

SUPPLY CHAIN MANAGEMENT

**Grado en Administración de Empresas / Bachelor in
Business Administration BBA SEP-2024 SCM-NBA.3.M.C**

Area Operations and Business Analytics

Number of sessions: 15

Academic year: 24-25

Degree course: THIRD

Number of credits: 3.0

Semester: 1º

Category: COMPULSORY

Language: English

Professor: **SARA FLORES ZÚÑIGA**

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Master of Science Industrial Administration, Purdue University, Krannert Graduate School of Management- Fulbright Scholarship.

B.Sc. Industrial Engineering- Universidad Nacional Autónoma de Honduras.

Certified Lego ® Serious Play facilitator.

I have been teaching Production and Operations Management at the undergraduate level at IE during the last 5 years. Previously, I also taught Operations Management at the master's level at an international business school where I was also Associate Dean for the Madrid Campus. I

I taught first and second-year courses in Industrial Engineering in Latin America.

I have worked in manufacturing and service industries, specifically in higher education and I also ventured as a small entrepreneur in Madrid. Currently, I work at IE University at the Research Office.

In today's fast-paced global economy, understanding and managing the Supply Chain effectively, is crucial to have a competitive advantage, to ensure customer satisfaction and to reduce waste and costs.

I look forward to working together in the sessions to come. Your class participation is welcome and the classroom is a safe environment to share your reflections.

Office Hours

Office hours will be on request. Please contact at:

sflores@faculty.ie.edu

To set a convenient time.

SUBJECT DESCRIPTION

Supply Chain Management (SCM) is the business function that deals with the production and flow of information and material within and across organizations. It covers different areas such as controlling inventory, finding the most efficient transportation solution, determining an effective sourcing strategy, applying Lean concepts to Supply Chain, and Sustainability, among others.

?This course will help students understand various aspects of a Supply Chain. It will demonstrate how successful companies run their Supply Chain, the risks inherent in an SCM, and the competitive edge that an innovative SCM can provide. A well-managed Supply Chain will not only help a firm produce more effectively, but it can also provide a sustainable competitive edge. This course will also introduce various frameworks and tools to help future professionals make better decisions related to supply chain management.

LEARNING OBJECTIVES

- Understand how the various entities of a Supply Chain affect the production and delivery of goods.
- Learn various models and tools that will help them make better decisions.
- Study how companies have used Supply Chain to get a competitive edge.
- Learn the best practices and models to make the Supply Chains more sustainable.

TEACHING METHODOLOGY

IE University teaching method is defined by its collaborative, active, and applied nature. Students actively participate in the whole process to build their knowledge and sharpen their skills. Professor's main role is to lead and guide students to achieve the learning objectives of the course. This is done by engaging in a diverse range of teaching techniques and different types of learning activities such as the following:

Learning Activity	Weighting	Estimated time a student should dedicate to prepare for and participate in
Lectures	40.0 %	30.0 hours
Discussions	13.3 %	10.0 hours
Exercises in class, Asynchronous sessions, Field Work	13.3 %	10.0 hours
Group work	20.0 %	15.0 hours
Individual studying	13.3 %	10.0 hours
TOTAL	100.0 %	75.0 hours

AI POLICY

Generative artificial intelligence (GenAI) tools may be used in this course for research, ideation, generating an outline, proofreading, grammar check, coding, image generation with appropriate acknowledgement. GenAI may not be used for assignments, group submissions, exams. If a student is found to have used AI-generated content inappropriately, it will be considered academic misconduct, and the student might fail the respective assignment or the course.

If you are in doubt as to whether you are using GenAI tools appropriately in this course, I encourage you to discuss your situation with me.

Below, a suggested format to acknowledge the use of generative AI tools. Please note that acknowledging AI will not impact your grade.

I acknowledge the use of [AI systems link] to [specify how you used generative AI]. The prompts used include [list of prompts]. The output of these prompts was used to [explain how you used the outputs in your work].

If AI was permitted to use in your assignment, but you have chosen not to include any AI generated content, the following disclosure is recommended:

No content generated by AI technologies has been used in this assignment.

PROGRAM

SESSION 1 (LIVE IN-PERSON)

Sustainability Topics: Learn about introductory examples of sustainable supply chain management practices.

INTRODUCTION

Learning Objectives:

- Discuss the goal of a supply chain and explain the impact of supply chain decisions on the success of a firm.
- Define the three key supply chain decision phases and explain the significance of each one.
- Describe the cycle and push/pull views along with the macro processes of a supply chain.
- Identify important issues and decisions to be addressed in a supply chain.
- Develop skills that employers have identified as critical to success in the workplace.

Book Chapters: Supply Chain Management: Strategy, Planning, and Operation (Chapter 1: Understanding the supply chain) (See Bibliography)

SESSION 2 (LIVE IN-PERSON)

Sustainability Topics: Learn the importance of achieving supply chain fit between a company's supply chain strategy and its sustainability strategy.

SUPPLY CHAIN STRATEGY

Learning Objectives:

- Explain why achieving strategic fit is critical to a company's overall success.
- Describe how a company achieves a strategic fit between its supply chain strategy and its competitive strategy.
- Identify the main levers to deal with uncertainty in a supply chain.
- Discuss the importance of expanding the scope of strategic fit across the supply chain.

Book Chapters: Supply Chain Management: Strategy, Planning, and Operation (Chapter 2: Achieving Strategic Fit in a Supply Chain) (See Bibliography)

Article: What Is the Right Supply Chain for Your Products? (HBR OnPoint Enhanced Edition) (HBS 8509-PDF-ENG)

In this section, you will understand the importance of designing an efficient supply chain to answer important questions such as facility location, capacity allocation, and market allocation. Thus, you will learn various methodologies for network design decisions in a supply chain. Additionally, we will discuss the impact of the bullwhip effect on supply chains, a phenomenon that arises from a lack of supply chain coordination. To this end, you will learn various practical approaches to improve coordination across different entities in the supply chain.

SESSION 3 (LIVE IN-PERSON)

Sustainability Topics: Learn how to design the supply chain network to optimize overall supply chain cost while satisfying the environmental objectives (for example, minimizing the carbon footprint).

DESIGNING THE SUPPLY CHAIN NETWORK

Learning Objectives:

- Understand the role of network design in a supply chain.
- Identify factors influencing supply chain network design decisions.
- Discuss a framework for making network design decisions.
- Develop an optimization model to design a regional network configuration.
- Develop an optimization model to identify potential sites in a region.
- Develop an optimization model to locate plants and allocate market demand.

Book Chapters: Supply Chain Management: Strategy, Planning, and Operation (Chapter 5: Networking Design in the Supply Chain) (See Bibliography)

SESSION 4 (LIVE IN-PERSON)

Sustainability Topics: Understand how companies improve supply chain sustainability through supply chain coordination.

COORDINATION AND THE BULLWHIP EFFECT IN SUPPLY CHAINS

Learning Objectives:

- Describe supply chain coordination and the bullwhip effect, and their impact on supply chain performance.
- Identify obstacles to coordination in a supply chain.
- Discuss managerial levers that help improve coordination in a supply chain.
- Understand some practical approaches to improve coordination in a supply chain.

Book Chapters: Supply Chain Management: Strategy, Planning, and Operation (Chapter 10: Coordination in a Supply Chain) (See Bibliography)

Article: The Bullwhip Effect in Supply Chains (HBS SMR029-PDF-ENG)

Multimedia Material: Supply Chain Management Simulation: Root Beer Game V3 (HBS 7908-HTM-ENG)

SESSION 5 (ASYNCHRONOUS)

Sustainability Topics: Understand how companies improve supply chain sustainability through supply chain coordination.

COORDINATION AND THE BULLWHIP EFFECT IN SUPPLY CHAINS

Learning Objectives:

- Describe supply chain coordination and the bullwhip effect, and their impact on supply chain performance.
- Identify obstacles to coordination in a supply chain.
- Discuss managerial levers that help improve coordination in a supply chain.
- Understand some practical approaches to improve coordination in a supply chain.

Book Chapters: Supply Chain Management: Strategy, Planning, and Operation (Chapter 10: Coordination in a Supply Chain) (See Bibliography)

Article: The Bullwhip Effect in Supply Chains (HBS SMR029-PDF-ENG)

Multimedia Material: Supply Chain Management Simulation: Root Beer Game V3 (HBS 7908-HTM-ENG)

SESSION 6 (LIVE IN-PERSON)

Sustainability Topics: Study how companies adopt sustainable transportation modes and networks for the environment.

LOGISTICS IN SUPPLY CHAINS**Learning Objectives:**

- Understand the importance of logistics in supply chains.
- Study the role of different transportation modes in a supply chain.
- Discuss the role of infrastructure and policies in transportation.
- Identify the relative strengths and weaknesses of various transportation network design options.
- Understand some success factors in a responsive network for same day delivery.
- Evaluate trade-offs that shippers need to consider when designing a transportation network.
- Design tailored transportation networks in a supply chain.

Book Chapters: Supply Chain Management: Strategy, Planning, and Operation (Chapter 14: Transportation in a Supply Chain) (See Bibliography)

SESSION 7 (LIVE IN-PERSON)

Sustainability Topics: Study the importance of sustainable sourcing both in terms of environmental and social impacts

PROCUREMENT AND SOURCING DECISIONS IN SUPPLY CHAINS

- Understand the importance of procurement in supply chains.
- Study the factors that affect the decision to outsource a supply chain function.
- Identify dimensions of supplier performance that affect total cost.
- Design a tailored supplier portfolio.
- Describe the impact of incentives on the behavior of third-parties in a supply chain.
- Discuss the benefits of sharing risk and reward in a supply chain.

Book Chapters: Supply chain management: Strategy, planning and Operation (Chapter 15: Sourcing Decisions in a Supply Chain) (See Bibliography)

SESSION 8 (ASYNCHRONOUS)

Sustainability Topics: Study the importance of sustainable sourcing both in terms of environmental and social impacts.

PROCUREMENT AND SOURCING DECISIONS IN SUPPLY CHAINS

- Understand the importance of procurement in supply chains.
- Study the factors that affect the decision to outsource a supply chain function.
- Identify dimensions of supplier performance that affect total cost.
- Design a tailored supplier portfolio.
- Describe the impact of incentives on the behavior of third-parties in a supply chain.

Book Chapters: Supply Chain Management: Strategy, Planning, and Operation (Chapter 15: Sourcing Decisions in a Supply Chain) (See Bibliography)

PART IV: TRENDS IN SUPPLY CHAIN MANAGEMENT

In this last section, you will learn important latest trends in supply chain management. In sessions 10-11, we will discuss the importance and challenges of sustainable supply chains. In session 12, you will learn how to design and manage a resilient supply chain to mitigate the supply chain risk in the global supply chain. Lastly in session 13, we will review the technological advancements in the field of supply chain management. We will discuss how the 4th Industrial Revolution is shaping the supply chain, and how it will support all activities we have been covering in the previous sessions.

SESSION 9 (LIVE IN-PERSON)

Sustainability Topics: Learn the latest industry practices to understand the importance of sustainable supply chain management.

SUSTAINABLE SUPPLY CHAINS CHAIN

Learning Objectives: Understand the importance of sustainability in a supply chain.

- Discuss the challenge to sustainability posed by the tragedy of the commons.
- Describe key pillars of corporate social responsibility.
- Identify opportunities for improved sustainability along various supply chain drivers.
- Understand the role of incentives and regulation for improved sustainability.

Book Chapters: Book Chapters: Supply Chain Management, Strategy, Planning, and Operations (Chapter 17: Sustainability and the Supply Chain) See Bibliography

SESSION 10 (LIVE IN-PERSON)

Sustainability Topics: Study how reverse logistics have an environmental benefit as well as organizational competitiveness.

REVERSE LOGISTICS

Learning Objectives:

- Understand the importance of reverse logistics for both sustainability and company's competitiveness.
- Identifying alternatives on how to efficiently reuse returned items and increase profitability by reducing material requirements.
- Understand how reusing rather than disposing of units can have an impact on increased loyalty, attract new customers and boost environmental image.
- To discuss the five major initiatives that define a reverse logistics program.

Article: Reverse logistics: Understanding end-of-life product management (HBS BH1202-PDF-ENG)
Technical note: Snapdeal: A Nightmare or a Benefit in Reverse Logistics? (HBS W16882-PDF-ENG)
Article: Reverse Logistics Program Design: A company study (HBS BH317-PDF-ENG)

SESSION 11 (LIVE IN-PERSON)

Sustainability Topics: Learn how resilient supply chains deal with environmental challenges (for example, climate change) in global business environment.

SUPPLY CHAIN RISK AND RESILIENCE

Learning Objectives:

- Define relevant risks and explain different strategies that may be used to mitigate risk in global supply chains.
- Understand the basics of vulnerability assessment to deal with disruptions.

Book Chapters: Supply Chain Management: Strategy, Planning, and Operation (Chapter 6: Designing Global Supply Chain Networks, pp. 152-154; 157-161) (See Bibliography)
Article: Supply Chain View of the Resilient Enterprise (HBS SMR185-PDF-ENG)

SESSION 12 (ASYNCHRONOUS)

Sustainability Topics: Learn the latest technological advancements that support sustainable supply chains.

SUPPLY CHAIN 4.0: THE FOURTH INDUSTRIAL REVOLUTION AND THE SUPPLY CHAIN

Learning Objectives:

- Understand the importance of the fourth industrial revolution.
- Learn how the emerging technologies support supply chain innovation.

Article: How Machine Learning Will Transform Supply Chain Management (HBS R2402K-PDF-ENG)

SESSION 13 (LIVE IN-PERSON)

GROUP PROJECT PRESENTATIONS

Students must submit project before class

SESSION 14 (LIVE IN-PERSON)

GROUP PROJECT PRESENTATIONS

Students must submit project before the presentation at the same time/day as the rest of the groups

SESSION 15 (LIVE IN-PERSON)

FINAL EXAM a minimum of 40% is needed to pass.

EVALUATION CRITERIA

criteria	percentage	Learning Objectives	Comments
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Final Exam	40 %	<ul style="list-style-type: none"> - Understand how the various entities of a Supply Chain affect the production and delivery of goods. - Learn various models and tools that will help them make better decisions. - Study how companies have used Supply Chain to get a competitive edge. - Learn the best practices and models to make the Supply Chains more sustainable. 	Minimum 4.0
Group Work	25 %	<ul style="list-style-type: none"> - Understand how the various entities of a Supply Chain affect the production and delivery of goods. - Learn various models and tools that will help them make better decisions. - Study how companies have used Supply Chain to get a competitive edge. - Learn the best practices and models to make the Supply Chains more sustainable. 	Deliverables and presentations

Class Participation	20 %	<ul style="list-style-type: none"> - Understand how the various entities of a Supply Chain affect the production and delivery of goods. - Learn various models and tools that will help them make better decisions. - Study how companies have used Supply Chain to get a competitive edge. - Learn the best practices and models to make the Supply Chains more sustainable. 	
Individual or Group Assignments	15 %	<ul style="list-style-type: none"> - Understand how the various entities of a Supply Chain affect the production and delivery of goods. - Learn various models and tools that will help them make better decisions. - Study how companies have used Supply Chain to get a competitive edge. - Learn the best practices and models to make the Supply Chains more sustainable. 	Individual or group assignments

RE-SIT / RE-TAKE POLICY

Each student has four (4) chances to pass any given course distributed over two (2) consecutive academic years. Each academic year consists of two calls: one (1) ordinary call (during the semester when the course is taking place); and one (1) extraordinary call (or “re-sit”) in June/July.

Students who do not comply with the 80% attendance requirement in each subject during the semester will automatically fail both calls (ordinary and extraordinary) for that Academic Year and have to re-take the course (i.e., re-enroll) during the next Academic Year.

The Extraordinary Call Evaluation criteria will be subject to the following rules:

- Students failing the course in the ordinary call (during the semester) will have to re-sit evaluation for the course in June / July (except those students who do not comply with the attendance rule, and therefore will not have that opportunity, since they will fail both calls and must directly re-enroll in the course during the next Academic Year).
- It is not permitted to change the format nor the date of the extraordinary call exams or deadlines under any circumstance. All extraordinary call evaluation dates will be announced in advance and must be taken into consideration before planning the summer (e. g. internships, trips, holidays, etc.)
- The June/July re-sit will consist of a comprehensive evaluation of the course. Your final grade for the course will depend on the performance in this exam or evaluation only. I.e., continuous evaluation over the semester (e. g. participation, quizzes, projects and/or other grade components over the semester) will not be taken into consideration on the extraordinary call. Students will have to achieve the minimum passing grade of 5 and the maximum grade will be capped at 8.0 (out of 10.0) – i.e., “notable” in the extraordinary call.
- Re-takers: Students who failed the subject on a previous Academic Year and are now re-enrolled as re-takers in a course will need to check the syllabus of the assigned professor, as well as contact the professor individually, regarding the specific evaluation criteria for them as re-takers in the course during that semester (ordinary call of that Academic Year). The maximum grade that may be obtained as a retaker during the ordinary call (i.e., the 3rd call) is 10.0 (out of 10.0).

After exams and other assessments are graded by the professor (on either the ordinary or extraordinary call), students will have a possibility to attend a review session (whether it be a final exam, a final project, or the final overall grade in a given course). Please be available to attend the session in order to clarify any concerns you might have regarding your grade. Your professor will inform you about the time and place of the review session.

- Students failing more than 18 ECTS credits after the June/July re-sits will be asked to leave the Program. Please, make sure to prepare yourself well for the exams in order to pass your failed subjects.
- In case you decide to skip the opportunity to re-sit for an exam or evaluation during the June/July extraordinary call, you will need to enroll in that course again for the next Academic Year as a re-taker, and pay the corresponding tuition fees. As you know, students have a total of four (4) allowed calls to pass a given subject or course, in order to remain in the program.

BIBLIOGRAPHY

Compulsory

- Sunil Chopra. *Supply Chain Management: Strategy, Planning, and Operation*. 7th Edition. Pearson. ISBN 9781292257891 (Printed)

BEHAVIOR RULES

Please, check the University's Code of Conduct [here](#). The Program Director may provide further indications.

ATTENDANCE POLICY

Please, check the University's Attendance Policy [here](#). The Program Director may provide further indications.

ETHICAL POLICY

Please, check the University's Ethics Code [here](#). The Program Director may provide further indications.