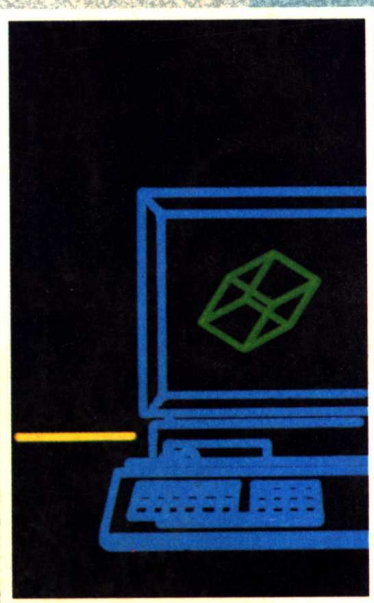


工商企业管理英语系列教材

BUSINESS MANAGEMENT ENGLISH
NICK BRIEGER and JEREMY COMFORT

bme



PRODUCTION
AND OPERATIONS

生产和经营

北京语言学院出版社

Prentice Hall International

工商企业管理英语系列教材

生产和经营

尼克·布里哲

杰里米·康福特

北京语言学院出版社

普兰蒂斯—霍尔国际出版公司



BUSINESS MANAGEMENT ENGLISH

PRODUCTION AND OPERATIONS

Nick Brieger
and
Jeremy Comfort

Beijing Language and Culture University Press
Prentice Hall International

(京)新登字 157 号

北京语言学院出版社获 Prentice Hall International 授权在中国出版本书的中文注释本及配套录音磁带。

工商企业管理英语系列教材
生产和经营

尼克·布里哲 杰里米·康福特

*

北京语言学院出版社出版发行

(北京海淀区学院路 15 号 邮政编码 100083)

全国新华书店经销

北京市朝阳区北苑印刷厂印刷

开本 787×1092 毫米 1/16 17 印张 392 千字

1993 年 8 月第 1 版 1993 年 8 月第 1 次印刷

印数: 0001—10 100 册

ISBN 7-5619-0252-2/H·186 定价: 11.25 元

引 言

《工商企业管理英语》系列教材包括四本专业内容的书：

《市场营销》

《财务管理》

《生产和经营》

《人事管理》

和一本同这四种书配套的语言与交际参考资料《商业英语语言手册》。

基本原则

本丛书的基本原则是将培训内容集中于：

- 主要的管理训练，
- 语言知识，
- 交际技巧。

因此本书是专为下列人员设计的：

- 专业人员：需要在自己的专业领域内提高语言技巧和交流技巧，
- 非专业人员：希望扩大管理方面的知识和提高语言技巧和交流技巧。

生产和经营

读者对象和教学目的

本书的读者对象是生产和经营管理在职人员和学员：在日益国际化的工商管理界，他们需要用英语交流。本书内容尤为适合英语不是母语的读者，语言水平至少要达到中级，并且需要：

- 有效地提高在这一领域内的阅读能力和听力能力，
- 提高在这一领域内的说话技巧和写作技巧，
- 扩大生产和经营管理专业用语和更为通用的商业英语的积极词汇，
- 将这一语言知识运用于自己的工作和学习中。

内容的编排

本书及配套磁带分为学习材料、题解和专业词汇。

学习材料

学习材料共 7 个单元，每个单元分为 A、B 两篇，每篇又分为两个部分。

第一部分以阅读练习为基础；第二部分以听力练习为基础。每个部分包括下面的内容：

1. 准备

针对下面的阅读/听力练习设计的问题。

2. 阅读/听力

课文和练习。

3. 理解/解释

有关课文的细节问题。

4. 语言重点

语言实践练习——可以参考《商业英语语言手册》的解释。

5. 词语学习

通过语言练习增加专业、商业和特有词汇。

6. 运用

这是口头和书面交际练习，鼓励使用者将提供的信息运用于自己的领域。

题解

这一部分包括：

● 听力文选录音文字

● 学习材料中下列练习的答案：

2. 阅读/听力练习

3. 理解/解释问题

4. 语言重点练习

5. 词语学习练习

● 必要的交际活动的知识

专业词汇

500 个生产和经营词语。选收的词语以在这一领域内的使用频度为依据。所收词语不限于书中使用过的。简单的释义后，必要时有用法举例。

将每部分中的活动作为一个单元使用

1. 准备

这里的问题将把你引导到下面的练习中，鼓励你去思考和讨论这一题目。

2. 阅读/听力

(i) 阅读

每篇课文都集中于一个主要的专业性问题。在阅读过程中或者读完后总有练习要做：这样阅读就会主动。为了提高你的阅读技巧，你应当：

- 略读课文，找出有关的主题，
- 浏览有关段落，完成作业。

然后对照题解检查你的答案。如果答案是错的，那么重读有关的片段。阅读练习最好作为家庭作业独立完成。答案可以下次在课上讨论。

(ii) 听力

每篇课文都集中于一个主要的专业性问题。同样，你在听磁带时也总有练习要做。为了提高你的听力技巧，你应当：

- 先从头至尾听一遍，然后
- 再听时，停下录音机写出你的回答。

最后，对照题解检查你的答案。

3. 理解/解释

提出的问题都是为了

- 检查你对课文细节的理解，
- 鼓励你对该题目做进一步思考。

你也许需要再读/听一遍课文以回答这些问题。如果你是在课上做作业，那么就讨论你的回答。最后，核对题解。正如你会看到的，有时并没有“正确的”答案。

4. 语言重点

这项练习集中扩展你的语言知识。你可以在课上来做这些练习，也可以自学完成。如果你需要更多的知识，请参考《商业英语语言手册》。你每完成一项练习，就请对照题解中的答案。

5. 词语学习

这项练习集中扩大你的词汇量。你可以课上做也可以自学完成。答案在题解中。你也可以希望对照阅读或听力段落来体会这些词是如何使用的。

6. 运用

这项练习在于提高你的语言技巧和交际技巧。练习最好是两人一组或分

成小组来完成。在题解中有时你会发现补充资料。

注

下面的区分用于指明练习中缺少的内容：

_____ 一个以上的词
_____ 只有一个词

Contents

引 言	ix
STUDY MATERIAL	1
Unit 1 The operations function	3
Section A What is operations management?	3
Part 1 Key aspects of operations management	3
Part 2 The role of the operations manager	8
Section B A framework for managing operations	12
Part 1 The basis of operations management	12
Part 2 Initial choices	18
Unit 2 Corporate considerations and product/service decisions	23
Section A Corporate considerations	23
Part 1 Corporate considerations and the product range	23
Part 2 Deciding capacity for growth	29
Section B Product/service decisions	34
Part 1 The research and development process	34
Part 2 Analysing products and services	40
Unit 3 Planning operations	45
Section A Operations capacity	45
Part 1 Costs, economies and capacity	45
Part 2 Deciding capacity	51
Section B Facilities location and layout	55
Part 1 Facilities location	55
Part 2 Facilities layout	62

Unit 4	Organising operations	67
Section A	Work study	67
Part 1	Job design	67
Part 2	Measuring work	76
Section B	Project management	79
Part 1	Project planning	80
Part 2	Scheduling the project	86
Unit 5	Quality management	91
Section A	Quality assurance	91
Part 1	The dimensions of quality	91
Part 2	Inspecting and sampling for quality	98
Section B	Total quality control (TQC)	102
Part 1	Management-initiated approaches to improve quality	102
Part 2	Introducing quality circles	109
Unit 6	Controlling operations	113
Section A	Job and flow	113
Part 1	Controlling the jobbing process	114
Part 2	Controlling the flow process	120
Section B	Inventory	124
Part 1	Inventories – reasons for and types of	125
Part 2	Material requirements planning (MRP)	131
Unit 7	Human resources management	135
Section A	The job of work	135
Part 1	Job evaluation	135
Part 2	Determining the wage	146
Section B	Human factors	149
Part 1	Ergonomic factors	149
Part 2	People and machines	155
KEY		161
Unit 1	The operations function	163
Unit 2	Corporate considerations and product/service decisions	174
Unit 3	Planning operations	186
Unit 4	Organising operations	197
Unit 5	Quality management	210

Unit 6	Controlling operations	223
Unit 7	Human resources management	234
GLOSSARY		245

STUDY MATERIAL

UNIT 1

The operations function

Section A	What is operations management?	3
Part 1	Key aspects of operations management	3
Part 2	The role of the operations manager	8
Section B	A framework for managing operations	12
Part 1	The basis of operations management	12
Part 2	Initial choices	18

Section A: What is operations management?

Part 1: Key aspects of operations management

1 Warm-up

- 1.1 For what types of industry is the term production management more appropriate than operations management?
- 1.2 For what types of industry is the term operations management more appropriate than production management?

2 Reading

As you read, complete Charts 1.1 and 1.2 using the information in the text.

THE MIX OF MANUFACTURED ITEMS AND SERVICES

Goods are tangible items purchased by individuals or organisations for subsequent use. Services are intangible items that are consumed at the time of being provided, with the customer taking away or retaining the benefit of that service. However, in many commercial situations, what is provided or produced by an organisation can be a mixture of both goods and services. In some instances there will be a heavy accent on product, and in others, the reverse. Chart 1.1 shows a range of items sold, and the mix between product and service content provided. *Put a tick in the column that you feel represents the dominant aspect – produce or service. The first one has been done for you.*

Chart 1.1 Different products/services in a range of purchases

Purchase	Product	Service
Vending machines	✓	
Computer bureau		
Health farm		
Meal in a fast-food restaurant		
Low-cost consumer goods		
Breakdown maintenance		

Of course, the purchases in the above table represent a mix of product and services with a varying balance. However, it is important for a producer to ask the question: Are we a manufacturing organisation with an auxiliary service, or a service organisation with a facilitating good? In order to compete, some organisations will change this mix to provide a more attractive package. Such a move will bring with it a different operational task, and one that needs to be understood and allowed for in the structure and procedures of the operations function.

Differentiating between manufacturing and service operations can be difficult. Generally, we consider distinguishing characteristics such as:

- tangible/intangible nature of output
- consumption of output
- nature of work (jobs)
- degree of customer contact
- customer participation in conversion
- measurement of performance

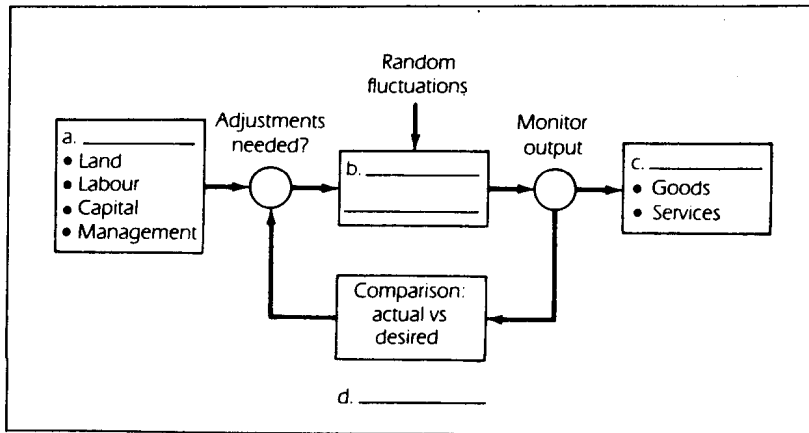
As a simplification, we can say that manufacturing has tangible outputs (products), customer consumption of outputs over time, jobs that use less labour and more equipment, little customer contact, no customer participation in the conversion process (in production), and sophisticated methods for measuring production activities and resource consumption as products are made.

THE OPERATIONS FUNCTION

The operations function is the part of the organisation that exists primarily to generate and produce the organisation's products. As we have seen, in some organisations the product is a physical good (refrigerators, breakfast cereal), while in others it is a service (insurance, health care for the elderly). What do such diverse organisations as manufacturing companies, financial institutions and health care facilities all have within their operations system? The basic elements they share in common are shown in Chart 1.2. They have a *conversion process*, some resource *inputs* into that process, the *outputs* resulting from the conversion of the inputs, and *information feedback* about the activities in the operations system. Once they are produced, the goods and services are converted into cash (sold) to acquire more resources to keep the conversion process alive.

Complete the operations system flowchart in Chart 1.2.

Chart 1.2 The operations system



Let us look now at some examples. A department store's inputs include the land upon which the building is located; the labour of the employees; capital in the form of building, equipment and merchandise, and the management skills of the store managers. On a farm, the operations system is the transformation that occurs when a farmer's inputs (land, equipment, labour, etc.) are converted into such outputs as corn, wheat or milk. The exact form of the conversion process varies from industry to industry, but it is an economic phenomenon that exists in every industry. Economists refer to this transformation of resources into goods and services as the *production function*. For all operations systems the general goal is to create some kind of *value-added*, so that the outputs are worth more to consumers than just the sum of the individual inputs. To the consumer, the resulting products offer utility due to the form, the time, or the place of their availability from the conversion process.

However, the process is subject to random fluctuations. Unplanned or uncontrollable influences may cause the actual output to differ from planned output. Random fluctuations can arise from external disruption (fire, floods or lightning, for example) or from internal problems inherent in the conversion process. Inherent variabilities of equipment, material imperfections, and human errors all affect output quality. In fact, random variations are the rule rather than the exception in production processes; therefore, reducing variation becomes a major management task.

The function of the feedback loop in Chart 1.2 is to provide information linkages. Without some feedback of information, management personnel cannot control operations because they don't know the results of their decisions.

3 Comprehension/interpretation

- 3.1 What steps might a producer take to make a more attractive package for the customer?
- 3.2 What are the two primary purposes of the operations function?
- 3.3 What is the general goal of all operations systems?
- 3.4 What element is essential for the effective control of the operations function?

4 Language focus

- 4.1 Connecting and sequencing ideas (see Unit 67 in *Language Reference for Business English*)

Look at the following sentences taken from the Reading passage:

'Of course, the purchases in the above table represent a mix of product and services with a varying balance.'

'However, the process is subject to random fluctuations.'

'Therefore, reducing variation becomes a major management task.'

Now complete the following text by inserting an appropriate connector of time, logic or text:

Systems for the production and delivery of goods and services have always been an essential part of civilisation. 1. _____ our prehistoric ancestors went out on hunting and gathering trips; 2. _____ their descendants meet in today's tribal meeting place – the shopping centre.

In every society, resources are limited. 3. _____ efficient utilisation of resources is necessary; 4. _____ service and material needs and demands will not be met. 5. _____ educational and health care standards must not be allowed to fall. 6. _____, the survival of any individual organisation depends on how efficiently it produces its goods and/or services. 7. _____ the quality and cost of a product are determined largely by the effectiveness and efficiency of the system used to produce it. And 8. _____, our standard of living and work satisfaction are determined in no small part by the nature of the production systems of our society.

- 4.2 Present verb forms (see Units 1, 2 and 22 in *Language Reference for Business English*)

Look at the following sentences taken from the Reading passage:

'Chart 1.1 shows a range of items ...'

'What do such diverse organisations all have within their operations system?'

'Management personnel cannot control operations because they don't know the results of their decisions.'

'Services are intangible items that are consumed at the time of being provided.'