运输管理

Management of Transportation

Sixth Edition

爱德华·J. 巴迪 (Edward J. Bardi)

(美) 约翰・J. 科伊尔 (John J. Coyle) 著 罗伯特・A. 诺瓦克 (Robert A. Novack)

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清华大学出版社

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Edward J. Bardi, John J. Coyle, Robert A. Novack

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Edward J. Bardi

宾夕法尼亚州立大学企业物流客座教授,托莱多大学物流和运输方面的荣誉教授。Bardi博士曾在运输、配送、逆向物流、自有货运、仓库选址和运营、营销、企业组织和经济发展领域为许多企业和政府机构担任咨询人员。他还与人合著了《企业物流管理》,并在各种学术和专业杂志上发表了大量关于企业物流、运输管理、运输设备选择、经济发展等方面的文章。

John J. Coyle

宾夕法尼亚州立大学工商管理学院的荣誉教授和供应链研究中心的企业关系主任。他曾于1990年至1996年担任《企业物流杂志》的编辑。目前他是《企业物流杂志》、《供应链研究》和《实体配送和物流国际期刊》的审编委员会成员之一。1991年,Coyle博士获得美国物流协会最高荣誉奖。

Robert A. Novack

宾夕法尼亚州立大学供应链管理副教授,曾 在辛辛那提大学和田纳西大学讲授物流和运输 课程。他在《企业物流杂志》、《运作和生产 管理国际杂志》等学术期刊上发表了大量文章。

清华经管英文版教材

清华营销学系列英文版教材 清华管理学系列英文版教材 清华金融学系列英文版教材 清华经济学系列英文版教材 清华会计学系列英文版教材 清华物流学系列英文版教材 清华物流学系列英文版教材 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 2006.10

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,都标示着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一些跨国公司和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。正如朱镕基总理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,朱镕基总理多次建议清华的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。

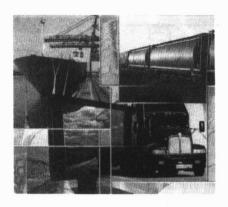
在掌握大量术语的同时,我们更看重读者在阅读英文原版著作时对于西方管理者或研究者的思维方式的学习和体会。我认为,原汁原味的世界级大师富有特色的表达方式背后,反映了思维习惯,反映了思想精髓,反映了文化特征,也反映了战略偏好。知己知彼,对于跨文化的管理思想、方法的学习,一定要熟悉这些思想、方法所孕育、成长的文化土壤,这样,有朝一日才能真正"具备国际战略头脑"。

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到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 our wives, Barbara, Carol, and Judith, and our children, John and Susan; Susan and Pamela; and Tom, Elizabeth, and Alex, for all their support and sacrifice

About the Authors

Dr. Edward J. Bardi is principal of Bardi Consulting and professor emeritus of logistics and transportation at the University of Toledo. Dr. Bardi held faculty positions at Pennsylvania State University, the University of Toledo, and Iowa State University. Dr. Bardi has served as a consultant to numerous businesses and public agencies in the areas of transportation, distribution, reverse logistics, private trucking, warehouse location and operation, marketing, business organization, and economic development. He is a popular seminar leader of transportation and logistics/supply chain management development programs. Dr. Bardi is a co-author of two textbooks, *The Management of Business Logistics* and *Transportation*. He has published numerous articles dealing with business logistics, transportation management, carrier selection, economic development, and employee household goods movement in various academic and professional journals. Dr. Bardi is married to the former Carol Ann Pearson and has two grown children, Susan Renee and Pamela Lynn, and five grandchildren.

John J. Coyle was the first person to teach a course at Penn State under the label "Business Logistics." After joining the faculty in 1961, he played an active role in developing the logistics and transportation program at Penn State. Dr. Coyle served as executive director of the Center for Supply Chain Research (CSCR) from 1989 until 2000. He currently is the director of corporate relations for CSCR and professor emeritus of business administration. His many career highlights include 12 college and university awards for outstanding teaching and advising. In 2001 he received the Distinguished Lions Paw Award for outstanding service to the University. He received the Council of Logistics Management's highest honor, the Distinguished Service Award, in 1991. For 30 years Dr. Coyle served as the faculty athletic representative to the NCAA and the Big Ten for Penn State (1970-2000). He served as special assistant for strategic planning to the president of Penn State University from 1983 to 1986 and from 1989 to 1991. During 1982 to 1987 he served as assistant dean and director of the undergraduate program and from 1987 to 1989 as associate dean in The Smeal College of Business Administration at Penn State. Coyle has also chaired many University-wide committees and served as chairman of the faculty senate. Dr. Coyle has written more than 100 publications and provided in-house educational programs for more than 300 companies. Coyle is president of CLSA Associates, a supply chain and logistics consulting company. He is a member of the boards of Sears Logistics Services Company, ChemLogix, and Avicon.

Robert A. Novack is an associate professor of supply chain management at Penn State. He received his B.S. and M.B.A. degrees from Penn State with majors in business logistics and earned his Ph.D. from the University of Tennessee with a major in business logistics. Before coming to Penn State, he taught logistics and transportation courses at both the University of Cincinnati and the University of Tennessee. He currently teaches courses in introduction to supply chain management, transportation, fulfillment and operations management, and strategic supply chain management. He received the Fred Brand, Jr. Outstanding Undergraduate Teaching Award as well as the Fred Brand, Jr. Outstanding Undergraduate Advising Award in the Smeal College at Penn State.

His research has been published in *The Journal of Business Logistics, Transportation Journal, International Journal of Physical Distribution and Logistics Management,* and *International Journal of Operations and Production Management.* Dr. Novack also authored a chapter entitled, "Introduction to Supply Chain management" in the *Strategic Purchasing Handbook.* Dr. Novack is also a co-author on a textbook entitled *Transportation* and a co-author on a research based book entitled *Creating Logistics Value: Themes for the Future.* Dr. Novack has professional experience in both carrier management and logistics management. He has worked for Yellow Freight, Inc. as an operations planning analyst and for the Drackett Company (formerly a division of Bristol Myers/Squibb) as manager of logistics planning and control. He has done consulting work for a variety of companies dealing with topics such as strategic planning, information systems, customer satisfaction measurement, distribution management, transportation management, and inventory management.

Preface

The major constant in transportation is the value it creates in the economy. Transportation enables citizens throughout the world to enjoy the goods and services produced in different countries as well as to travel and interact with different peoples and cultures. Without an efficient transportation system, the level of social and economic advancement we enjoy today would not be possible. The level of industrial development depends on a sound transportation system to bridge the temporal and spatial gaps associated with mass production and geographically fixed raw materials. Transportation remains the glue that binds supply sources and markets.

The world and the transportation environment are much different today compared to what existed twenty-five years ago. We are operating in a global economy requiring transportation to extend its reach over great distances. Shippers have adopted supply chain management that focuses managerial attention on the total cost of and time required to lay down a product at a given market. Transportation management systems are becoming more widely used by shippers seeking to consolidate shipments, optimize carrier loading, and reduce transportation costs. The Internet has changed the way shippers/passengers and carriers communicate, with freight loads being tendered via Internet and passengers booking their own flights on carrier websites. The advancement of global positioning systems (GPS) software enables the carrier to track a shipment from pickup to delivery. The cost of petroleum fuels reached an all-time high during this writing and is causing tremendous inflationary pressures on freight rates, passenger travel costs, and the world economy. The escalating cost of fuel is forcing carriers to modify operating procedures, shippers to optimize freight shipments, and citizen to modify travel patterns and automobile usage in an attempt to reduce fuel costs. Considerable effort is underway to develop alternative energy sources and engines to power our automobiles, trucks, planes, and boats with goals of lower fuel costs and less environmental impact.

Probably the most significant change was the September 11, 2001 terrorist attack on the United States. The U.S. air transportation system was grounded in a matter of hours, and rail, water, and truck shipments to the East Coast were suspended. But in a matter of days the transportation system was functioning. The flow of vital food and other necessities continued to the major metropolitan areas of the East Coast. The resilience of the U.S. transportation providers kept the U.S. supply chains functioning during this crisis. Today, we see increased regulations aimed at protecting the United States from future attacks using the transportation system. Inspections of global shipments entering the United States has increased transit times for global supply chains, while the increased security attention to domestic transportation operations is increasing domestic supply chain transit times.

The text is organized into three parts. Part I contains two chapters, "Transportation, the Supply Chain and the Economy" and "Transportation Regulation and Public Policy." In these two chapters the role and importance of transportation in the supply chain management and the economy are explored, along with an overview of transportation regulation and public policy. Part II addresses the traditional modes of transportation, including special carriers and global transportation. There are six chapters that examine the fundamental economic and operating characteristics of each mode, along with special carriers and global transportation. Part III discusses transportation management from both the shipper and carrier perspective. The five chapters give attention to transportation costing and pricing, carrier strategy, information management and technology, and shipper transportation management strategy and process.

Features

The student orientation and managerial approach are the focal points of this edition of *Management of Transportation*. The authors have endeavored to use an easy-to-read writing style supplemented with examples from today's transportation system to help the student understand transportation management issues. We concentrate on the fundamentals of transportation management and temper these fundamentals with the conditions confronting today's managers such as the supply chain management approach utilized by shippers and carriers. Given the authors' combined teaching experience, the text attempts to anticipate many student questions and proffer explanations. We retained features of the book that made previous editions successful: "Stop Offs" that expand chapter material by providing real-life examples that deepen students' understanding; thorough chapter outlines and bullet summaries; suggested readings and cases; and key terms at the end of the chapter will help the student become more familiar with transportation terminology and focus on key concepts.

Ancillaries

The text contains a number of ancillaries that will aid the student and instructor.

- The Instructor's Manual and Test Bank (both available online at http://aise.swlearning.com), prepared by Wally Weart of the Institute of Logistical Management, includes chapter outlines, answers to end-of-chapter study questions, commentary on end-of-chapter cases, teaching tips, and transparency masters. The test bank contains multiple choice, true/false, and essay questions for each chapter.
- A PowerPoint presentation (available online at http://aise.swlearning.com), prepared by Gary Gittings of Pennsylvania State University, is included in the Instructor Resource CD, and contains slides that cover the major chapter topics and figures from the text.

Acknowledgements

Many people have helped us complete this edition of *Management of Transportation*. The authors are indebted to the numerous academic colleagues and transportation professionals who have helped us sharpen our focus on the major transportation issues to be included in the text. The many students at our respective academic institutions and the executive education programs have served as sounding boards to help us sharpen our presentation of today's complex and interrelated transportation topics. Some individuals deserve special consideration: Michael Levans, Editor of *Logistics Management* magazine, Jean Beierlein, LuAnn Jaworski, Teresa Lehman, and Tracy Shannon.

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