Prof. Edu Calvo
Prof. email: ecalvo@iese.edu

Prof. Laura Wagner
Prof. Email: lwagner@iese.edu

OPERATIONS I

Introduction

Good operations management makes it possible for companies to create and deliver value to their customers without compromising their long-term sustainability. Rather than focusing on 'what' these organizations do, operations concentrates on 'how' they do it.

Two important levers drive operational excellence: efficiency—as measured in terms of cost, productivity,

quality, etc.—and effectiveness—as measured in terms of lead-time, customization, flexibility, etc. We need both: it is irrelevant to excel at delivering a product (or service) nobody cares about; similarly, it is pointless to manage the most demanded product (or service) in the market if its execution is mediocre. A good operations manager is hence one who is able to adequately trade off efficiency and effectiveness.

How balance these two factors is the central topic of this course.

Objectives

This course focuses on the analysis of business processes: the concepts and tools operations managers use to assess, manage, and improve their performance. After this course, you should be able to:

• Lead the design and analysis of business processes—i.e., how to design tasks that add value and reduce waste.

• Make capacity and lead-time decisions—i.e., do the right sizing of resources needed to operate.

• Understand and manage the impact of variability in operations—i.e., identify seasonality and randomness effects and mitigate them using demand- or capacity-side tools.

• Anticipate the impact of operational decisions on the long-term profitability of a company—i.e., leverage operations to hedge risks, generate a competitive advantage, and innovate.

Learning Outcomes

RA1. Possess and comprehend knowledge that provides a basis or opportunity to generate original ideas in the development and application of concepts, often within a research context.

RA19. Enable students to apply acquired knowledge and solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study.

RA11. Enable students to integrate knowledge and address the complexity of making judgments based on incomplete or limited information, including reflections on social and ethical responsibilities linked to the application of their knowledge and judgments.

RA20. Enable students to communicate their conclusions, along with the knowledge and rationale supporting them, to both specialized and non-specialized audiences clearly and unambiguously.

RA21. Listen, understand, and compare differing viewpoints to develop an objective understanding of a business situation. Communicate in a structured and persuasive manner (Interpersonal communication).

RA13. Work effectively in multicultural teams, assuming project leadership when necessary. Integrate the value of diversity into the team's decision-making and work process (Multicultural teamwork skills).

RA14. Critically evaluate information and the context of a business situation to reach prudent decision-making conclusions (Critical thinking).

RA22. Acquire self-knowledge and self-control necessary to work effectively under pressure in professional environments, understanding others' motivations and the corporate culture (Emotional intelligence).

RA2. Apply well-established ethical criteria in business decision-making, respecting the inherent dignity of each individual and the pursuit of the common good. (Integrity)

RA15. Develop a proactive mindset open to organizational change to design and promote process improvement initiatives and facilitate adaptability to new organizational cultures (Innovative spirit).Specific Competences

RA23. Develop communication skills in a business context following the classic framework of logos, ethos, and pathos to structure a solid, convincing argument, accompanied by body language and effective storytelling.

RA24. Design product and service operation strategies optimizing the supply chain through the application of the Theory of Constraints (TOC), input-output analysis, and queue theory.

RA26. Identify a company's sources of competitive advantage to assess its sustainability in the future based on the industry's competitive structure, expected competitor responses, and the company's internal resources.

Content

This course will cover several tools and concepts that you will be able to apply in your professional career.

In particular:

• Fundamental process variables: throughput (and capacity), throughput time, and work in process—and the relationship between these three.

• Capacity analysis as a tool to to assess the potential of a business process and identify the bottleneck of the system.

• Input-output analysis as a tool to assess the performance of a process subject to seasonality.

• Queuing theory as a means to assess the performance of a process subject to random variability.

We will use the case method extensively throughout this course. Everybody should be ready to (and is expected to) contribute to the case discussion. There will be cold calls as well but, while you are not expected to have always the right answer, you should at least have a thoughtful one.

As preparation material, apart from the cases, we will use the book Operations management for executives, from my colleagues Profs. Moscoso and Lago (McGraw Hill, 2017). Session by session, I will indicate which chapter(s) of the book cover the concepts and tools most related to each case.

Instructional Activities

AF1: Training sessions and meetings with the teacher (classes, seminars, lectures, tutorials, company visits, simulations): 22hrs
AF2: Individual student work (personal study, preparation of assignments): 30hrs
AF3: Teamwork (preparation of group assignments and execution of simulations): 6hrs
AF4: Evaluation tests: 2hrs

Evaluation

Students will be evaluated along the following dimensions:

- Class participation (35%)
- Team project assignment and report (25%)
- Final exam (40%)

The IESE Business School's Honor Code and Learning Partnership apply to all activities in this course. For individual assignments, unless explicitly stated, you should not interact with anyone else. For deliverables to be done in teams you should interact only with the members of your team.