UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Supply Chain Management

2627-2-E3304M009-E3304M009-2

Aims

Supply chains connect firms, suppliers, customers, logistics providers and other actors across increasingly complex local and global networks. They are central to how companies create value, deliver products and services, manage costs, respond to uncertainty and coordinate flows of materials, information and money. At the same time, supply chains are exposed to disruptions, geopolitical instability, technological change and growing environmental and social expectations.
The module introduces students to the fundamental concepts, frameworks and tools of Supply Chain Management. It examines how firms design, plan, coordinate and improve supply chains, with attention to procurement, production, logistics, inventory management, distribution, demand forecasting, supplier relationships and performance measurement. The module also discusses contemporary challenges such as supply chain risk and resilience, digital technologies, sustainability, traceability and responsible sourcing.
The aim is to provide undergraduate students with a solid managerial understanding of how supply chains operate and how supply chain decisions influence competitiveness, customer service, efficiency, innovation and sustainability. Through lectures, case discussions and applied exercises, students will learn to analyse real supply chain problems and propose coherent managerial responses.

Knowledge and understanding
At the end of the module the student will have a fundamental understanding of:
• The main concepts, objectives and evolution of Supply Chain Management.
• The structure of supply chains and the roles of focal firms, suppliers, customers, logistics providers and other supply chain partners.
• The key flows managed in supply chains: materials, information, money and knowledge.
• The relationship between supply chain strategy, operations strategy, competitive priorities and business performance.
• The fundamentals of procurement, supplier management, production planning, inventory management, logistics and distribution.
• The role of demand forecasting, sales and operations planning and coordination mechanisms in aligning supply and demand.
• The main sources of supply chain risk and the concepts of resilience, flexibility and robustness.

• The relevance of sustainability, traceability and responsible sourcing in contemporary supply chains.

Applying knowledge and understanding
At the end of the module the student will be able to:
• Apply basic supply chain frameworks to describe and analyse the configuration of a firm's supply chain.
• Identify the main actors, flows, dependencies and coordination problems within a supply chain.
• Analyse procurement, inventory, logistics and distribution choices and their implications for cost, service level and responsiveness.
• Assess how firms align supply chain strategy with product characteristics, market uncertainty and competitive priorities.
• Interpret basic supply chain performance indicators and use them to evaluate operational effectiveness.
• Identify supply chain risks and propose appropriate mitigation, resilience and continuity strategies.
• Analyse sustainability-related challenges along supply chains and discuss possible responsible sourcing and traceability practices.
• Work in groups to prepare and present a case-based analysis of a real company, product or supply chain.

Making judgements
At the end of the module, students will be able to:
• Critically assess supply chain decisions by considering trade-offs between cost, quality, flexibility, speed, reliability and sustainability.
• Evaluate the coherence between a company's supply chain configuration and its competitive strategy.
• Identify vulnerabilities, bottlenecks, coordination failures and sustainability risks in supply chain systems.
• Discuss the managerial implications of alternative sourcing, production, logistics and distribution choices.

Communication skills
At the end of the module, students will be able to:
• Communicate supply chain analyses in a clear and structured manner, both orally and in written/project-based formats.
• Use appropriate managerial and operational terminology to discuss supply chain structures, processes and performance.
• Present evidence-based arguments drawing on cases, company information, data, readings and conceptual frameworks.
• Contribute constructively to class discussions, group work and case-based presentations.

Learning skills
At the end of the module, students will be able to:
• Autonomously search for and select relevant academic, managerial and corporate sources on supply chain management.
• Interpret and compare different types of sources, including scientific articles, business reports, company websites, sustainability reports and industry materials.
• Use feedback from lectures, exercises and group work to improve their analysis of supply chain problems.
• Update their knowledge independently in response to technological, environmental and geopolitical changes affecting supply chains.

Contents

• Introduction to Supply Chain Management: definitions, objectives and evolution of the field.

• Supply chain strategy and alignment with business strategy and competitive priorities.

• Supply chain structures, network design and the role of supply chain actors.

• Procurement, sourcing strategies and supplier relationship management.

• Production planning, capacity, make-or-buy decisions and operations coordination.

• Inventory management, service levels and the cost-responsiveness trade-off.

• Logistics, transportation, warehousing and distribution channels.

• Supply chain coordination, information sharing and performance measurement.

• Supply chain risk management, disruption management and resilience.

• Sustainable and responsible supply chain management, including traceability, due diligence and responsible sourcing.

Detailed program

• Introduction to Supply Chain Management. Supply chains as value-creation systems; flows of materials, information and money; key actors and processes; evolution from logistics to integrated supply chain management.

• Supply chain strategy and competitive priorities. Alignment between supply chain design, product characteristics, market demand and business strategy; cost, quality, speed, flexibility, reliability and sustainability as performance dimensions.

• Supply chain network design. Supply chain mapping, network configuration, centralization vs decentralization, facility location, outsourcing and make-or-buy decisions.

• Demand management and planning. Demand uncertainty, forecasting principles, planning horizons, sales and operations planning and the bullwhip effect.

• Procurement and supplier management. Sourcing strategies, supplier selection, supplier evaluation, relationship management, negotiation, partnerships and supplier development.

• Production and operations coordination. Production planning, capacity management, lean principles, postponement and coordination between operations and supply chain decisions.

• Inventory management. Role of inventory in supply chains, safety stock, service levels, inventory costs, order quantities and trade-offs between efficiency and responsiveness.

• Logistics and distribution. Transportation modes, warehousing, distribution networks, last-mile delivery and omnichannel distribution.

• Coordination and performance measurement. Information sharing, contracts, collaborative planning, key performance indicators and supply chain scorecards.

• Supply chain risk and resilience. Sources of disruption, vulnerability assessment, risk mitigation, redundancy, flexibility, robustness and business continuity.

• Sustainable supply chain management. Environmental and social impacts along supply chains, responsible sourcing, traceability, supplier codes of conduct, due diligence and circular supply chain approaches.

Prerequisites

A basic knowledge of management and business administration is recommended. The module is designed for undergraduate students and introduces the core concepts progressively.

Teaching form

• 24 hours of instructor-led lectures and interactive sessions, delivered in presence, combining theoretical explanations, examples, case discussions and applied exercises.

• Interactive activities may include short case analyses, group work, supply chain mapping exercises, discussion of company examples, practitioner-oriented materials and presentations.

• Any remote synchronous or asynchronous activities, if scheduled, will not exceed 30% of the total teaching hours and will be communicated through the e-learning platform.

Textbook and teaching resource

• PPT slides used during lectures.

• Recommended book: TBD

• Additional readings, cases, reports and company materials made available by the lecturer on the e-learning website of the module.

Semester

I semester (October - December)

Assessment method

TBD

Office hours

Monday - Wednesday, after scheduling an appointment via phone or e-mail.

Sustainable Development Goals

QUALITY EDUCATION | DECENT WORK AND ECONOMIC GROWTH | INDUSTRY, INNOVATION AND INFRASTRUCTURE | SUSTAINABLE CITIES AND COMMUNITIES | RESPONSIBLE CONSUMPTION AND PRODUCTION