



LOGISTICS

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LOGISTICS ACTIVITIES AND COSTS OF THEIR IMPLEMENTATION

The aim of this lecture is to get acquainted with individual logistics activities and costs of their implementation



Logistics

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**Logistics activities and costs
of their implementation**

Structure of the
lecture

Logistics activities

Transport - Transportation

Logistics costs



LOGISTICS ACTIVITIES

1. CUSTOMER SERVICE

- it connects and manages all the components of the connection to the customer within the specified costs / service ratio
- logistics system output
- it must be measured by specific measures - customer service level indicators
- 3 phases: pre-sales, sales and after-sales



2. DEMAND FORECASTING

- How much to order from suppliers and how many products should be prepared or available?
- series of realized sales are starting point:
 - sales at some times are lower than actual demand
 - estimate of total market capacity is not usually included



3. STOCK MANAGEMENT

- Goal: To maintain stock levels to achieve the required level of customer service while achieving minimum storage and stock maintenance costs
- **the most sophisticated part of logistics theory**
- **in companies often quite badly managed**



4. LOGISTICS COMMUNICATION

- key to efficient operation of any system
- the level of communication within the system can be the basis of the company's competitive advantage
- trends: rapid increase in complexity, automation and speed





- relations:
 - enterprise and its suppliers and customers
 - main business units (logistics, technical departments, accounting, marketing and production)
 - different logistics activities with each other
 - various logistics activities within yourself
 - enterprise and logistics service provider



5. MATERIAL HANDLING

- all aspects of the movement or transfer of raw materials, production stocks and finished products within the plant or warehouse of the enterprise
- always generates costs, but **does not add value to the item**
- It is necessary to eliminate as much as possible





6. ORDER PROCESSING

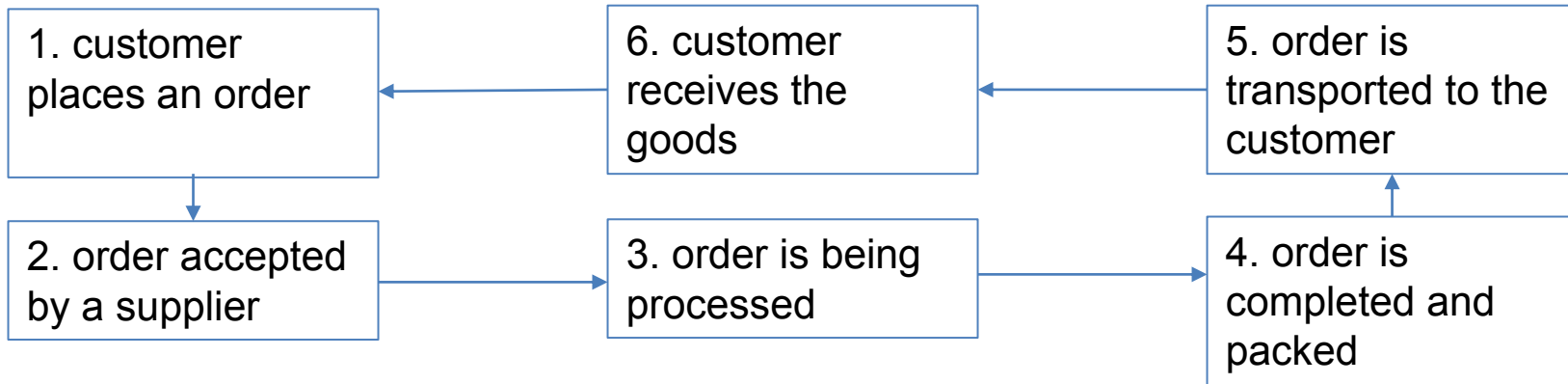
- key contact point of the customer and the company, i.e. it can have a great influence on the level of quality of services and thus also on customer satisfaction
- very wide and highly automated area (EDI, EFT)
- summary indication of all activities that are needed between shipping the order and receiving the delivery with the recipient



- time between order submission and delivery, including its payment, is known as the **order cycle**, i.e. the sum of the duration of the following activities:
 - signal path of need
 - determination of ordered quantity
 - supplier selection and negotiation
 - execution and delivery of the order, or conclusion of the contract
 - supplier's delivery time
 - transport to the store (this time may already be included in the delivery time)
 - acceptance of delivery
 - storage of the delivery and recording of receipt or delivery



- evenness vs. speed
- space for shortening - internal and external part
- consequences of errors





Size of orders

- influenced by a number of internal and external factors:
 - size needed
 - available funds
 - store layout
 - situation on the suppliers market
 - capacity of transport equipment
- minimum size vs. smaller quantities at extra costs



7. PACKAGING

- marketing vs. logistics meaning of packaging
- in logistics 2 key functions:
 - protective
 - rational handling, transport and storage unit
- bearer of logistics information
- boxes, bags, pallets and containers





8. SERVICE SUPPORT AND SPARE PARTS

- logistics is also responsible for providing after-sales service:
 - supply of spare parts
 - storage of spare parts
 - picking up defective or malfunctioning products
 - quick response to repairs



9. DETERMINATION OF PRODUCTION AND STORAGE LOCATION

- strategic decisions
- it will affect the cost of transport of raw materials to the enterprise and finished products to customers, as well as the level of customer service and response speed
- localization factors:
 - location of customers and suppliers
 - availability of transport services
 - availability of qualified workers with acceptable pay levels
 - possibilities of cooperation with authorities etc.



10. PROCUREMENT / PURCHASE

- providing input from external organizations
- for most industries, 40-60% of revenue is used to procure materials and services that come from outside sources
- purchase activities:
 - selection of suppliers
 - price negotiations
 - negotiations on delivery terms and quantities
 - purchase itself
 - evaluation of supplier quality



11. HANDLING OF RETURNED GOODS

- for various reasons:
 - problem with product operation
 - customer changes his mind
- complicated process:
 - mostly handling of a small quantity back from the customer
 - company is used to handling of large volumes towards the customer
- many logistics systems have a problem handling this type of goods movement



12. REVERSE LOGISTICS

- removal and, where appropriate, disposal of waste material arising from the production, distribution and packaging of goods
- includes:
 - temporary storage of materials
 - subsequent transport to the place of disposal, treatment, re-use or recycling
- there is a growing interest in recycling and reuse of materials
- legislative restrictions





13. STORAGE

- significantly contributes to the creation of the utility value of time and place: it enables the goods to be manufactured and retained for later consumption
- storage activities concern:
 - design and layout of store
 - deciding on ownership of store
 - automation
 - staff training and many other areas





14. TRANSPORT AND TRANSPORTATION

- key logistics activity
- often the largest single cost item
- ensuring transportation includes:
 - choice of mode of transport
 - selection of a transport route
 - ensuring that the regulations of the country of transport are not exceeded
 - selection of a carrier



Carrier

- transport operator
- realizes its own movement in space and time by means of transport
- producer and implementer of transport services on the market, i.e. sells transport services



Transporter

- carrier customer - manufacturer, trader, exporter, importer
- often the owner of tangible goods
- it may be itself a carrier if he owns a fleet (own or leased) and operates a transport for his own use
- if the fleet is not owned by the transporter, the entities providing the transportation are usually entered into the relationship - shippers, intermediaries, associations of transporters, etc.



Speed of transport

- the speed of the vehicle in a particular section of the route
- maximum speed vs. average speed





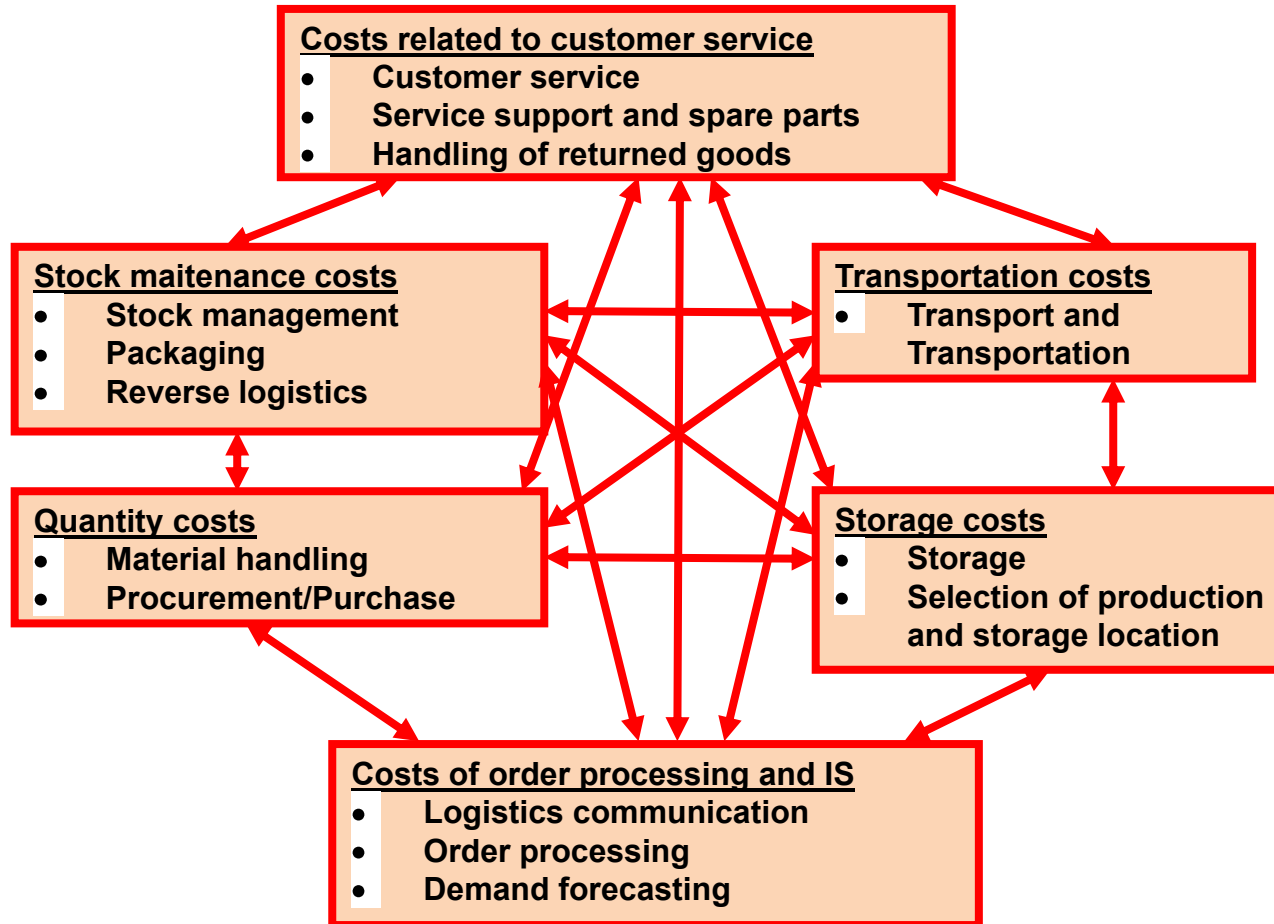
Speed of transportation

- in freight transport, the total time it takes to transportation of goods (consignments) from place to destination, including the time required for transshipment
- in passenger transport, the time elapsed between the start of the journey and its end, including transfers and the time spent waiting for connections



LOGISTICS COSTS

- caused by logistics activities
- total cost concept - it is not possible to focus on individual isolated logistics activities, but to reduce the total costs of logistics activities
- the conflicting nature of logistics costs - reducing costs in one area can result in costs in other areas





1. COSTS RELATED TO CUSTOMER SERVICE

- customer service support:
 - costs associated with processing orders
 - costs of securing spare parts
 - costs of servicing
 - costs of returning the goods
- insufficient level of customer service - costs associated with the loss of sales opportunity
- determining the level of customer service based on the identification of customer needs



2. TRANSPORTATION COSTS

- caused by the transportation of goods
- they can be analyzed from a variety of aspects (according to customers, products, channel type,...)
- varies greatly depending on:
 - delivery volume
 - delivery weight
 - transportation distance
 - place of origin
 - destination
 - type of means of transport



3. STORAGE COSTS

- arise in the process of storing goods
- affected by the choice of location of production capacities and storages of the company
- include all costs incurred in changing the number or location of storages



4. COSTS OF ORDER PROCESSING AND IS

- costs associated with :
 - orders processing
 - logistics communication
 - demand forecasting
- order processing system and IS mean an extensive investment - they significantly contribute to the level of customer service and cost management



5. QUANTITY COSTS

- originate in a change in quantity
- include the following:
 - preparatory costs
 - loss of capacity due to outages when replacing a line or switching to another supplier
 - material handling, planning and shipping
 - price differences due to the purchase of different quantities
 - order costs associated with placing and tracking orders



6. STOCK MAINTENANCE COSTS

- some of the most problematic - they very often evoke additional costs
- high costs of maintaining stocks usually indicate other problems
- arise as a result of log. activities:
 - stock management
 - packaging
 - reverse logistics (disposal of waste material, packaging,...)



- four main categories of stock maintenance costs:
 - capital costs
 - costs related to services (insurance, taxation)
 - stock storage costs (costs of changing storage area depending on stock levels)
 - costs of risk (obsolescence of goods, theft, damage during movement)

Summary of the lecture



**SILESIAN
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You can:

- **List and briefly characterize all 13 logistics activities**
- **Explain the difference between transport and transportation**
- **Define logistics costs and assign activities that result from them**