



普通高等教育规划教材

WULIU GONGCHENG
ZHUANYE YINGYU

物流工程专业英语 (第二版)

李晓霞◎主 编



人民交通出版社股份有限公司
China Communications Press Co., Ltd.



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内 容 提 要

本书为普通高等教育规划教材,系统地介绍了物流基本概念、供应链重要问题、物流活动、物流经济、客户服务及物流分析方法、物流信息系统基础、电子时代物流、供应链信息模式、企业运作、通信技术、各种运输模式、公铁空海运输、多式联运及港口堆场设施布局与运作、仓库管理、物流搬运、库存管理、调度、采购、业务外包与场站布局、物料搬运装备、提升机械、举升机械、桥式起重机、自动导引车及堆垛机、准时制、精益生产与六西格玛、供应商管理库存、联合管理库存、高效客户响应、协作性计划、预测和补给、敏捷供应链、标杆管理、逆向物流以及全球一体化物流等内容。为读者提供了丰富的现代物流,尤其是物流工程方面的专业英语知识。

本教材可作为物流工程专业本科生的教材,也可作为物流管理、交通运输、汽车服务工程、工业工程、机械工程、市场营销等相关专业的双语教材或教学参考书,同时还可供具有一定英语基础的物流相关行业管理人员、技术人员参阅。

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用飞速发展来描述当今的物流业一点儿都不为过,物流已越来越成为国民经济发展的重要支柱,受到各国政府的普遍重视和支持。

本版博采最新物流领域资料和文献,涉及物流学、物流信息技术、供应链、物流技术装备、运输、仓储、采购、规划布局、物流管理等方面的基础知识及研究焦点,主要突出系统性和工程特点,对学习掌握专业英语以及相关课程知识起到启发和加强作用。

全书共分为6部分:物流基础知识、信息技术、货物运输、其他主要物流活动、物流机械与装备、发展趋势。每部分由4单元组成,每单元分为2节,每节包括正文、生词与词组以及注释。大多数单元、节的内容相互独立,根据教学计划和学时,可适当选择有关单元和章节。为方便使用,书末按照英语字母次序排列了全书生词和词组。

本书由长安大学李晓霞主编,杨京帅、邱兆文、胡卉、高扬、赵娇参编。其中:Unit1~4由胡卉编写,Unit5~8由杨京帅编写,Unit9~11由邱兆文编写,Unit13~16由高扬编写,Unit17~20由李晓霞编写,Unit12及Unit21~24由赵娇编写。全书由李晓霞统稿。

编写过程中,参考引用了国内外大量文献资料,长安大学本科生王安、研究生马冰山、王志祥、许佳瑜、梁娜、高冲、张静波、马海、章云娜、李健民、刘佳浩、张绪祥等同学做了大量的整理工作,对此谨深表谢意。

岁月更迭,推陈出新。然谬误难免,敬请各位批评指正! 欢迎联系 wlgcx@chd.edu.cn。

编 者

2017年春月于古城西安

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Part 1 Basic Knowledge

Unit 1

Unit 2

Unit 3

Unit 4

Unit 1

Passage A Basic Concept

Supply chain management is not a brand new concept, and it represents the third phase of an evolution that started in the 1960s with the development of the physical distribution concept that focused on the outbound side of a firm's logistics system.^[1] A number of studies during the 1950s and 1960s indicated the potential of the systems concept. The focus of physical distribution was on total systems cost and analyzing tradeoff scenarios to arrive at the best or lowest system cost. During the 1980s, the logistics or integrated logistics management concept developed in a growing number of organizations. Logistics, in its simplest form, added inbound logistics to the outbound logistics of physical distribution.

Supply chain management came into vogue during the 1990s and continues to be a focal point for making organizations more competitive in the global marketplace. Supply chain management can be viewed as a pipeline or conduit for the efficient and effective flow of products/materials, services, information, and financials from the supplier's suppliers through the various intermediate organizations/companies out to the customer's customers or the system of connected networks between the original vendors and the ultimate final consumer.^[2] The extended enterprise perspective of supply chain management represents a logical extension of the logistics concept providing an opportunity to view the total system of interrelated companies for increased efficiency and effectiveness.^[3]

The definition of supply chain management is broad and comprehensive; therefore, demand and value are very relevant as well as synchronization of flows through the pipeline or supply chain.^[4] Thus, it could be argued that supply chain, demand chain, value network, value chains, etc., can be used as synonyms. Also, there appears to be a more widespread use and acceptance of the term supply chain management.

Figure 1-1 presents a simplified, linear example of a hypothetical supply chain. Real-world supply chains are usually more complex than this example because they may be nonlinear and/or have more supply chain participants. Also, this supply chain does not adequately portray the importance of transportation in the supply chain.

The three flows enumerated at the bottom of the illustration are very important to the success of supply chain management. The top flow—products and related services—has traditionally been an important focus of logisticians and is still an important element in supply chain management.

Customers expect their orders to be delivered in a timely, reliable, and damage-free manner, and transportation is critical to this outcome. Figure 1-1 also indicates that product flow is a two-way flow in today's environment because of the growing importance of reverse logistics systems for returning products that are unacceptable to the buyer, because they are damaged, obsolete, or worn out.^[5]

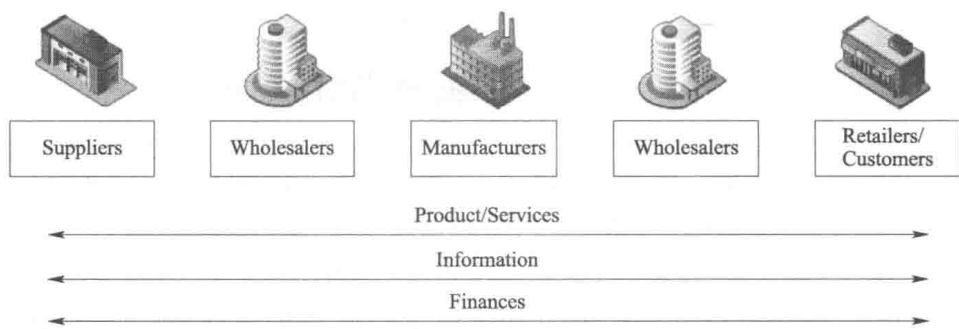


Figure 1-1 Integrated supply chain system

The second flow is the information flow, which has become an extremely important factor for success in supply chain management. Inventory can be eliminated from the supply chain by timely, accurate information about demand. If point-of-sale (POS) data were available from the retail level on a real-time basis, it would help to mitigate the bullwhip effect associated with supply chain inventories and could significantly reduce cost. Note that the illustration also indicates a two-way flow for information.

The third and final flow is financials or, more specifically, cash. Traditionally, financial flow has been viewed as one-directional—backward—in the supply chain. A major impact of supply chain compression and faster order cycle times has been faster cash flow. The faster cash-to-cash cycle or order-to-cash cycle has been a bonanza for companies because of the impact on working capital. Cash flow measures have become an important metric of the financial markets to gauge the viability or vulnerability of companies.

Supply chain management provides organizations with an opportunity to reduce cost (improve efficiency) and improve customer service (effectiveness). However, certain issues or challenges must be addressed before supply chain management will be successful.

New Words and Expressions

- | | |
|---------------------------|-----------------------------------|
| 1. chain [tʃeɪn] | <i>n.</i> 链, 束缚, 枷锁 |
| 2. outbound [ˈaʊtbaʊnd] | <i>adj.</i> 开往外地的, 开往外国的, 出厂的 |
| 3. indicate [ˈɪndɪkeɪt] | <i>vt.</i> 表明, 指出, 预示, 象征 |
| 4. tradeoff [ˈtreɪdɔːf] | <i>n.</i> 交换, (公平) 交易, 折中, 权衡, 协定 |
| 5. scenario [siˈnɑːrɪəʊ] | <i>n.</i> 方案, 情节, 剧本, 设想 |
| 6. integrate [ˈɪntɪɡreɪt] | <i>vt.</i> 使成整体, 使一体化 |
| | <i>vi.</i> 结合 |

7. integrated logistics 一体化物流
8. logistics management 物流管理
9. inbound ['inbaund] *adj.* 入境的, 回内地的, 内部的, 入厂的, 文中指原料采购物流
10. vogue [vəʊg] *n.* 时尚, 流行, 时髦
adj. 时髦的, 流行的
11. marketplace ['mɑ:kɪtpleɪs] *n.* 市场, 商场, 市集
12. efficient [i'fɪʃənt] *adj.* (直接)生效的, 有效率的, 能干的
13. effective [i'fektɪv] *adj.* 有效的, 被实施的
14. material [mə'tɪəriəl] *n.* 材料, 物料, 原料, 素材, 布, 织物, 适当人选
15. supplier [sə'plaɪə(r)] *n.* 供应商, 供应国, 供应者, 供给者, 补充者
16. perspective [pə'spektɪv] *n.* 观点, 远景, 透视图
adj. 透视的
17. synchronization [,sɪŋkrənaɪ'zeɪʃən] *n.* 同步, 同一时刻, 使时间互相一致, 同时
18. pipeline ['paɪpleɪn] *n.* 管道, 输油管道, 渠道, 传递途径
v. (通过管道)运输, 传递, 为……安装管道
19. synonym ['sɪnənim] *n.* 同义词
20. hypothetical ['haɪpəʊ'tetɪkəl] *adj.* 假想, 假设的, 假定的, 有前提的, 猜想的
21. reliable [ri'laɪəbl] *adj.* 可靠的, 可信赖的
22. obsolete [,ɒ:bsə'li:t] *adj.* 过时的, 老式的, 废弃的
23. inventory ['ɪnvəntɔ:ri] *n.* 库存, 存货清单
24. POS (point-of-sale) 零售点
25. bullwhip effect 牛鞭效应
26. reverse [ri'vɜ:s] *n.* 背面, 相反, 倒退, 失败
vt. (使)反转; (使)颠倒; 调换, 交换; [法]撤销, 推翻
vi. 倒退, [桥牌]逆叫
adj. 反面的, 颠倒的, 反身的
27. reverse logistics 逆向物流
28. financial [faɪ'nænʃl] *adj.* 金融的, 财政的, 财务的
29. backward ['bækwəd] *adj.* 向后的, 反向的, 发展迟缓的
adv. 向后地, 相反地
30. bonanza [bəʊ'nænzə] *n.* (突然的)财, 意想不到的幸运, 富矿脉
31. viability [,vaɪə'bɪləti] *n.* 生存(存活)能力, 发育能力, 生活力
32. vulnerability [,vʌlnərə'bɪləti] *n.* 易损性, 弱点
33. vendor ['vɛndə] *n.* 卖主, 小贩, 供应商, [贸易]自动售货机

Notes

[1] Supply chain management is not a brand new concept, and it represents the third phase of an

evolution that started in the 1960s with the development of the physical distribution concept that focused on the outbound side of a firm's logistics system.

供应链管理不是一个全新的概念,它代表始于 20 世纪 60 年代的专注于企业物流系统外部的实物配送概念的发展进化的第三个阶段。

- [2] Supply chain management can be viewed as a pipeline or conduit for the efficient and effective flow of products/materials, services, information, and financials from the supplier's suppliers through the various intermediate organizations/companies out to the customer's customers or the system of connected networks between the original vendors and the ultimate final consumer.

供应链管理可以看作是一条管道或通道,该管道或通道将产品流/物料流、服务流、信息流和资金流高效而有效地从供应商的供应商处通过各种中间组织机构/公司传递到客户的客户手中,或被看作是最初的供应商与最终的客户之间的网络连接系统。

- [3] The extended enterprise perspective of supply chain management represents a logical extension of the logistics concept providing an opportunity to view the total system of interrelated companies for increased efficiency and effectiveness.

供应链管理所延伸的企业视角代表物流概念上的一种逻辑延伸,该物流概念为高效益和高效率地查看相关公司组成的整个系统提供了机会。

- [4] The definition of supply chain management is broad and comprehensive; therefore, demand and value are very relevant as well as synchronization of flows through the pipeline or supply chain.

供应链管理的定义是广泛而全面的;因此,需求和价值以及供应链中各种流的同步都是非常相关的。

- [5] Figure 1-1 also indicates that product flow is a two-way flow in today's environment because of the growing importance of reverse logistics systems for returning products that are unacceptable to the buyer, because they are damaged, obsolete, or worn out.

图 1-1 也表明在当今环境下,由于购买者因产品损坏、过期或破损不接受而退换产品所形成的逆向物流日益增长的重要性,产品流是一种双向流。

Passage B Major Supply Chain Issues

The challenge to develop and sustain an efficient and effective supply chain(s) requires organizations to address a number of issues.

The network facilities (plants, distribution centers, terminals, etc.) and the supporting transportation services have long been considered important. Companies and other organizations need a network system that is capable and flexible to respond and change with the dynamics of the marketplace whether in the short run or the long run.^[1]

Globalization and consolidation in supply chains have caused an increased complexity for organizations in terms of customer/supplier locations, transportation requirements, trade regulations,

taxes, etc. . Companies need to take steps to simplify, as much as possible, the various aspects of their supply chains.

Two interesting characteristics of supply chains are that inventory is often duplicated along the chain and the bullwhip effect arises. Consequently, supply chain management provides an opportunity to reduce inventory levels. Coordination or integration can help reduce inventory levels on horizontal (one firm) and/or vertical (multiple firms) levels in the supply chain. Strategies such as compression and postponement can also have a positive impact. Inventory deployment is a very important issue for supply chains because of the associated cost and related opportunities for increased efficiency.

The technology and communication systems today lead to the collection and storage of vast amounts of data, but interestingly enough, organizations may not be taking advantage of the abundant data to develop information systems to improve decision making.^[2] The accumulation and storage of data unless they are shared horizontally and vertically in the supply chain and used to make better decisions about inventory, customer service, transportation, etc. , are almost useless. Information can be a powerful tool if it is timely, accurate, managed, and shared. It can be a substitute for inventory because it can reduce uncertainty. The latter is one of the major causes of higher inventory levels because it leads to the accumulation of safety stock.

Frequent reference has been made in this section to efficiency (cost) and effectiveness (value). A challenge for supply chains is the prevention of suboptimization. In today's environment, global supply chains compete against global supply chains, which means that the cost and value at the very end of the supply chain are what is important.

Supply chain management emphasizes a horizontal process orientation that necessitates collaboration with external vendors, customers, transportation companies, third-party logistics (3PLs), and others in the supply chain.^[3] In other words, internal collaboration or cooperation with marketing, sales, operations/manufacturing, and accounting/finance are very important as well as collaboration or cooperation with external organizations. Communication is critical to explain the opportunities for system tradeoffs that will make the supply chain more competitive.

Most organizations have measures of performance or metrics in place to analyze and evaluate their efficiency and progress over different time periods. Sometimes, such measures are used for setting baseline performance objectives or expected outcomes, e.g., orders filled and shipped per day.

Technology can be viewed as a change driver, but it is also important as a facilitator of change that will lead to improved efficiency and effectiveness. The challenge is to evaluate and successfully implement the technology to make the improvements desired. The technology available today is almost overwhelming, but analysis and planning are necessary to achieve the expected outcomes.

Transportation can be viewed as the glue that makes the supply chain model function. The critical outcomes of the supply chain are to deliver the right product, at the right time, in the right

quantity and quality, at the right cost, and to the right destination.^[4] Transportation plays an important role in making these “rights” happen.

Safe, reliable delivery of products to customers is expected of the supply chain. Globalization has obviously increased the risk of interruptions or shutdowns of supply chains. Consequently, organizations must be prepared in case of disruptions. Such risks have changed some of the planning and preparation for supply chains that often include some type of scenario analysis that can consider possible threats, assess probabilities, and plan for alternatives.^[5]

New Words and Expressions

1. dynamic [daɪ'næmɪk] *n.* 动态, 动力
adj. 动态的, 动力的, 动力学的, 有活力的
2. consolidation [kənsɒli'deɪʃən] *n.* 巩固, 合并, 团结
3. location [lə'keɪʃən] *n.* 位置, 地址, 地点, 外景拍摄场地
4. coordination [kəʊ'ɔ:dɪneɪʃən] *n.* 协调, 调和, 对等, 同等
5. duplicate ['dju:pɪkət] *vt.* 重复, 复制, 复印
adj. 复制的, 副本的, 完全一样的
6. coordinate [kəʊ'ɔ:rdneɪt] *v.* 协调, 整合
7. integration [ɪntɪ'greɪʃ(ə)n] *n.* 集成, 综合, 整合, 一体化, 结合, (不同、种族、宗教信仰等的人的) 混合
8. storage ['stɔ:rdʒ] *n.* 存储, 贮存, 储存处
9. horizontal [hɒrɪ'zɒntəl] *n.* 水平线, 水平面, 水平位置, 水平的物体
adj. 横向的, 水平的, 卧式的, 地平线的
10. vertical ['vɜ:tɪkəl] *n.* 垂直线, 垂直面, 竖杆, 垂直位置
adj. 垂直的, 竖立的, 头顶的, 顶点的
11. postponement [pə'spəʊnmənt] *n.* 延期, 推迟, 延缓, 延期的事
12. deployment [di:'plɔɪmənt] *n.* 调度, 部署
13. accumulation [əkju:mju'leɪʃən] *n.* 积聚, 累积, 堆积物
14. substitute ['sʌbstɪtju:t] *n.* 代用品, 代替者
vi. 替代, 代替
15. compete [kəm'pi:t] *vi.* 竞争, 比赛, 对抗
16. necessitate [nɪ'sesɪteɪt] *vt.* 使……成为必要, 需要, 强迫, 迫使
17. external [ɪk'stɜ:nl] *adj.* 外部的, 表面的, [药] 外用的, 外国的, 外面的
n. 外部, 外观, 外面
18. manufacturing [ˌmænju'fæktʃəriŋ] *adj.* 制造的, 制造业的
n. 制造业, 工业, 制造
v. 制造, 生产 (manufacture 的 ing 形式)
19. facilitator [fə'sɪlɪteɪtə] *n.* 服务商, 促进者, 帮助者
20. implement ['ɪmpləmənt] *n.* 实施, 执行

21. overwhelming [ˌoʊvəˈwelmiŋ] *adj.* 势不可挡的, 压倒一切的, 巨大的
22. delivery [diˈlɪvəri] *n.* 递送, 交付, 分娩, 交货, 引渡
23. interruption [ɪntəˈrʌpʃən] *n.* 中断, 打断, 障碍物, 打岔的事
24. shutdown [ˈʃʌtdaʊn] *n.* 关机, 停工, 关门, 停播
25. disruption 英 [dɪsˈrʌpʃn] *n.* 分裂, 瓦解; 破裂, 毁坏; 中断
美 [dɪsˈrʌpʃn]
26. alternative [ɔːlˈtɜːnətɪv] *n.* 二中择一, 供替代的选择
adj. 供选择的, 选择性的, 交替的, 替代的, 备选的, 其他的, 另类的

Notes

- [1] Companies and other organizations need a network system that is capable and flexible to respond and change with the dynamics of the marketplace whether in the short run or the long run.
公司和其他组织机构需要一个网络系统, 该(网络)系统能够在短期运营或长期运营中灵活地随着市场的动态性而响应和变化。that is...为定语从句, whether...or...译为: 或……或……, 不管……还是……。
- [2] The technology and communication systems today lead to the collection and storage of vast amounts of data, but interestingly enough, organizations may not be taking advantage of the abundant data to develop information systems to improve decision making.
如今的技术和通信系统导致大量数据被收集和存储, 但有趣的是, 组织机构却没能利用大量丰富的数据来开发信息系统以改善决策。
- [3] Supply chain management emphasizes a horizontal process orientation that necessitates collaboration with external vendors, customers, transportation companies, third part logistics (3PLs), and others in the supply chain.
供应链管理强调与外部供应商、客户、运输公司、第三方物流企业以及供应链中其他成员需要相互协作的横向流程。
- [4] The critical outcomes of the supply chain are to deliver the right product, at the right time, in the right quantity and quality, at the right cost, and to the right destination.
供应链的关键结果是在正确的时间、以正确的数量和质量、按合理的成本把正确的产品运送到正确的地点。
- [5] Such risks have changed some of the planning and preparation for supply chains that often include some type of scenario analysis that can consider possible threats, assess probabilities, and plan for alternatives.
这样的风险已经改变了供应链的一些规划和准备工作, 通常包括能考虑一些可能的威胁、评估概率以及可替代方案的不同类型的远景方案分析。

Unit 2

Passage A What is Logistics

The term logistics has become much more widely recognized by the general public in the last 20 years. However, there is still confusion about its definition. Logistics management is the most widely accepted term and encompasses logistics not only in the private business sector but also in the public/government and nonprofit sectors.^[1]

For the purposes of this text, the definition offered by the Council of Supply Chain Management Professionals (formerly the Council of Logistics Management) is utilized. However, it is important to recognize that logistics owes its origins to the military, which has long recognized the importance of logistics activities for national defense.^[2] The military definition of logistics encompasses supply items (food, fuel, spare parts) as well as personnel.

The logistics concept began to appear in the business-related literature in the 1960s under the label of physical distribution, which had a focus on the outbound side of the logistics system. The business sector approach to logistics developed into inbound logistics (materials management to support manufacturing) and outbound logistics (physical distribution to support marketing) during the 1970s and 1980s. Then, in the 1990s, the business sector began to view logistics in the context of a supply or demand chain that linked all of the organizations from the supplier's supplier to the customer's customer. Supply chain management requires a collaborative, coordinated flow of materials and goods through the logistics systems of all the organizations in the network.

In the 21st century, logistics should be viewed as a part of management and has four subdivisions.

Business logistics: that part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, service, and related information from point of use or consumption in order to meet customer requirements.^[3]

Military logistics: the design and integration of all aspects of support for the operational capability of the military forces (deployed or in garrison) and their equipment to ensure readiness, reliability, and efficiency.

Event logistics: the network of activities, facilities, and personnel required to organize, schedule, and deploy the resources for an event to take place and to efficiently withdraw after the event.

Service logistics: the acquisition, scheduling, and management of the facilities/assets, per-