

Ordinarily we only notice a small part of logistics. We might see lorries driving down a motorway, visit a shopping mall, drive through a trading estate, or have a parcel delivered to our homes. These are the visible signs of a huge industry. In this lectures, we take a more detailed look at this complex function. We discuss the issues and developments, and see how managers can get the best results from their logistics.

**To delve in**

**Phenomenon and phenomena**

phenomenon /fə'nomɪnən ; US -nɒn / noun [C]

(pl. **phenomena** /-ɪnə ; US / )

something that happens or exists (often sth unusual)

*Acid rain is not a natural phenomenon. It is caused by pollution.*

ظاهرة؛ واقعة نادرة

Oxford Wordpower © Oxford University Press 2011

**I can ask you in your exam for example to give me three real-world example as phenomenon for the logistics**

To drive = to drive down

trading estate "منطقة تجارية" أو "مجمع تجاري صناعي"

Scope of Logistics and Supply Chain Management

Logistics and supply chain management (abbreviation) are integral disciplines that have

THE MOST COMMON ABBREVIATION OF THE TERM Supply Chain Management IS (SCM)

SPELLING MISTAKES ESPECIALLY THOSE RELATED TO YOUR FIELD

evolved significantly over time, and they go by various names such as physical distribution, business logistics, materials management, procurement and supply, and demand chain management (Rushton et al., 2008). These terms, often used interchangeably, reflect the diverse and dynamic nature of logistics, which must adapt to the specific constraints and demands of different industries and environments.

A widely accepted definition of logistics is that it encompasses both *materials management* and *distribution* (Rushton et al., 2008). Extending this idea further, the supply chain covers an even broader scope, including the *supply of raw materials*, the *movement of goods*, and the *delivery of products to the final customer*. Therefore, logistics represents the *physical and information flows from the raw material stage through to the final distribution of finished products*.

Logistics plays a critical role in the supply chain by planning, implementing, and controlling the efficient movement and storage of goods and services from the point of origin to the end consumer. This includes managing both *forward flows* (from supplier to customer) and *reverse logistics*—the process of handling returned products and packaging (Rushton et al., 2008).

Terms/text explorations

con·straint noun /kən 'streɪnt/

**1** [countable] a thing that limits or restricts something, or your freedom to do something

**SYNONYM** restriction: eg. *constraints of time/money/space*

*financial/economic/legal/political constraints*

*constraint on something This decision will impose serious constraints on all schools.*

**- SYNONYMS**

**Limit, Restriction, Control. Constraint, Restraint ,limitation**

**Oxford Advanced Learner's Dictionary 9th edition © Oxford University Press, 2015**

**critical** /'krɪtɪkl /adj

**1** **critical** (of sb/sth) saying what is wrong with sb/sth; disapproving

*The report was very critical of safety standards on the railways.*

كان التقرير شديد الانتقاد لمعايير السلامة على السكك الحديدية.

*critical remarks*

The opposite is **uncritical**.

مظهر للعيوب انتقاديّ

**2** (only *before* a noun) describing the good and bad points of a play, film, book, work of art, etc

*a critical guide to this month's new films*

نقدى

3 dangerous or serious

*The patient is in a critical condition.*

؛ عصبى خطر

4 very important; at a time when things can suddenly become better or worse

*The talks between the two leaders have reached a critical stage.*

Oxford Wordpower © Oxford University Press 2011

## Key Principles and Role of Logistics

Logistics is not limited to transportation alone but also includes activities like inventory management, warehousing, order processing, materials handling, and information acquisition. These components work together to improve customer satisfaction by reducing delivery times, lowering ordering costs, and minimizing inventory in process (Cichosz et al., 2020; Butt et al., 2024).

اللوجستيات لا تقتصر على النقل فقط، بل تشمل أيضًا أنشطة مثل إدارة المخزون، وتخزين البضائع، ومعالجة الطلبات، ومناولة المواد، وجمع المعلومات. وتعمل هذه المكونات معًا على تحسين رضا العملاء من خلال تقليل أوقات التسليم، وخفض تكاليف الطلبات، وتقليل المخزون قيد المعالجة.

## Text/terms exploration

### Inventory Management

Definition: Inventory management refers to the process of tracking, controlling, and optimizing the stock of goods a business holds to meet customer demand without overstocking or understocking. It involves decisions about what to stock, how much to stock, and when to reorder, ensuring efficiency in the supply chain.

### Key Activities:

Monitoring stock levels.

Forecasting demand.

Setting reorder points.

Tracking inventory turnover rates.

Using software tools to automate tracking and reporting.

### Example:

A supermarket chain like Tesco uses inventory management software to monitor the stock levels of perishable items like fresh produce. If data shows a drop in stock levels of bananas in a particular store, the system triggers an order to the supplier to replenish them before they run out, ensuring that customers always find bananas available.

### Warehousing

Definition: Warehousing refers to the physical act of storing goods in a dedicated facility or space until they are needed for distribution or sale. It involves managing the layout, storage systems, and safety of goods in a warehouse.

### Key Activities:

Receiving shipments.

Storing goods in an organized manner.

Packing and dispatching orders.

Maintaining the physical condition of goods.

### Example:

A large retailer like John Lewis operates warehouses where it stores furniture and home goods. These warehouses are strategically located near distribution hubs to ensure fast delivery to customers. When a customer orders a sofa online, the item is picked, packed, and shipped from the warehouse to the delivery address.

### **Difference in Practice:**

Inventory Management focuses on how much stock to hold and where it should be across the supply chain. It is strategic and often uses software to make decisions.

Warehousing is operational, focusing on the physical space and logistics of storing and moving goods.

### **Real-World Connection:**

Amazon uses both inventory management and warehousing. Their system tracks the demand for products (inventory management) and ensures goods are stored in regional fulfilment centres (warehousing) for quick delivery to customers.

**TEXT FU:**

A core principle of logistics is to enhance service quality while minimizing operational costs, which leads to logistical efficiency in organizations. By managing the flow of materials and information, logistics ensures that products reach customers effectively, serving both practical needs and strategic goals (Frazelle, 2020; Edward, 2022). For instance, practical applications include the regulation of warehouse logistics, airway traffic in aviation logistics, and hospital supply chain management (Paciarotti & Torregiani, 2021).

### **Real world example about *Effectiveness* , *Efficiency* and *Efficacy***

Companies can reap enormous advantages from operational effectiveness, as Japanese firms demonstrated in the 1970s and 1980s with such practices as total quality management and continuous improvement.

يمكن للشركات جني مزايا هائلة من الفعالية التشغيلية ، كما أثبتت الشركات اليابانية في السبعينيات والثمانينيات . من القرن الماضي بممارسات مثل إدارة الجودة الشاملة والتحسين المستمر .

**Defects:** عيوب

**Effectiveness/ efficacy:** الفعالية

**Efficiency:** الكفاءة

**Spec noun** BrE /spek/ (also **specs** US English) : a detailed description of something, especially the design and materials needed to produce something : المواصفات

ref: Oxford Advanced Learner's Dictionary 9th edition © Oxford University Press, 2015

### **Effectiveness vs. Efficiency vs. Efficacy**

**Effectiveness** means doing the right things. Applied to an organization or an organizational unit, it means that the organization should have the right purpose supported by the right function, which in turn is supported by the right behaviour performed by the right actors.

The right purpose means that the organization has the right reason for existence, plays the right role in the environment, and connects to the right customers. The right function

means that the organization supplies the right products, provides the right services, and offers the right self-service interfaces that support that purpose. The right behaviour means that the organization runs the right business processes to support its functions. The right structure means that the organization has the right actors who are capable of playing the right roles.

الغرض الصحيح يعني أن المنظمة لديها السبب الصحيح للوجود، وتلعب الدور الصحيح في البيئة، وتتصل بالعملاء المناسبين. تعني

الوظيفة الصحيحة أن المنظمة توفر المنتجات الصحيحة، وتوفر الخدمات المناسبة، وتوفر واجهات الخدمة الذاتية الصحيحة التي تدع م

. هذا الغرض. السلوك الصحيح يعني أن المنظمة تدير العمليات التجارية الصحيحة لدعم وظائفها

. الهيكل الصحيح يعني أن المنظمة لديها الفاعلين المناسبين القادرين على لعب الأدوار الصحيحة

**Efficiency** means doing things right—on time, spec, and budget. Janice Gross Stein tells us that efficiency is not an end, but a means to achieve valued ends. From time to time, executives around the world conduct aggressive efficiency campaigns, often out of desperation or due to a general lack of interesting ideas. The efficiency campaigns should be preceded or accompanied by organizational effectiveness programs.

الكفاءة تعني القيام بالأشياء بشكل صحيح - في الوقت المحدد والمواصفات والميزانية. تخبرنا جانيس جروس شتاين أن الكفاءة ليست غاية ، ولكنها وسيلة لتحقيق غايات قيّمة. من وقت لآخر، يقوم المدراء التنفيذيون في جميع أنحاء العالم بحملات كفاءة عدوانية، غالبًا بسبب اليأس أو بسبب الافتقار العام للأفكار المثيرة للاهتمام. يجب أن تكون حملات الكفاءة مسبقة أو مصحوبة ببرامج الفعالية التنظيمية .

In *General Systems Theory*, Lars Skyttner defines **efficacy** as a measure of the extent to which the system contributes to the purposes of a higher-level system of which it may be a subsystem



مبدأ أساسي في اللوجستيات هو تحسين جودة الخدمة مع تقليل التكاليف التشغيلية، مما يؤدي إلى تحقيق الكفاءة اللوجستية في المؤسسات. من خلال إدارة تدفق المواد والمعلومات، تضمن اللوجستيات وصول المنتجات إلى العملاء بفعالية، مما يخدم الاحتياجات العملية والأهداف الاستراتيجية. (Frazelle, 2020; Edward, 2022). على سبيل المثال، تشمل التطبيقات العملية تنظيم لوجستيات/ امدادات المستودعات، وحركة الطيران في اللوجستيات الجوية، وإدارة سلسلة التوريد في المستشفيات. (Paciarotti & Torregiani, 2021).

## Historical and Contemporary Logistics Systems

Logistics as a discipline has roots in military strategy, originally developed to manage the supply of **provisions**, **ammunition**, and equipment to soldiers (Babylonian military corps, 20th century BC). After World War II, logistics principles were extended to manufacturing and service sectors, such as water and gas distribution, postal services, and urban waste management (service logistics). This historical evolution laid the foundation for modern logistics, which now applies to the broader business environment (Rushton et al., 2022).

In the context of **logistics, international transportation, and supply chain management (SCM)**, the term **provisions** can have different meanings depending on the context, as explained below:

**provision** /prə'vɪʒn US / **noun**

**1 [U]** the act of giving or supplying sth to sb

*The council is responsible for the provision of education and social services.*

تقديم؛ إمداد

**2 [U] provision for/against sth** arrangements that you make to deal with sth that might happen in the future

*She made provision for the children in the event of her death.*

احتياطيّة ترتيبات

**3 provisions** [plural] (*formal*) supplies of food and drink

مؤونة، مواد غذائيّة

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## 1. Provisions as Supplies

- **Definition:** Provisions refer to the goods or supplies needed to support operations, transportation, or customers. This could include food, fuel, spare parts, or other necessary materials for ensuring smooth logistics or transportation processes.
- **Example:** In maritime logistics, a cargo ship must be stocked with provisions such as food, water, and fuel for the crew during long journeys.

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## 2. Provisions in Contracts and Agreements

- **Definition:** In the context of contracts, provisions are specific terms, clauses, or conditions outlined in agreements related to transportation, procurement, or supply chain activities.
- **Example:** A shipping contract might include provisions about delivery timelines, penalties for delays, and liability for damaged goods.

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## 1. Provisions as Contingency Planning

**contingency** /kən'tɪndʒənsi / *noun* [C] (*pl. contingencies*): a possible future situation or event. • طارئ الوقوع محتمل حدث

- **contingency plans** مخططات الطوارئ **ref:** Oxford Wordpower © Oxford University Press 2011

- **Definition:** Provisions may also refer to planning for unexpected circumstances or additional resources to accommodate changes or disruptions in logistics operations.

**Example:** A logistics company might include provisions for rerouting shipments in case of port congestion or adverse weather conditions.

**ammunition** / ,æmjʊ'nɪʃn / *noun* [U]

**1** the supply of bullets, etc. that you need to fire from a weapon

*The troops surrendered because they had run out of ammunition.*

ذخيرة

**2** (*figurative*) facts or information that can be used against sb/sth

ذخيرة

**Oxford Wordpower © Oxford University Press 2011**

The noun "ammunition" is an uncountable noun in British English, meaning it typically does not have a plural form. It refers collectively to bullets, shells, missiles, or other projectiles, rather than to individual items.

How to Express Plurality:

Rather than pluralising "ammunition," one would specify units or types to convey plurality.

- Examples:
  - "Crates of ammunition صناديق من الذخيرة "
- **crate** /kreɪt ; US /
- **noun**
- [C] a large box in which goods are transported or stored. Sometimes crates are divided into sections, for carrying bottles

• *We had to pack everything into crates when we moved house.* كان ان علينا تعبئة كل شيء في صناديق خشبية عندما انتقلنا إلى منزل جديد.

- Oxford Wordpower © Oxford University Press 2011

- - "Different types of ammunition"
  - Cartridges, shells, and other ammunition
  - " الخراطيش والقذائف وأنواع أخرى من الذخيرة "

**Shell** : a metal container filled with explosives that is fired by a large gun

قذيفة ؛ خرطوشة ، قنبلة مدفع

**shell** /ʃel ; US /

**noun**

**1** [C,U] a hard covering that protects eggs, nuts and some animals

*a collection of seashells*

*an empty shell*

*a piece of eggshell*

قشرة؛ صدفة، قوقعة

**2** [C] the walls of a building that is not finished or that has been seriously damaged by fire, etc.

هيكل بناء

Oxford Wordpower © Oxford University Press 2011

**shell verb** [T]

**1** to take the shell (1) off sth that can be eaten: *to shell peas*

يقشر

Oxford Wordpower © Oxford University Press 2011

Note:

If referring to various categories or kinds of ammunition, phrases such as "varieties of ammunition" or "types of ammunition" would be used, but the term "ammunition" itself remains unchanged.

**con'tingency fee** *noun* رسوم الطوارئ أو أتعاب الطوارئ

BrE ; NAmE

(in the US) an amount of money that is paid to a lawyer only if the person he or she is advising wins in court  
رسوم الطوارئ أو أتعاب الطوارئ  
(حسب السياق، يمكن أن تعني أيضًا أتعاب مشروطة).

في سياق القانون أو الأعمال، تُشير إلى الأتعاب التي تُدفع فقط إذا تم تحقيق نتيجة معينة، مثل الفوز في قضية قانونية.

Ref: Oxford Advanced Learner's Dictionary 9th edition © Oxford University Press, 2015

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#### 4. Provisions as Inventory or Stock

- **Definition:** Provisions can also mean the inventory or stock of goods that are kept in warehouses or other facilities to meet demand or ensure continuity of supply.
- **Example:** A warehouse may store provisions such as raw materials or finished goods for a manufacturer to avoid production delays.

#### 5. Provisions in Customs and Regulatory Compliance

- **Definition:** Provisions can refer to requirements, policies, or stipulations that must be followed for customs clearance, import/export compliance, or transportation regulations.
- **Example:** International transportation agreements might include provisions for the documentation required to clear goods through customs in different countries.

## Summary:

In logistics and supply chain management, "provisions" can encompass supplies for operations, clauses in contracts, contingency measures, inventory, or regulatory requirements. The specific meaning depends on the context within the logistics, transportation, or supply chain framework.

"Provisions" في اللغة العربية يمكن ترجمتها وفقاً للسياق كما يلي:

1. **الإمدادات**: عندما تشير إلى المواد أو السلع الضرورية لدعم العمليات.
  - مثال: إمدادات الغذاء والوقود للسفن أو الطائرات.
2. **البنود/الشروط**: عندما تشير إلى الشروط أو البنود المحددة في العقود أو الاتفاقيات.
  - مثال: بنود عقد الشحن المتعلقة بالمسؤولية عن التلف.
3. **التخطيط للطوارئ/الاحتياطات**: عند الإشارة إلى خطط أو موارد إضافية للتعامل مع الظروف غير المتوقعة.
  - مثال: الاحتياطات لإعادة توجيه الشحنات في حالة الازدحام في الموانئ.
4. **المخزون**: عندما تعني السلع أو المواد المخزنة لتلبية الطلب أو ضمان استمرارية التوريد.
  - مثال: المخزون من المواد الخام في المستودعات.
5. **المتطلبات/الأحكام**: عند الإشارة إلى اللوائح أو المتطلبات القانونية أو التنظيمية.
  - مثال: الأحكام المتعلقة بالمستندات المطلوبة للتخليص الجمركي.

## الخلاصة:

تعتمد الترجمة الدقيقة لـ "Provisions" على السياق المستخدم، ويمكن أن تشير إلى "إمدادات"، "بنود"، "احتياطات"، "مخزون"، أو "أحكام".

***TEXT : FU.*** A logistics system is composed of facilities where functional activities such as storage and distribution are carried out. A typical logistics system follows a tree structure, where Central Distribution Centers (CDCs) supply Regional Distribution Centers (RDCs), which in turn serve customers, retailers, and dealers. The entire system ensures the smooth flow of materials from suppliers to the final point of consumption (Paciarotti & Torregiani, 2021).

يتكون نظام اللوجستيات من مرافق تُنفذ فيها أنشطة وظيفية مثل التخزين والتوزيع. ويتبع نظام اللوجستيات النموذجي هيكلًا شجريًا، حيث تزود مراكز التوزيع المركزية (CDCs) مراكز التوزيع الإقليمية (RDCs)، والتي بدورها تخدم العملاء وتجار التجزئة والوكلاء. ويضمن هذا النظام بأكمله التدفق السلس للمواد من الموردين إلى نقطة الاستهلاك النهائية (Paciarotti & Torregiani, 2021).

In summary, logistics is essential for managing the movement of goods, **optimizing** resources, and ensuring customer satisfaction, all while maintaining an efficient supply chain that balances the needs of suppliers, manufacturers, and customers.

#### **Optimisation Definition:**

In logistics, optimisation refers to the process of improving operations, systems, and resource usage to achieve maximum efficiency and effectiveness while minimizing costs, time, and waste. It involves analysing and refining various aspects of the supply chain to enhance performance.

#### ***Key Areas of Optimisation in Logistics***