# Strategic supply chain management

## Prof. Valeria Belvedere; Prof. Herbert Kotzab

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The course will provide students with an overview of the main supply chain design and management principles, focusing on the role that up-to-date information systems, as well as hardware and digital technologies can play on the improvement of procurement, manufacturing and logistics processes. Nowadays being able to deliver the product in the timing, location and quantities requested by the customer is becoming more and more important to successfully compete in both BtoB and BtoC markets. In this setting, technological solutions as Internet of Things, Cloud computing, Big Data and Analytics, Robotics, to mention a few, can be leveraged to improve the performance of supply chain processes. Furthermore, the experience of best-in-class companies shows that such technologies can also be used to pursue a servitization strategy, offering value-added services to the clients, on top of the physical products. Thus, managers must be able to identify improvement opportunities and to revise operational processes accordingly, through the selection and adoption of suitable technological solutions.

At the end of this course, students will be able to:

1. Will be familiar with the main concepts and theories concerning supply chain design and management and with the main technological solutions that can be leveraged in order to improve manufacturing and logistics performances;
2. Will be able to implement their knowledge in this field in order to analyze the supply chains of manufacturing companies, to identify improvement opportunities that the availability of up-to-date technologies can offer and to suggest appropriate actions;
3. Will be able to autonomously address and solve managerial problems in the context of supply chain management, collecting relevant data and analyzing it through sound methodologies suitable for developing tailored solutions; they will be able to express their personal assessment on complex problems, providing insights also on the ethical aspects of the issue under analysis;
4. Will be able to communicate in a clear and effective way their knowledge, ideas and improvement suggestions to both managers and novices of this field;
5. Will be able to keep on learning the topics of supply chain management and of technology adoption in this field, widening their knowledge and understanding of this subject through the reading of further materials and the real life experience in challenging contexts.

***COURSE CONTENT***

The main topics addressed during this course are:

* Supply Chain Management: strategies and performance
* Overview of the main supply chain processes
* Design of production processes
* Robotics and automation in manufacturing and logistics processes
* E-commerce and last mile logistics
* Physical distribution and omnichannel logistics
* Leveraging technologies to boost social and environmental sustainability
* Leveraging technologies to pursue collaboration along the supply chain.

***READING LIST***

*Attending Students*

All materials uploaded on Blackboard will be considered mandatory.

Grando A., Belvedere V., Secchi R., Stabilini G. (2021), *Production, Operations and Supply Chain Management*, Bocconi University Press. (selected chapters)

*Non attending students*

Grando A., Belvedere V., Secchi R., Stabilini G. (2021), *Production, Operations and Supply Chain Management*, Bocconi University Press. (chapters 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 17, 18, 19, 20)

***TEACHING METHOD***

The teaching method will be highly interactive. Case-studies, simulations and site visits will be used to boost class participation and discussion among students, through a learning-by-doing approach.

***ASSESSMENT METHOD AND CRITERIA***

Attending students will be assessed through a weighted average, as follows:

* 30% group assignments and presentations; during the course two group assignments will be carried out. They will consist of case-studies or companies’ supply chains assessments and will require the preparation of a report, in which students will provide a detailed description of the way they addressed and solved the problem. These assignments will aim at developing and assessing students’ ability to: 1) communicate their knowledge and ideas in an effective way; 2) solve managerials problems collecting relevant data, analyzing it through the concepts and theories addressed during this course; 3) keep on learning the topics of supply chain management, widening their knowledge in contexts of the two assignments.
* 70% final written exam, consisting of both multiple-choice and open questions. Multiple choice questions will be exclusivelly on theoretical topics. Open questions will be on mini-cases and on theoretical topics. Multiple choice questions will aim at assessing students’ familiarity with main concepts and theories concerning supply chain management. Open questions will require the writing up of short essays (some of them also with calculations) and the solution of quantitative exercises in order to assess students’ ability to analyze supply chain processes through the frameworks and concepts learnt during the course.

Attendance (not less than 75% of class sessions) is mandatory for taking the exam as an attending student.

Non attending students will be assessed through a written exam consisting of multiple choice and open questions, referred to the entire textbook. Open questions will be theoretical or will consist of numerical exercises.

At the end of the course, a mock-exam will be uploaded on Blackboard.

***NOTES AND PREREQUISITES***

The course will be taught in English.

 *Office hours*

Meetings with the professors can be requested by email and can be online or in person.