国际工程管理教学丛书

INTERNATIONAL PROJECT MANAGEMENT TEXTBOOK SERIES

国际工程管理专业英语阅读选编

SELECTED ENGLISH READINGS IN INTERNATIONAL PROJECT MANAGEMENT

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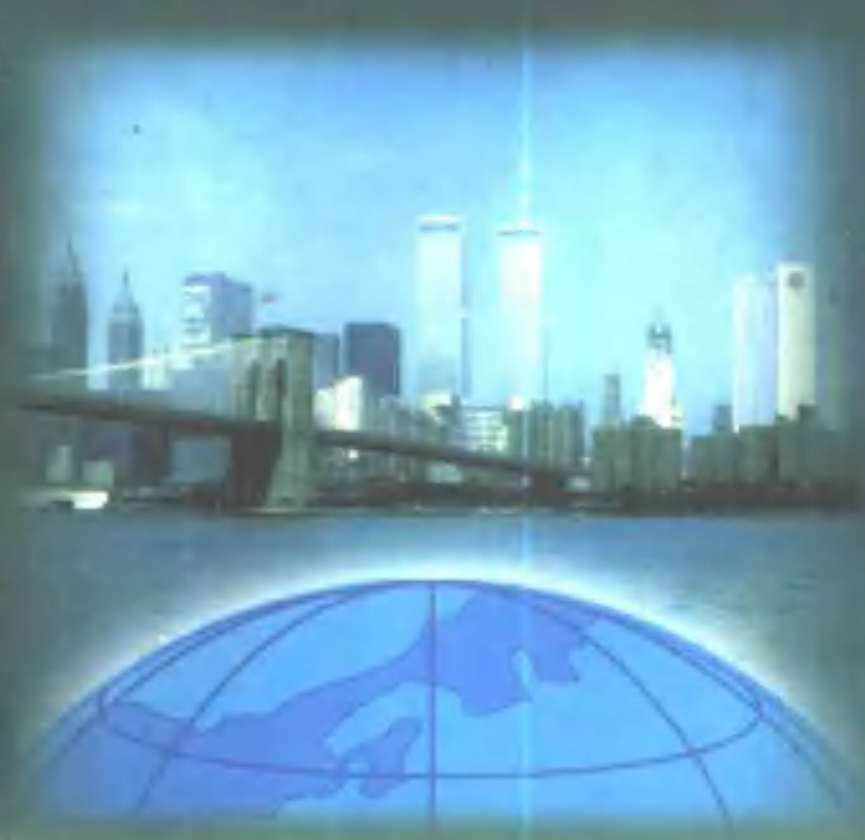

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国 际 工 程 管 理 教 学 丛 书

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周可荣 主编
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本书共分为十八单元。包括：国际工程市场，世行贷款项目周期，FIDIC招标、投标程序，合同各方，合同类型，投标报价，融资，各类保函，工程保险，谈判，索赔，争端与仲裁等十二个方面的内容。这种安排与国际工程管理工作实际运作的一般过程大体相同。每单元内，除对文中重点、难点一一指出并加以注释外，还围绕中心内容归纳了8～10个问题，供学习者结合单元内容思考、解答，借以巩固所学知识。为便于读者对照学习，参考译文附后。

本书为普通高等院校国际工程管理专业或相关专业高年级学生主要阅读教材；也可供从事国际工程招标、投标、承包、设计、施工、安装、咨询、监理等工作的单位培训工程技术人员、管理人员之用，亦可作为具有或相当于大学英语四级以上水平者的英语阅读自学用书。

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序

对外贸易经济合作部部长　吴　仪

欣闻由有关部委的单位、学会、商会、高校和对外公司组成的编委会编写的“国际工程管理教学丛书”即将出版，我很高兴向广大读者推荐这套教学丛书。这套教学丛书体例完整、内容丰富，相信它的出版能对国际工程咨询和承包的教学、研究、学习与实务工作有所裨益。

对外承包工程与劳务合作是我国对外经济贸易事业的重要组成部分。改革开放以来，这项事业从无到有、从小到大，有了很大发展。特别是近些年贯彻“一业为主，多种经营”和“实业化、集团化、国际化”的方针以来，我国相当一部分从事国际工程承包与劳务合作的公司在国际市场上站稳了脚跟，对外承包工程与劳务合作步入了良性循环的发展轨道。截止到1995年底，我国从事国际工程承包、劳务合作和国际工程咨询的公司已有578家，先后在157个国家和地区开展业务，累计签订合同金额达500.6亿美元，完成营业额321.4亿美元，派出劳务人员共计110.4万人次。在亚洲与非洲市场，我国承包公司已成为一支有较强竞争能力的队伍，部分公司陆续获得一些大型、超大型项目的总包权，承揽项目的技术含量不断提高。1995年，我国有23家公司被列入美国《工程新闻记录》杂志评出的国际最大225家承包商，并有2家设计院首次被列入国际最大200家咨询公司。但是，从我国现代化建设和对外经济贸易发展的需要来看，对外承包工程的发展尚显不足。一是总体实力还不太强，在融资能力、管理水平、技术水平、企业规模、市场占有率等方面，与国际大承包商相比有明显的差距。如，1995年入选国际最大225家承包商行列的23家中国公司的总营业额为30.07亿美元，仅占这225家最大承包商总营业额的3.25%；二是我国的承包市场过分集中于亚非地区，不利于我国国际工程咨询和承包事业的长远发展；三是国际工程承包和劳务市场竞争日趋激烈，对咨询公司、承包

公司的技术水平、管理水平提出了更高的要求，而我国一些大公司的内部运行机制尚不适应国际市场激烈竞争的要求。

商业竞争说到底是人才竞争，国际工程咨询和承包行业也不例外。只有下大力气，培养出更多的优秀人才，特别是外向型、复合型、开拓型管理人才，才能从根本上提高我国公司的素质和竞争力。为此，我们既要对现有从事国际工程承包工作的人员继续进行教育和提高，也要抓紧培养这方面的后备力量。经国家教委批准，1993 年，天津大学首先设立了国际工程管理专业，目前已有近 10 所高校采用不同形式培养国际工程管理人才，但该领域始终没有一套比较系统的教材。令人高兴的是，最近由该编委会组织编写的这套“国际工程管理教学丛书”填补了这一空白。这套教学丛书总结了我国十几年国际工程承包的经验，反映了该领域的国际最新管理水平，内容丰富，系统性强，适应面广。

我相信，这套教学丛书的出版将对我国国际工程管理人才的培养起到重要的促进作用。有了雄厚的人才基础，我国国际工程承包事业必将日新月异，更快地发展。

1996 年 6 月

前　言

作为“国际工程管理教学丛书”之一的《国际工程管理专业英语阅读选编》，经过二年的紧张劳作，就要出版了。

这本书主要取材于包括国际咨询工程师联合会（FIDIC）、世界银行（IBRD）、国际劳工局（ILO）、国际贸易中心（ITC）等在内的国际组织或机构编写的、通用于国际工程市场的有关文件。其特点一是选材较新。编制与实施的起始时间一般都在八九十年代；二是实用性强。由于是在总结国际工程市场的发展历史，充分考虑其间新情况的基础上编写的，因而能够适应当前乃至今后较长一段时间的现实需要；三是适合用作高校相关专业阅读教学和培训相关管理人员及工程技术人员。这些文件涵盖了国际工程管理可能涉及的方方面面，既有广度也有一定深度。学习者在学习语言知识的同时，能较自然地与实际情况相结合，以便掌握更多新的专业知识。在每一单元内，不仅逐一列出本单元之重点、难点，详加注释，而且对其中包含的语法现象进行必要分析，同时另举若干例句加以佐证。为便于学习者自我总结，每单元之末均列出 8～10 个不等的问题，全面准确地回答每一问题离不开对单元全文的深入研读。通过回答问题，旨在帮助学习者加深对课文的理解，巩固其所学。为了方便自学者使用此书，书后附有参考译文。

本书包括了国际工程市场，世行贷款项目的项目周期，FIDIC 招标、投标程序，合同各方一雇主、承包商与工程师，合同类型，投标报价，融资，各类保函，工程保险，谈判，索赔，争端与仲裁等十二个方面的内容及介绍。这个安排，与国际工程管理工作实际运作的一般过程大体相同。

本书主要读者对象为：普通高等院校国际工程管理专业及相关专业高年级学生；具有大学英语四级以上水平的从事国际工程招标、投标、施工、咨询、监理、管理等工作的管理人员、工程技术人员、财会人员、物资管理人员等，以及相当于上述英语水平的其他专业工作者。

由于本书是我国高校有关专业第一本国际工程管理方面的英语阅读教材，也由于我国高校开设相关专业的历史尚短，可供学习、参考、借鉴的同类教材与编写经验几近空白，虽然编者从教材构思、编写设计、材料选择，到篇章布局、教材内容的解剖分析以及参考译文的翻译等做了很大努力，期望奉献高质量的阅读教材，以满足专业教学和实际培训工作的需要，但限于客观和主观条件，与编者愿望之间存在不小的差距。所以，诚心诚意地希望读者，特别是从事国际工程管理教学、研究以及实际工作的专家、学者批评指正。

值此出版之际，谨对国际咨询工程师联合会（FIDIC）、世界银行（IBRD）、国际劳工局（ILO）、国际贸易中心（ITC）等国际组织或机构以及英国 Bath 大学 Richard Fellows 博士等外籍专家、学者给予编者的支持、帮助与便利，表示衷心感谢。同时也向“国际工程管理教学丛书”编委会常务副主任、天津大学何伯森教授给予本书的指导，以及哈尔滨建筑大学孟毅副教授的帮助表示诚挚的谢意！

对在本书书稿整理阶段给予很大帮助的房宇、周永胜、刘仲华、曹春东亦表示衷心的感谢。

国际工程管理教学丛书

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CONTENTS

Unit One Developments in Construction Marketing

MARKETING

Marketing has many, varied definitions. Early definitions, focused on supply, notably the requirements of the producer to sell the output. Now, marketing is highly demand-oriented. A consequence is expansion of marketing activities and of who is involved accompanied by diminution in the importance of competition.

Literature reveals that the aim of marketing is to produce output which yields maximum value to customers whilst maximising performance of the producer's objectives. However, investigations of construction indicated that marketing is carried out to ensure that the organisation secures the most profitable work which matches its resources, produces the best outputs and sells the outputs in the most appropriate ways. Hence, contractors must identify clients' needs, anticipate those needs and meet them efficiently and effectively.

In the sample of contractors, the majority chose a definition of marketing which is closest to equating marketing with selling.

CONSTRUCTION MARKETING IN THE 1980'S

By 1990, larger contractors had a marketing department, operated a marketing programme and a market information system. Many administered market forecasts but only half carried out a SWOT analysis.

There has been a marked decline in the use of traditional (design-tender-build) procurement, slow growth of management methods and slight growth (with major fluctuations) of design and build methods. Sub-contracting has become almost universal so, irrespective of the procurement method adopted, the main contractor acts as construction manager only.

Examination of the type of service desired revealed that 58% of clients sought value-based services, 23% wanted management-based services and only 12% emphasized the product (building). However, contractors' perceptions of clients' desires were: 38% management-based services, 25% value-based services and 17% design. Contractors should benefit from placing greater emphasis on their abilities to provide good value.

Two-stage selective tendering (bidding followed by negotiations with the lowest bidders) is the dominant contractor selection process. The second stage commonly involves presentations of how the work will be organised by the intended project management teams of the three lowest bidders. The key factor is the people comprising the "team" (experience, expertise etc).

Two sets of qualifiers exist——one by which contractors enter a (standing) tender list (general qualifiers) and the other by which contractors are selected for a particular project (particular qualifiers). General qualifiers are:

General Experience and Reputation, Financial Standing and Record, QA Registered, Prior Business Relationship. Particular qualifiers are: Reputation for Completion on Time, Recent Similar Projects, Personnel/Team's Expertise, Reputation for Low Contract Price, Consultants' Recommendations.

The primary criterion is General Experience and Reputation; Reputation for Low Contract Price is ranked very low. Clients who build frequently, often re-engage contractors with whom they have had a good working relationship on previous projects. Contractors seek such clients and know that one 'bad' project will cause severe damage to a reputation.

Low Contract Price remains the winning criterion for most projects. However, reputation for Good Time Performance is the second criterion.

Clients also consider other factors' price risks in their selection of the contractor; the likely total price perceived by clients, bid price plus "acquisition cost", is used.

Clients emphasize the advantages of having had a good 'Prior Working Relationship' with a contractor with a view to:

- confidence in the contractor's expected performance
- good communications
- familiarity with construction team members
- familiarity with expertise of team members
- more collaborative working
- pro-active approach to solving problems
- contractors' having confidence in client and
- consultants.

A high bid is the primary loser. For success, the lowest bid (possibly after negotiation) must fall within the client's budget. However, especially during difficult economic conditions, some contractors bid very low - "buying work". Although a contractor may have good reasons to buy work, its perception by clients leads to extreme scrutiny of the bid and its possible rejection for being too low——wary clients may not be willing to take the risks perceived to be inherent in accepting such bids.

CONSTRUCTION IN THE 1990' S

The futures scenarios were assessed by semi-structured interviews with executives of clients and contractors. The decade was split into two halves to obtain responses concerning the medium term and the long term. Prospects for the medium term are:

- some increase in public expenditure
- increase in civil engineering work
- significant demand overseas
- increases in joint-venturing, consortia and partnering
- increased demand for maintenance and refurbishment
- environmental issues will become an important qualifier
- the poor image of the industry will remain a barrier to recruitment, especially for women
- IT will have much greater impact, notably CAD and integrated total systems.

The public are concerned at the lack of provision and maintenance/renewal of infrastructure. Privatisation of the water and rail transport authorities will herald enhanced expenditure on capital projects in those sectors.

Contractors' attention is being directed to the Far East. The developing nations of the Pacific Rim and SE Asia, especially PRC, to which UK organisations may gain advantageous entree through Hong Kong, are very attractive areas. However, highly competitive companies from Japan, USA etc. will seek work in the area too.

UK contractors will joint-venture, form consortia etc. with complementary, overseas-based companies. For large projects and repeating clients, partnering (clients, financiers, consultants and constructors) is likely to become widespread so that mutual benefit is obtained from the advantages of regular working amongst organisations well known to and trusted by each other.

IT will continue to increase in importance, particularly expansion of CAD with integrated costing and project management. Increasing emphasis will be placed upon integrating systems of project participants.

Generally, major clients will become more expert, usually through their greater employment of construction personnel, more demanding of performance and make greater use of scientific decision taking——risk management, decision analysis, sensitivity analysis. For the 'major players', the construction market will move towards globalisation.

Particularly as a consequence of the UK recession, great emphasis will be placed upon 'Good Prior Business Relationships' in selecting contractors due to clients' desire for 'performance assurance'; "Contract price" will continue to dominate "time".

Constructors should direct marketing efforts towards repeating clients; especially refurbishment and maintenance.

Prospects for the longer term are:

- public expenditure reduced (from the medium term)
- continuing increase in civil engineering work, especially infrastructure
- strong overseas demand, especially Far East
- enhanced international strength of UK contractors through joint-ventures and consortia

- continuation of refurbishment and maintenance as major elements of UK construction demand
- maintained importance of environmental issues
- IT extending into experimentation with robotics.

Construction of health-care facilities will be required, including provisions for the ageing population.

Strong demand, but with a highly competitive supply, will occur in Asia; the continuity of changes in PRC will be an important demand generator. Several Pacific Rim countries are forecast to have growth rates around 10% p. a. Many projects will be executed through consortia or joint ventures.

Advances in IT will encourage and enable information for construction projects to be transferred between organisations by electronic media; the requirements for compatibility between systems is paramount. Increasing importance will accrue to contractors' presentations in obtaining contracts——computer-based 'walk through' design etc. will be extensive. Scientific decision taking will gain ground through integrated systems.

Robotics will be used on projects experimentally with the focus for their use to cope with particularly hazardous operations.

CLIENTS IN THE 1990' S

The major change in procurement is into design and build arrangements. Clients' preference for design and build is particularly marked; any additional risks' being outweighed by perceived advantages——single point responsibility and speed of delivery with adequate quality. However, clients are wary of contractors who sub-let design and construction operations. Most projects will be let by two stage tendering in which interviews with contractors'proposed proiect management teams will play a vital role.

Public sector clients will remain subject to public accountability which will encourage them to remain focused on contract price. Such clients are moving into non-traditional procurement systems. Demand from privatised and 'quasi-privatised' bodies, should enhance flexibility, facilitating attention to speed and environment.

Private clients will require value——the 'best' combination of time, cost and quality factors. Clients will gain expertise by undertaking more projects and, through employing specialist construction personnel directly. Increasing experience and expertise of clients leads to:

- increasing use of scientific decision techniques
- clients'becoming more involved building—— likely to enhance their satisfaction with project performance
- clients' greater preparedness to assume project risks
- forging of enduring relationships between the main participants through 'partnering' arrangements with constructors' providing comprehensive packages for total

project lives.

CONCLUSIONS

Changes in the construction market which were evident in the 1980's will be both more rapid and extensive in the 1990's. For changes to be opportunities, contractors must be prepared to be flexible. Through marketing, firms can take advantage of the changes; a proactive approach will enhance the position. A clear theme is the increasing emphasis on expertise of the people involved, the forging of enduring relationships, the development of specialisms and the shouldering of responsibilities.

Procurement methods will move towards contractor-led systems. Design and build methods will increase in use to treble in importance by 2001. Management methods will be employed for large projects, maintaining their market share. The traditional system will remain important, particularly for smaller and refurbishment projects.

Use of multi-stage tendering will continue to expand to accommodate increasing emphasis on contractors' past performance, prior business relationships and experience/expertise of the contractors' project team.

Two sets of qualifiers exist——first being acceptable to the client and second to select a shortlist of contractors for a project. General Experience and Reputation is the dominant qualifier; it is to this criterion that contractors marketing should be directed, bearing in mind that naive clients often rely on consultants' recommendations. Clients seek value through good performance- 'performance assurance' is advocated for development.

Contract Price is the dominant winner/loser. For commercial clients especially, good time performance in important. Increasingly, a total price evaluation incorporates acquisition costs plus the tendered sum. Clients' prior working relationships with contractors, thereby building familiarity, understanding, confidence and trust is increasingly important. Experience and expertise of a contractor's project personnel are vital.

The UK construction market will see expansion in infrastructure projects; repairs, maintenance and refurbishment will feature strongly. Contractors will offer specialised services, often through consortia. Partnering schemes will expand. Developments in IT and CAD will continue with more attention to compatibility and integration of systems. Attention to environmental issues is essential. Internationalisation into a global market will continue with increased attention on the Far East and Pacific Rim, Central and Eastern Europe (subject to political stability).

Contractors will be required to provide financial packages as part of bidding, hence, good links with banks and other institutions are vital. Sophisticated clients will use scientific managerial techniques, employ more construction professionals and participate more in project provision. Such participation is likely to involve re-distribution of risks.

Construction will move away from transaction marketing into relationship marketing. Although adequate technical performance is essential, the main determinant of client satis-