

Topic 1 Definitions:

Logistics: "Logistics is that part of the supply chain process that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers' requirements." ---Logistics includes the following components:

- Business Logistics
- Distribution
- Industrial distribution
- Logistics
- Logistics management
- Marketing logistics
- Physical distribution
- Supply chain management

Logistics impacts in Macro Economics:

- Logistics makes up 8-20% of a country's GDP
- Poor transportation infrastructure and high levels of inventory are key drawbacks in a country's expansions

Table 1-1: The Cost of the Business Logistics System in Relation to a Country's Gross Domestic Product (GDP)

Country	Logistics as a Percentage of GDP
Developed -> United States	9.4
Brazil	12.6
India	13.0
South Africa	15.9
Thailand	19.0
Finland	19.8
People's Republic of China	21.6
Developing -> Vietnam	22.5

Economic utility: the value or usefulness of a product in fulfilling customer needs or wants

Possession utility: the value or usefulness that comes from a customer being able to take possession of a product

Form utility: a product's being in a form that (1) can be used by the customer and (2) is of value to the customer

Place utility: refers to having products available where they are needed by customers; products are moved from points of lesser value to points of greater value

Time utility: having products available when they are needed by customers

Basic Logistics Facts:

- More than \$1 trillion is spent on logistics in the US each year
- The field of logistics is the nation's second largest employer (healthcare is the largest)
- Logistics costs represent 5-40% of the total (landed) cost of typical products
- OSU is ranked very highly in Logistics

Increased Importance of Logistics:

- A reduction in Economic regulation
 - Deregulation in the US airfreight, railroad, and trucking industries allowed individual carriers flexibility in pricing and service
 - Flexibility allows companies to implement a tailored logistics approach, service levels, and prices
- Changes in consumer behavior
 - Market demassification- flexibility and options
 - Changing family roles- creates convenience for both working parents
 - Rising customer expectations
- Technological advances
 - i.e., Internet, Amazon helicopter example, disintermediation
- The growing power of retailers & consumers
 - Companies such as Wal-Mart and Home Depot wield greater power than the companies that supply them
- Globalization of trade
 - Rising standards of living and multi-country trade alliances have contributed to the growth of global trade

Power Retailers: Wield greater power than the companies that supply them (Wal-Mart, Home Depot, Best Buy)

Disintermediation: the removal of intermediaries between producer and consumer

Systems approach: indicates that a company's objectives can be realized by recognizing the mutual interdependence of the major functional areas of the firm, such as marketing, finance, and logistics.

Stock-keeping-units (SKUs): line items of inventory (each different type or package size of a good is a different SKU) offered for sale by many companies

Materials Management: movement and storage of materials into a firm

Physical Distribution: storage of finished product and movement to the customer

Landed costs: refers to the price of a product at the source plus transportation costs to its destination

Stockouts: being out of an item at the same time there is a demand for it

Sustainable products: products that meet present needs without compromising the ability of future generation to meet their needs —can also impact logistical decisions

Bait and switch tactics: enticing customers with the promises of a low-priced product, only to find that it is unavailable, but that a higher-priced substitute product is readily available

Marketing channels: a set of institutions necessary to transfer the title to goods and to move goods from the point of production to the point of consumption and, as such, which consists of all the institutions and all the marketing activities in the marketing process

- **Ownership channel:** covers movement of the title to the goods. The goods themselves might not be physically present or even exist
- **Negotiations channel:** is one in which buy and sell agreements are reached. This could include transactions face to face or by phone, email, or any form of communication
- **Financing channel:** handles payments for goods. More importantly, it handles the company's credit
- **Promotions channel:** concerned with promoting a new or existing product and can be related to the financing channel because monetary allowances are often part of the promotion effort
- **Logistics channel:** the most significant contribution that the logistics channel makes to the overall channel process is the sorting function

Sorting function: bridges the discrepancy between the assortment of goods and services generated by the producer and the assortment demanded by the consumer

- **Sorting out:** sorting a heterogeneous supply of products into stocks that are homogeneous
- **Accumulating:** bringing together similar stocks from different sources
- **Allocating:** breaking a homogeneous supply into smaller lots
- **Assorting:** building up assortments of goods for resale, usually to retail customers

International logistics: logistics activities associated with goods that are sold across national boundaries, is much more costly and challenging than domestic goods

Materials handling: refers to the short-distance movement of products within the confines of a facility (e.g., plant, warehouse)

Procurement: the raw materials, component parts, and supplies bought from outside organizations to support a company's operations

Reverse logistics: Products can be returned for various reasons, such as product recalls, product damage, lack of demand, and customer dissatisfaction

Topic 2 Definitions:

Demand management: the creation across the supply chain and its markets of a coordinated flow of demand

- **Time series forecasting:** future demand is solely dependent on past demand
- **Judgmental:** Qualitative
- **Cause-and-effect (associative):** looks at related factors to determine anticipates sales for an item

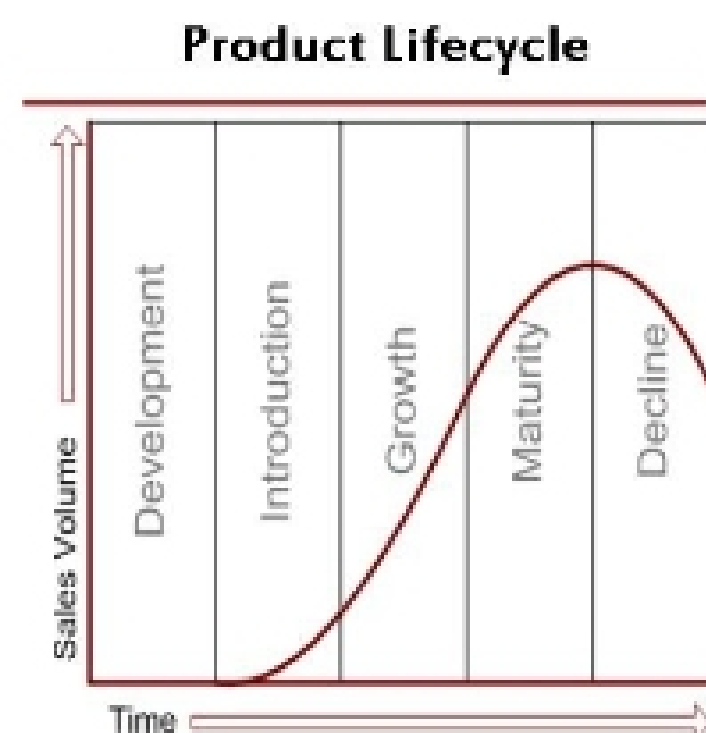
Demand (sales) forecasting: refers to an effort to project future demand, is a key component in demand management, and is also helpful in managing all forms of supply chain strategy

Demand Forecasting Issues:

- Selection of forecasting technique(s) depends on many factors
- Selecting an inappropriate technique will reduce forecast accuracy
- Forecast accuracy can have important logistical implications
- Computer forecasting software is unable to completely eliminate forecast errors

Product Lifecycle

- Plays a vital part in forecasting and type of model used
- Is tied to the product growth matrix
- Product's "life stage" and accurate demand management assist in moving products into and out of growth matrix quadrants



Make-to-stock: when finished goods are produced prior to receiving a customer order

Make-to-order: when finished goods are produced after receiving a customer order