OPERATIONS MANAGEMENT

IE University
Professor: **ANTONIO ZABALETA MORENO**
E-mail: azabaleta@faculty.ie.edu

Academic year: 22-23
Degree course: SECOND
Semester: 2º
Category: COMPULSORY
Number of credits: 5.0
Language: English

PREREQUISITES

None

SUBJECT DESCRIPTION

Operations Management is an area that deals with the production of goods and services. It is concerned with managing the process that converts inputs, such as material, labor, and information (data), into outputs, such as products and services. Thus, it is an important function in every company. An effective and efficient operations management can help a company stay competitive. Successful companies achieve excellence in operations management, while companies struggling often trace their problems to poor management of their operations

The field of Operations Management has seen many developments and changes over the decades. During this course, the student will study companies that owe their success to groundbreaking innovation in the practice of Operations Management. Through these examples, the student will learn how they can apply innovative Operational methods to achieve operational excellence.

An effective Operations Management interacts with various functions in a firm, such as Accounting, Marketing, and Information Technology. A well-run establishment requires that these functions are integrated and consistent with the overall strategy of the firm. This means that every manager, irrespective of their department or specialization, will benefit from being familiar with Operations Management. A sound understanding of Operations Management becomes even more important for the professional starting a new business or product line.

OBJECTIVES AND SKILLS

The objective of this course is to provide students with knowledge and understanding of concepts and frameworks in Operations Management (OM), specifically in the areas of Processes, Inventories, Demand Forecasting, Quality, Lean, Product and Service Innovation, and Sustainability. The course encourages the development of creative thinking, analytical reasoning, people skills, and teamwork in the context of operations management. The course will also help you:

- Understand the strategic importance of OM and how it can provide firms a competitive advantage
- Analyze the problems and challenges faced by managers that can be traced to ineffective OM

- Learn various frameworks to articulate the tactical and strategic problems that arise in OM
- Understand OM principles, concepts, tools, and techniques to diagnose, analyze and solve OM problems
- Know the tools that companies use to control the value production process
- Analyze the impact of sustainability in Operations Management and learn the best sustainability practices and strategies in the manufacturing and service industries
- Understand the interdependence between Operations and other functions in a company such as Marketing, Sales, Accounting/finance, and Human Resources

METHODOLOGY

Classes in this course are designed as a combination of lectures, readings, individnal and/or group assignments, and interactive sessions. This course structure will help students become familiar with the concepts and tools in operations management. In a diverse, international class, students benefit greatly from hearing their classmates' experiences and observations of how businesses operate in different industries and in other parts of the world.

Teaching methodology	Weighting	Estimated time a student should dedicate to prepare for and participate in
Lectures	40.0 %	50 hours
Discussions	20.0 %	25 hours
Exercises	12.0 %	15 hours
Group work	20.0 %	25 hours
Other individual studying	8.0 %	10 hours
TOTAL	100.0 %	125 hours

PROGRAM

PART I: INTRODUCTION TO OPERATIONS MANAGEMENT

In this first section, you will learn the foundation for understanding the field of operations and supply management. Operations management is about designing and operating processes or systems that create and deliver a firm's products and services in a manner that matches customer expectations. After you learn the key concepts in operations management in the first session, you will learn the strategic implications of operations management.

SESSIONS 1 - 2 (LIVE IN-PERSON)

Session 1 Introduction to Operations Management

Textbook: Chapter 1. Introduction

Learning Objectives:

- Identify the elements of operations and supply chain management (OSCM).
- Know the potential career opportunities in OSCM.
- Recognize the major concepts that define the OSCM field.

****

Session 2 Operations Strategy

Textbook: Chapter 2. Strategy

Learning Objectives:

- Define operations and supply chain strategy.
- Understand how operations strategy is related to business strategy.
- Explain how operations and supply chain strategies are implemented.
- Understand why strategies have implications relative to business risk.
- Evaluate productivity in operations and supply chain management.
- Know what a sustainable business strategy is and how it relates to OSCM

Other / Complementary Documentation: Project charter final project (S-C)

Assignment (to prepare after session 2):

Each group will select a real process, or a set of processes for the Final Project, and fill in the Project Charter template. Instructions will be provided in class (session 2)

PART II: FUNDAMENTALS OF OPERATIONS MANAGEMENT

The second section of this class focuses on the design and analysis of business processes. Having a great process is the key to the success of each business, whether with products and/or services. First, you will learn the fundamental knowledge related to manufacturing processes as well as service processes. Then, you will learn how to design an efficient process. Lastly, you will learn how a process can be analyzed to ensure the competitiveness of a firm. Additionally, you will also learn how to manage the waiting line more efficiently, which is one of the most important areas for successful service organizations. Additionally, you will learn the strategic importance of capacity management for more efficient operations.

SESSIONS 3 - 4 (LIVE IN-PERSON)

Session 3 Process Fundamentals and Manufacturing Processes

Textbook: Chapter 7. Manufacturing Processes

Textbook: Chapter 11. Process Design and Analysis

Learning Objectives:

- Understand what a manufacturing process is.
- Explain how manufacturing processes are organized.
- Analyze simple manufacturing processes.

****

Session 4 Process Design and Analysis

Textbook: Chapter 11. Process Design and Analysis

Learning Objectives:

- Exemplify a typical business process and how it can be analyzed.
- Compare different types of processes.
- Explain how jobs are designed.
- Analyze processes to ensure the competitiveness of a firm.
- Understand the importance of flexibility and efficiency in a process.

SESSIONS 5 - 6 (LIVE IN-PERSON)

Session 5 Service Processes

Textbook: Chapter 9. Service Processes

Learning Objectives:

- Understand the characteristics of service processes.
- Explain how service systems are organized.
- Analyze simple service systems.
- Contrast different service designs.

****

Session 6 Waiting Line Management

Textbook: Chapter 10. Waiting Line Analysis and Simulation

Learning Objectives:

- Understand what a waiting line problem is.
- Analyze waiting line problems.
- Understand why simulation models are useful to analyze complex waiting lines.

SESSION 7 (LIVE IN-PERSON)

Capacity Management

Textbook: Chapter 5. Strategic Capacity Management

Learning Objectives:

- Explain what capacity management is and why it is strategically important.
- Exemplify how to plan capacity.
- Evaluate capacity alternatives.
- Compare capacity planning in services to capacity planning in manufacturing.

SESSION 8 (LIVE IN-PERSON)

Operations Management Exercise I: Process Design & Analysis

Practical Case: Aravind Eye Care System (OPE010056-U-ENG-HTM)

The professor will provide necessary course materials and instructions.

Learning Objectives:

- Review and practice the important concepts in process design & analysis.

PART III: MANAGING AND IMPROVING OPERATIONS

In this section, you will learn various topics to efficiently manage and improve the operations of a firm. In sessions 8-9, you will learn how to ensure that your product/service has good quality from the perspectives of Total Quality Management, Six Sigma, and Statistical Quality Control. In sessions 13-14, you will learn various forecasting methods to predict demands accurately, which is crucial for an efficient operations & supply chain planning. In sessions 15-16, you will study inventory models to make efficient inventory decisions to minimize the cost and prevent stockouts. Lastly, you will learn how to apply lean principles in both manufacturing and service contexts in Sessions 17-18.

SESSIONS 9 - 10 (LIVE IN-PERSON)

Quality Management

Textbook: Chapter 12. Six Sigma Quality

Textbook: Chapter 13. Statistical Quality Control

Learning Objectives:

- Explain the scope of total quality management in a firm.
- Understand the Six Sigma approach to improve quality and productivity.
- Know globally recognized quality benchmarks.
- Illustrate process variation and explain how to measure it.
- Analyze process and product quality using statistics.
- Understand the importance of KPI in the continuous improvement process.

SESSION 11 (ASYNCHRONOUS)

Operations Management Exercise II: Quality Management

Book Chapters: Death on the Highway: quality problems at Ford and Firestone (Managing Services: Using Technology to Create Value) (Book) (CED)

The professor will provide necessary course materials and instructions.

Learning Objectives:

- Review and practice the important concepts and tools in quality management.

SESSION 12 (LIVE IN-PERSON)

Mid-Term Exam

SESSION 13 (LIVE IN-PERSON)

Forecasting

Textbook: Chapter 18. Forecasting

Learning Objectives:

- Understand how forecasting is essential to supply chain planning.
- Learn qualitative and quantitative techniques to forecast demand.
- Learn the collaborative planning and forecasting process.

SESSIONS 14 - 15 (LIVE IN-PERSON)

Inventory Management

Textbook: Chapter 20. Inventory Management

Learning Objectives:

- Explain how inventory is used and understand what it costs.
- Analyze how different inventory control systems work.
- Analyze inventory using the ABC classification model.

Understand the importance of inventory turnover

SESSION 16 (ASYNCHRONOUS)

Operations Management Exercise III: Inventory Management

Practical Case: Al-Kadi Commerce & Industry (OPE010045-U-ENG-HTM)

The professor will provide necessary course materials and instructions.

Learning Objectives:

- Review and practice the important concepts and tools in inventory management

SESSIONS 17 - 18 (LIVE IN-PERSON)

Lean Operations

Textbook: Chapter 14. Lean Supply Chain

Learning Objectives:

- Explain what lean production is.
- Illustrate how lean concepts can be applied to supply chain processes.
- Analyze supply chain processes using value stream mapping.
- Explain lean design principles.
- Apply lean concepts to service processes.

PART IV: INNOVATIONS AND TRENDS IN OPERATIONS MANAGEMENT

In this last section, you will learn important innovations and trends from the perspective of operations management. First, in session 20, you will learn the issues related to the new product and service design development as designing new products and services and getting them to market quickly is a critical part of innovation and business success. Then in session 21, we will discuss the importance of sustainable operations management, and you will also learn the best sustainability practices and strategies in this field.

SESSIONS 19 - 20 (LIVE IN-PERSON)

New Product & Service Development

Textbook: Chapter 3. Design of Products and Services

Learning Objectives:

- Know the issues associated with product design processes used by companies.
- Illustrate how different criteria can impact the design of a product.
- Contrast how services can have different design criteria compared to manufactured products.
- Evaluate the impact of a new product on a company.
- Illustrate how product development is measured in a company.

SESSION 21 (LIVE IN-PERSON)

Sustainability in Operations Management

Learning materials will be presented by the professor in class.

Learning Objectives:

- Analyze the impact of sustainability in Operations Management.
- Learn the best sustainability industry practices and strategies.

SESSION 22 (ASYNCHRONOUS)

- **Operations Management Exercise IV: Sustainable Operations**

Multimedia Documentation: Sustainability Management Simulation: Net Zero (HBS FO0007-HTM-ENG)

The professor will provide necessary course materials and instructions.

Learning Objectives:

Review and practice the important concepts related to sustainable operations management.

SESSIONS 23 - 24 (LIVE IN-PERSON)

Final Group Presentations

SESSION 25 (LIVE IN-PERSON)

Final Exam

BIBLIOGRAPHY

Compulsory

- Jacobs, F. Robert & Chase, Richard B.. (2021). *Operations and Supply Chain Management.* 16th. McGraw Hill. ISBN 9781260575941 (Digital)

EVALUATION CRITERIA

Your final grade in the course will be based on two exams, individual and group work of different characteristics that will be weighted in the following way:

Criteria	Percentage	Comments
Individual Work and Participation	35 %	Individual work 15% Class participation 20%
Mid-Term Exam	15 %	
Workgroups	20 %	
Final Exam	30 %	

1. INDIVIDUAL WORK (15%)

There will be three (3) short individually graded assignments (5% each). Sessions 11, 16, 22

2. MID-TERM EXAM (15%)

The Mid-Term exam will cover the topics taught from the beginning until the session prior to the exam.

3. GROUP WORK (20%)

Group work includes two group activities: **GROUP PAPER (10%)** and **GROUP PRESENTATION (10%)**

It is expected that every member contributes equally. The professor will provide more information during the course.

4. FINAL EXAM (30%)

The Final Exam will take place in the last session. It will cover all the topics in class (cumulative).

5. CLASS PARTICIPATION (20%)

Becoming involved in the discussions or adding relevant ideas will enrich the classroom and help you to further develop your ability to articulate your thoughts. The classroom setting gives you a safe environment to share your thoughts. Class participation will be assessed by the quality and frequency of the contribution. Talking in class, tardiness, and leaving the class before it ends will negatively affect the participation grade.

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 70% 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.

PROFESSOR BIO

Professor: **ANTONIO ZABALETA MORENO**

E-mail: azabaleta@faculty.ie.edu

ANTONIO ZABALETA MORENO

Adjunct Professor of Operations Management at IE Business School

Professor Zabaleta is a professional and a researcher in the financial services area with more than 20 years of experience in international banking. Executive MBA at IE Business School. Professor at IE Business School. Researcher on Business Process Management (Lean And Six Sigma). Master in research and PhD in Business at Universidad Autónoma de Madrid. In the professional field, he is a Senior Manager, specialized in projects of different fields: Digital Banking, Innovation, Organization, Business Process Engineering, Operations, Efficiency; managing projects in the Financial Industry within an international scope (Spain, Mexico, South and Central America, United States, Turkey).

He is an expert in the application of Lean, Six Sigma, Business Process Engineering, Operations, Innovation and Project Management.

Academic Background

- International Executive MBA- IE Business School
- PhD in Business- Universidad Autónoma de Madrid.
- Master in research- Universidad Autónoma de Madrid
- Black Belt Six Sigma- Universidad Politécnica de Cataluña
- European Financial Advisor EFPA- EUROPEAN FINANCIAL PLANNING ASSOCIATION
- Graduate in Business- Universidad de Valencia
- Design Thinking ambassador- BBVA
- Agile ambassador- BBVA

Professional Background

- BBVA Senior Project manager- Business Project Engineering
- BBVA Senior Project manager- Digital Banking and Innovation
- BBVA Project Manager- Business Transformation
- BBVA Project Manager- Transformation, Productivity and New Business Models
- BBVA International Branch manager

Professor

- IE Business School. Project Management, Business Process Management, Innovation and Processes. Operations.
- Other Business Schools

Publications

- “Financial impact of Lean and Six Sigma in the European Banking Industry”
- “Impact on results of Business Process Management methodologies in the Global Financial System”
- Author of academic contents in Banking Management, Business Process Management, Operations and Project Management

OTHER INFORMATION

Students can reach the professor through his email: azabaleta@faculty.ie.edu, to set an appointment.