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# Supply chain management

## Finalità

The course aims at analysing how strategic objectives, such as best service at the least total cost, can be reached across the planning and the efficient and effective management of the phases of the logistic process

## Programma

Logistics and supply chain management

Definitions; efficiency and effectiveness; logistics as a strategic dimension; historical background; just in time practice; internal and external integration; definition of supply chain management.

Assessment of logistics performances

Customer service as a strategic practice; logistics and customer service; assessment of the logistics performance; Key Performance Indicators; perceived vs delivered service; marketing service factors. Assessment of the delivered service: design and implementation of a survey analysis. Relationships between service, strategy and total logistics cost. Strategic management of cycle time: time-based competition, optimization of the logistics pipeline; lead-time gap. Cost assessment: introduction, impact of logistics activities on costs, cost-service diagram, activity based costing

Inventory management

Introduction; inventory management as a strategic activity; inventory in the distribution system: safety stocks and cycle stocks. Cycle stocks: economic order quantity. Safety stocks: definition and assessment. Performance measurement: expected shortage per cycle, cycle service level. Reduction of safety stocks: inventory pooling, customers and products grouping, postponement. Inventory costs. Strategic analysis of inventory. ABC and cross-ABC analyses.

Design of distribution systems

Introduction and definition. Design of distribution systems location. Levels of distribution systems.

Management of distribution systems

Coordinated and non-coordinated distribution channels. Bullwhip effects in the distributive system: quantitative assessment and strategies for reduction. Distribution strategies: traditional distribution, cross-docking, transshipment, pull and push logistics systems. Outsourcing of distribution activities, 3PL, efficient customer response

Order picking

Introduction and definitions. Phases of order picking. Manual and automated picking. Sorting. Design of picking systems: products grouping; technology and typology selection; path type; products location in picking areas; optimal picking policy; batch picking vs. order picking; zone picking: mission assignment, picking stock replenishment; selection of plant configuration.

## Attività d'esercitazione

Numerical examples are proposed for most of the subject covered by the course. Real cases are also presented.

## Modalità d'esame

Written test.

## Propedeuticità

Logistica Industriale

## Testi consigliati

1. Christopher, M., (1998), Logistics and Supply Chain management, prentice and Hall, London
2. Chopra, S., Meindl, P., (2001), Supply chain management, Prentice Hall, New Jersey.
3. Smichi-Levi, D., (2000), Designing and Managing the Supply Chain: Concepts, Strategies, and Cases, McGraw Hill