sourcing and the management of suppliers	366
	Learning outcomes	366
	Key ideas	366
11.1	What is sourcing?	367
11.2	The sourcing process	368
11.3	Sourcing information	368
11.4	Analysis of market conditions	369
11.5	Directives	371
11.6	E-sourcing	372
11.7	Locating suppliers	373
11.8	Supplier appraisal assessments	375
11.9	Supplier approval	383
11.10	Evaluating supplier performance	384

11.11	Policy issues in sourcing	390
11.12	The supplier base	391
11.13	Outsourcing	392
11.14	Outsourcing manufacturing	393
11.15	Outsourcing services	398
11.16	What not to outsource	400
11.17	Drivers of outsourcing	400
11.18	Types of outsourcing	400
11.19	Benefits of outsourcing	401
11.20	Problems of outsourcing	402
11.21	Implementing outsourcing	403
11.22	Subcontracting	406
11.23	Partnering	408
11.24	Reciprocity	417
11.25	Intra-company trading	418
11.26	Local suppliers	419
11.27	Small or large suppliers	419
11.28	Purchasing consortia	420
11.29	Sourcing decisions	421
11.30	The buying situation	423
11.31	Factors in deciding where to buy	425
	Case study	427
	Discussion questions	428
	Past examination questions	430
	References	431
12	Buying at the right price	434
	Learning outcomes	434
	Key ideas	434
12.1	Price	434
12.2	Conditions for perfect competition	436
12.3	Imperfect competition and monopoly	436
12.4	Competition legislation	437
12.5	Pricing agreements	438
12.6	Supplier considerations in pricing agreements	438
12.7	Purchasing considerations in pricing agreements	441
12.8	Firm price agreements	441
12.9	Cost price agreements	442
12.10	Variations in firm and cost price agreements	442
12.11	Price analysis	444
12.12	Price variation and adjustment	447
12.13	Price index numbers	448
12.14	Price adjustment formulae	451
12.15	Price and value	453
	Case study	454
	Discussion questions	456
	Past examination questions	458
	References	459

Part 3 Strategy, tactics and operations 2: buying situations		461
13	Contrasting approaches to supply	463
	Learning outcomes	463
	Key ideas	463
	Introduction	464
13.1	Industrial products	464
13.2	Capital investment items	464
13.3	Capital expenditure	465
13.4	Factors to be considered when buying capital equipment	466
13.5	Controlling the acquisition of capital equipment	467
13.6	New or used equipment	468
13.7	Financing the acquisition of capital equipment	470
13.8	Selecting suppliers of capital equipment	474
13.9	Evaluating capital investments	477
13.10	The buyer and capital investment purchases	480
13.11	Production materials	480
13.12	Raw materials	481
13.13	Futures dealing	482
13.14	Methods of commodity dealing	486
13.15	Purchasing non-domestic gas and electricity	489
13.16	Energy regulation	489
13.17	Energy supply chains	489
13.18	Markets	491
13.19	Pricing	492
13.20	Negotiating energy contracts	493
13.21	Energy consultants and management	495
13.22	Component parts and assemblies	496
13.23	Consumables	496
13.24	Construction supplies and bills of quantities	498
13.25	Purchasing services	502
	Case study	507
	Discussion questions	509
	Past examination questions	511
	References	512
14	Buying from overseas	513
	Learning outcomes	513
	Key ideas	513
14.1	Terminology	514
14.2	Motives for buying from overseas	514
14.3	Information regarding buying from overseas	516
14.4	Difficulties when buying from overseas	516
14.5	Incoterms	521
14.6	Customs and Excise	527
14.7	Total distribution costs	527
14.8	Minimising freight costs	531

14.9	Freight agents	531
14.10	Methods of payment	533
14.11	Countertrade	536
14.12	The true cost of overseas buying	538
14.13	Buying capital equipment abroad	539
14.14	Factors in successful overseas buying	540
	Case study	541
	Discussion questions	542
	Past examination questions	542
	References	543
 Part 4 Strategy, tactics and operations 3: negotiation, support tools and performance		 545
15	Negotiation	547
	Learning outcomes	547
	Key ideas	547
	Introduction	547
15.1	Approaches to negotiation	548
15.2	The content of negotiation	550
15.3	Factors in negotiation	552
15.4	The negotiation process	556
15.5	Prenegotiation	556
15.6	The actual negotiation	560
15.7	Post negotiation	564
15.8	What is effective negotiation?	564
15.9	Negotiation and relationships	565
15.10	Negotiation ethics	567
	Case study	571
	Discussion questions	572
	Past examination questions	573
	References	573
16	Support tools	575
	Learning outcomes	575
	Key ideas	575
16.1	Tendering	576
16.2	Debriefing	580
16.3	Post-tender negotiation (PTN)	581
16.4	Application of costing techniques	583
16.5	Lifecycle costing	583
16.6	Target costing	589
16.7	Absorption costing	591
16.8	Activity-based costing (ABC) and management	595
16.9	Standard costing	600
16.10	Budgets and budgetary control	602
16.11	Learning curves	603

16.12	Project management	608
16.13	Scheduling	609
16.14	Operational research (OR)	618
	Case study	621
	Discussion questions	621
	Past examination questions	624
	Solutions to selected exercises	625
	References	627
17	Purchasing research, performance and ethics	629
	Learning outcomes	629
	Key ideas	629
17.1	Purchasing research	629
17.2	Purchasing performance evaluation	634
17.3	Accounting approaches	636
17.4	The purchasing management audit approach	639
17.5	Benchmarking and ratios	644
17.6	Integrated benchmarking	651
17.7	Management by objectives (MBO)	653
17.8	Miscellaneous approaches applicable to measuring purchasing performance	654
17.9	Purchasing ethics	655
17.10	Some ethical issues relating to suppliers	656
17.11	Ethical codes and training	659
17.12	Ethical decisions	662
17.13	Purchasing and fraud	663
17.14	Environmental aspects of purchasing	668
	Case study	678
	Discussion questions	678
	Past examination questions	680
	References	681
	 <i>Appendix 1: Personal ethical code of the Chartered Institute of Purchasing and Supply (CIPS)</i>	 683
	<i>Appendix 2: Principles and standards of purchasing practice (ISM)</i>	685
	 <i>Definitions, acronyms and foreign words and phrases</i>	 687
	<i>Index of names and organisations</i>	694
	<i>Subject index</i>	699