

THOMSON

清华物流学系列英文版教材

采购与供应链管理

Purchasing and Supply Chain Management

Third Edition

第3版

Robert Monczka
(美) Robert Trent 著
Robert Handfield

清华大学出版社

THOMSON

本书对供应链这一关键领域进行了全方位的深入介绍。尤其值得指出的是，作者结合自身多年的经验和研究成果，从管理视角探讨了有效整合供应链框架下的采购职能。本书分为六部分：采购与供应链管理导论，采购运作与结构，战略采购，战略采购流程，关键的供应链要素，以及采购与供应链未来的发展方向。

本书可用做高校教材，也可作为企业管理人员的参考书和培训用书。

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978-981-4227-57-5

北京市版权局著作权合同登记号 图字:01-2006-4669

图书在版编目(CIP)数据

采购与供应链管理=Purchasing and Supply Chain Management/(美)蒙克萨(Monczka,R.),
(美)特伦特(Trent,R.), (美)汉德菲尔德(Handfield,R.)著. —北京:清华大学出版社,2007.1
ISBN 978-7-302-14201-0

I. 采… II. ①蒙… ②特… ③汉… III. ①采购—物资管理—英文 ②物资供应—物资管理—英文 IV. F25

中国版本图书馆 CIP 数据核字(2006)第 142257 号

责任编辑:江 娅

责任印制:何 芊

出版发行:清华大学出版社

地 址:北京清华大学学研大厦 A 座

http://www.tup.com.cn 邮 编:100084

c-service@tup.tsinghua.edu.cn

社 总 机:010-62770175 邮购热线:010-62786544

投稿咨询:010-62772015 客户服务:010-62776969

印 刷 者:北京市清华园胶印厂

装 订 者:三河市漂源装订二厂

经 销:全国新华书店

开 本:185×230 印 张:48.75

版 次:2007 年 1 月第 1 版 印 次:2007 年 1 月第 1 次印刷

印 数:1~3000

定 价:68.00 元

本书如存在文字不清、漏印、缺页、倒页、脱页等印装质量问题,请与清华大学出版社出版部联系调换。联系电话:(010)62770177 转 3103 产品编号:022399-01

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出 版 说 明

为了适应经济全球化的发展趋势,满足国内广大读者了解、学习和借鉴国外先进的管理经验和掌握经济理论的前沿动态,清华大学出版社与国外著名出版公司合作影印出版一系列英文版经济管理方面的图书。我们所选择的图书,基本上是已再版多次、在国外深受欢迎、并被广泛采用的优秀教材,绝大部分是该领域中较具权威性的经典之作。在选书的过程中,我们得到了很多专家、学者的支持、帮助和鼓励,在此表示谢意!

由于原作者所处国家的政治、经济和文化背景等与我国不同,对书中所持观点,敬请广大读者在阅读过程中注意加以分析和鉴别。

我们期望这套影印书的出版对我国经济科学的发展能有所帮助,对我国经济管理专业的教学能有所促进。

欢迎广大读者给我们提出宝贵的意见和建议;同时也欢迎有关的专业人士向我们推荐您所接触到的国外优秀图书。

清华大学出版社经管事业部

2007.1

世纪之交，中国与世界的发展呈现最显著的两大趋势——以网络为代表的信息技术的突飞猛进，以及经济全球化的激烈挑战。无论是无远弗界的因特网，还是日益密切的政治、经济、文化等方面的国际合作，都标志着 21 世纪的中国是一个更加开放的中国，也面临着一个更加开放的世界。

教育，特别是管理教育总是扮演着学习与合作的先行者的角色。改革开放以来，尤其是 20 世纪 90 年代之后，为了探寻中国国情与国际上一切优秀的管理教育思想、方法和手段的完美结合，为了更好地培养高层次的“面向国际市场竞争、具备国际经营头脑”的管理者，我国的教育机构与美国、欧洲、澳洲以及亚洲一些国家和地区的大量的著名管理学院和顶尖跨国企业建立了长期密切的合作关系。以清华大学经济管理学院为例，2000 年，学院顾问委员会成立，并于 10 月举行了第一次会议，2001 年 4 月又举行了第二次会议。这个顾问委员会包括了世界上最大的—些跨国公司和—些中国几家顶尖企业的最高领导人，其阵容之大、层次之高，超过了世界上任何一所商学院。在这样高层次、多样化、重实效的管理教育国际合作中，教师和学生与国外的交流机会大幅度增加，越来越深刻地融入到全球性的教育、文化和思想观念的时代变革中，我们的管理教育工作者和经济管理学习者，更加真切地体验到这个世界正发生着深刻的变化，也更主动地探寻和把握着世界经济发展和跨国企业运作的脉搏。

我国管理教育的发展，闭关锁国、闭门造车是绝对不行的，必须同国际接轨，按照国际一流的水准来要求自己。正如朱镕基同志在清华大学经济管理学院成立十周年时所发的贺信中指出的那样：“建设有中国特色的社会主义，需要一大批掌握市场经济的一般规律，熟悉其运行规则，

而又了解中国企业实情的经济管理人才。清华大学经济管理学院就要敢于借鉴、引进世界上一切优秀的经济管理学院的教学内容、方法和手段，结合中国的国情，办成世界第一流的经管学院。”作为达到世界一流的一个重要基础，朱镕基同志多次建议清华的 MBA 教育要加强英语教学。我体会，这不仅因为英语是当今世界交往中重要的语言工具，是连接中国与世界的重要桥梁和媒介，而且更是中国经济管理人才参与国际竞争，加强国际合作，实现中国企业的国际战略的基石。推动和实行英文教学并不是目的，真正的目的在于培养学生——这些未来的企业家——能够具备同国际竞争对手、合作伙伴沟通和对抗的能力。按照这一要求，清华大学经济管理学院正在不断推动英语教学的步伐，使得英语不仅是一门需要学习的核心课程，而且渗透到各门专业课程的学习当中。

课堂讲授之外，课前课后的大量英文原版著作、案例的阅读对于提高学生的英文水平也是非常关键的。这不仅是积累相当的专业词汇的重要手段，而且是对学习者思维方式的有效训练。

我们知道，就阅读而言，学习和借鉴国外先进的管理经验和掌握经济理论动态，或是阅读翻译作品，或是阅读原著。前者属于间接阅读，后者属于直接阅读。直接阅读取决于读者的外文阅读能力，有较高外语水平的读者当然喜欢直接阅读原著，这样不仅可以避免因译者的疏忽或水平所限而造成的纰漏，同时也可以尽享原作者思想的真实表达。而对于那些有一定外语基础，但又不能完全独立阅读国外原著的读者来说，外文的阅读能力是需要加强培养和训练的，尤其是专业外语的阅读能力更是如此。如果一个人永远不接触专业外版图书，他在获得国外学术信息方面就永远会比别人差半年甚至一年的时间，他就会在无形中减弱自己的竞争能力。因此，我们认为，有一定外语基础的读者，都应该尝试一下阅读外文原版，只要努力并坚持，就一定能过了这道关，到那时就能体验到直接阅读的妙处了。

在掌握大量术语的同时，我们更看重读者在阅读英文原版著作时对于西方管理者或研究者的思维方式的学习和体会。我认为，原汁原味的世界级大师富有特色的表达方式背后，反映了思维习惯，反映了思想精髓，反映了文化特征，也反映了战略偏好。知己知彼，对于跨文化的管理思想、方法的学习，一定要熟悉这些思想、方法所孕育、成长的文化土壤，这样，有朝一日才能真正“具备国际战略头脑”。

以往，普通读者购买和阅读英文原版还有一个书价的障碍。一本外版书少则几十美元，多则上百美元，一般读者只能望书兴叹。随着全球经济合作步伐的加快，目前在出版行业有了一种新的合作出版的方式，即外文影印版，其价

格几乎与国内同类图书持平。这样一来，读者可以不必再为书价发愁。清华大学出版社这些年在这方面一直以独特的优势领先于同行。早在 1997 年，清华大学出版社敢为人先，在国内最早推出一批优秀商学英文版教材，规模宏大，在企业界和管理教育界引起不小的轰动，更使国内莘莘学子受益良多。

为了配合清华大学经济管理学院推动英文授课的急需，也为了向全国更多的 MBA 试点院校和更多的经济管理学院的教师和学生提供学习上的支持，清华大学出版社再次隆重推出与世界著名出版集团合作的英文原版影印商学教科书，也使广大工商界人士、经济管理类学生享用 to 最新最好质优价廉的国际教材。

祝愿我国的管理教育事业在社会各界的大力支持和关心下不断发展、日进日新；祝愿我国的经济建设在不断涌现的大批高层次的面向国际市场竞争、具备国际经营头脑的管理者的勉力经营下早日中兴。

赵纯均 教授

清华大学经济管理学院

To Shirley, Kathleen, Thomas, and Elliana
RMM

To Jan, Jack, and Ellen
RJT

To Sandi, Simone, and Luc
RBH

About the Authors

Robert M. Monczka is a Distinguished Research Professor in the Department of Supply Chain Management at Arizona State University, Professor Emeritus at Michigan State University, and Director of Project 10X at CAPS Research. Project 10X is designed to create a rolling five-to-ten-year vision of strategies and best practices, and is committed to increasing performance by a magnitude of ten. Outside of the academic arena, his career consists of sourcing and supply consulting and research with more than 150 international organizations.

Robert J. Trent is the Supply Chain Management Program Director and Eugene Mercy Associate Professor of Management at Lehigh University. He received a Ph.D. in purchasing from Michigan State University. His research involves team-based approaches to purchasing, strategic sourcing, and global sourcing. He has presented many seminars to purchasing and supply chain managers and has published articles on these subjects in a variety of professional and academic journals.

Robert B. Handfield is the Bank of America Distinguished University Professor of Supply Chain Management in the College of Management at North Carolina State University. He is also the Director of the Supply Chain Resource Consortium at NCSU. His research focuses on field research with firms deploying supply chain management strategies, supplier development, and B2B e-commerce. He is Editor of the *Journal of Operations Management* and Area Editor (Supply Chain Management) for *Decision Sciences*. Handfield has served in consulting and executive education roles for more than a dozen Fortune 500 companies.

Preface

The Third Edition of *Purchasing and Supply Chain Management* is the culmination of ongoing discussions with purchasing and supply chain managers across many industries from around the world. In this edition, we have combined our experience and research to create a managerial perspective of the core tasks and challenges required to effectively manage the purchasing function within the context of an integrated supply chain. Although prior editions have dealt with many components of obtaining goods and services, we have created an integrated text that helps managers develop purchasing and supply chain strategies that contribute to corporate and business objectives. This new edition includes a number of innovative subjects that have been developed as a result of recent research projects undertaken by the authors. Some of the subjects that are newly introduced or expanded upon in this edition include:

- Cross-functional teaming
- Purchasing and supply performance measurement
- Supplier integration into new product development
- Automating purchasing through procurement cards and electronic systems such as Ariba and Commerce One and full e-sourcing and supply
- Supplier development
- Strategic cost management and total cost of ownership
- B2B electronic commerce and e-reverse auctions
- Enterprise Resource Planning
- Third party logistics
- Price analysis tools and techniques
- Negotiation simulations
- Contracting and Internet law
- Creating the lead supply chain
- Future directions, and expanded and comprehensive cases.

We are proud of this new edition, and believe that it reflects many new themes that are only beginning to emerge in the public domain.

Course Description

Purchasing and Supply Chain Management is intended for college and university courses that are variously entitled purchasing, materials management, supply chain management, sourcing management, and the like. The text is also well suited for training seminars for buyers, and portions of it have been used in executive education forums. Chapters have been used in both undergraduate and M.B.A. classes in purchasing, e-commerce, operations management, and logistics. Some instructors may also elect to use sections of the book for classes in operations management or logistics. The text is appropriate for either

an elective or a required course that fulfills the American Assembly of Collegiate Schools of Business (AACSB) requirements for coverage of materials management issues. Most of the cases included in the book are based on actual companies, and all have been used and modified through classroom use by the authors.

Course Objectives

Depending on the placement of a course in the curriculum or the individual instructor's philosophy, this book can be used to satisfy a variety of objectives:

1. Students should be made aware of the demands placed on purchasing and supply chain managers by business stakeholders.
2. As prospective managers, students need to understand the impact of purchasing and supply chain management on the competitive success and profitability of modern organizations.
3. Students should appreciate the ethical, contractual, and legal issues faced by purchasing and supply chain professionals.
4. Students must understand the increasingly strategic nature of purchasing, especially the fact that purchasing is much more than simply buying goods and services.
5. Students entering or currently in the workforce must understand the influence of purchasing on other major functional activities including product design, information system design, e-commerce, manufacturing planning and control, inventory management, human resource development, financial planning, forecasting, sales, quality management, as well as many other areas.

Unique to This Edition

Many of the insights and topics presented throughout this book are based on examples developed through discussions with top purchasing executives and from various research initiatives, including research published by CAPS Research, work at the NCSU Supply Chain Resource Consortium, and a project on supplier integration funded by the National Science Foundation. In addition, the text has a chapter format that includes an opening vignette, a set of sourcing snapshots, and a concluding Good Practice Example case that illustrates and integrates each chapter's topics. These new case studies and examples provide up-to-date illustrations of the concepts presented throughout each chapter.

The concept of teaming is emphasized throughout this book. Many of the case exercises require a team effort on the part of students. We recommend that the instructor have students work in teams for such projects to prepare them for the team environment found in most organizations.

Structure of the Book

This book is subdivided into six parts and 20 chapters that provide thorough coverage of purchasing and supply chain management.

Part 1: Introduction

Chapter 1 introduces the reader to purchasing and supply chain management. This chapter defines procurement and sourcing, introduces the notion of the supply chain, and summarizes the evolution of purchasing and supply chain management as an organizational activity.

Part 2: Purchasing Operations and Structure

The chapters in Part 2 provide an in-depth understanding of the fundamentals surrounding the operational activity called purchasing. These chapters focus primarily on the fundamentals of purchasing as a functional activity. Without a solid understanding of purchasing basics, appreciating the important role that purchasing can play becomes difficult.

Chapter 2 provides an overview of the purchasing process by presenting the objectives of world-class purchasing organizations, the responsibilities of professional purchasers, the purchasing cycle, and various types of purchasing documents and types of purchases. Chapter 3 examines various categories and types of purchasing policy and procedure. Most firms have a set of policies outlining the directives of executive management. These directives guide behavior and decision-making and place boundaries on the behavior of personnel. Chapter 4 examines purchasing as a boundary-spanning function. Much of what purchasing involves requires interacting and working with other functional areas and suppliers. This chapter examines the intra-firm linkages between purchasing and other groups, including suppliers. Chapter 5 focuses on purchasing and supply chain organization. This includes a discussion of purchasing in the organizational hierarchy, how the purchasing function is organized, and the placement of purchasing authority. The chapter also describes the team approach as part of the organizational structure.

Part 3: Strategic Sourcing

A major premise underlying this book is that purchasing is a critical process and makes as important a contribution as does manufacturing, marketing, or engineering to the pursuit of a firm's strategic objectives. Progressive firms have little doubt about purchasing's impact on total quality, cost, delivery, technology, and responsiveness to the needs of external customers. Part 3 addresses what firms must do to achieve a competitive advantage from their procurement and sourcing processes. Realizing these advantages requires shifting our view of purchasing from a tactical or clerically oriented activity to one focusing on strategic supply management. Strategic supply management involves developing the strategies, approaches, and methods for realizing a competitive advantage and improvement from the procurement and sourcing process, particularly through direct involvement and interaction with suppliers.

Chapter 6 develops an understanding of how firms set purchasing strategies. This process should include a vision and plan of what a firm must do in its purchasing/sourcing efforts to support achieving corporate goals and objectives. Clearly, the strategic planning process should be the starting point for any discussion of strategic supply management. Chapter 7 focuses on one of the most important processes performed by firms today—that is, supplier evaluation, selection, and measurement. Selecting the right

suppliers helps ensure that buyers receive the right inputs to satisfy their quality, cost, delivery, and technology requirements. Selecting the right suppliers also creates the foundation for working closely with suppliers, when required, to further improve performance. Chapter 8 describes how progressive firms, once they select their suppliers, manage and improve supplier quality. Improving supplier quality may also create advantages that are not available to competing firms. Six Sigma applications are discussed. Chapter 9 describes what firms must do to manage and develop world-class supply-base performance. Supplier development is a focus. Finally, Chapter 10 focuses on worldwide sourcing, which is becoming an important part of strategic supply management as firms search worldwide for the best resources.

Part 4: Strategic Sourcing Processes

Chapter 11 focuses on strategic cost management and cost/price analysis. Progressive firms focus on cost control and reduction with suppliers as a way to improve (i.e., reduce) purchase price over time. Understanding cost fundamentals and appreciating how and when to use advanced costing techniques is critical for purchasers. This chapter details various types of costs, presents cost analysis techniques, and discusses the factors that affect a supplier's price. The chapter also discusses total cost analysis, cost-based pricing, and other innovative techniques designed to provide accurate and timely cost data.

Purchasing professionals rely on an assortment of tools, techniques, and approaches for managing the procurement and supply chain process. Chapter 12 presents various tools and techniques that purchasers use when problem solving and pursuing performance improvements. The use of these tools and techniques can help purchasers achieve specific outcomes, such as reducing cost/price, improving quality, reducing time, or improving delivery performance from suppliers.

Chapter 13 deals with purchase negotiation. Effective purchasers know how to plan for and negotiate contracts that create value within a buyer-seller relationship. Increasingly, purchase contracts emphasize more than simply purchase price. Buyers and sellers may negotiate cost reductions, delivery requirements, quality levels, payment terms, or anything else important to the parties. Purchase negotiation will become increasingly important as firms focus on non-price issues and longer-term, complex purchase agreements.

Chapter 14 addresses the fundamentals of contracting. The formal contracting process creates the framework for conducting business between two or more firms. As such, an understanding of contracting is essential when attempting to manage costs within a buyer-seller relationship. Chapter 15 addresses the major legal considerations in purchasing, including the legal authority of the purchasing manager. The chapter also discusses sources of U.S. law, warranties, purchase order contracts, breaches of contract, and patent and intellectual property rights. Because contracting is a part of the legal process, this chapter naturally follows the contracting chapter.

Part 5: Critical Supply Chain Elements

Part 5 describes the major activities that relate to or directly support supply chain management. Some of these activities involve specific disciplines such as inventory manage-

ment or transportation; other activities relate to the development of supply chain support systems. These systems include performance measurement systems and computerized information technology systems. The activities presented in this section may or may not be a formal part of the purchasing organization. These activities and systems, however, are key elements of purchasing and supply chain management. Without them, purchasing probably cannot effectively pursue its goals and objectives. Therefore, purchasing students must be familiar with a range of supply chain activities.

Chapter 16 focuses on a topic of increasing interest—the management of a firm's inventory investment. The money that a firm spends on inventory usually involves a significant commitment of financial resources. This chapter discusses the function of inventory within a firm, factors leading to inventory waste, creating a lean supply chain, approaches for managing a firm's inventory investment, and future trends related to managing inventory. At some firms, purchasing is responsible for the day-to-day management of inventory.

Another area of interest involves the purchase of transportation and other services. We have witnessed major changes in transportation in recent years, many of which have affected purchasing. Since Congress deregulated the transportation industry in the early 1980s, the role of the buyer has changed dramatically. More than ever, purchasing is involving itself in the evaluation, selection, and management of transportation carriers. Even if a buyer does not get involved directly with transportation, having a working knowledge of this dynamic area is critical. Chapter 17 highlights purchasing's role in transportation buying, presents a decision-making framework for developing transportation strategy, discusses ways to control and influence inbound transportation, and evaluates trends affecting the purchase of transportation services. In addition, spending on other services is also examined.

Information technology systems are changing business. Purchasing, too, can benefit from the development of current information technology systems. Chapter 18 examines the role of supply chain information systems and electronic commerce. The chapter also addresses the electronic linkage between firms through Electronic Data Interchange (EDI). Finally, this chapter discusses some advanced and future e-purchasing and supply systems' applications. The availability of information technology systems greatly enhances purchasing's ability to operate at the highest levels of efficiency and effectiveness.

Chapter 19 focuses on performance measurement and evaluation. Increasingly, firms must develop valid measurement systems that reveal corporate performance, including the performance of purchasing and supply chain management efforts. These systems need to be clearly linked to overall company objectives. Measurement systems support procurement and sourcing decision-making by providing accurate and timely performance data. This chapter examines why firms measure performance, defines various purchasing performance measurement categories, and discusses how to develop a purchasing performance measurement system.

Part 6: Future Directions

Chapter 20 focuses on what purchasing and supply chain management will look like in the twenty-first century. These trends, which are adapted directly from recent surveys of

key executive managers from a variety of global organizations, can help students identify how the field of purchasing and sourcing management is changing, and what skills they will need to develop in view of these changes. The latest predictions are included from CAPS Research Project 10X.

Case Studies and Instructor's Resources

Purchasing and Supply Chain Management contains new and revised cases featured within the book and found at the product website, <http://monczka.swlearning.com>. These cases have been classroom-tested and used within the industry. A test bank, an all new PowerPoint® presentation, and other ancillary materials are available on CD-ROM (ISBN: 0-324-20255-5) to help instructors identify how to best use and interpret the text and cases. Of particular interest are the negotiation and supplier selection cases, which allow students to experience the purchasing decision-making process in real time. The Instructor's Resource CD is available to adopters of the Third Edition by calling the Academic Resource Center at 1-800-423-0563.

Acknowledgments

We would like to thank Sheila Petcavage, Cuyahoga Community College, for her excellent support in developing the new PowerPoint presentation slides that can be used by faculty to enhance the educational process. In addition, we very much appreciate the work of Bob Dreas, Production Editor, and Taney Wilkins, Developmental Editor, of Thomson Business and Professional Publishing in making this Third Edition possible.

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