

## Managing Operations

<b>Module Name</b>	<b>Managing operations</b>
<b>Discipline/integration/theme module</b>	Discipline module
<b>Responsible person</b>	Mattia Bianchi
<b>Department</b>	Management and Organization
<b>Integrated with the following modules</b>	Customer Market Strategy
<b>Total number of student contact hours</b>	34-40 hours

### Module description

#### General aims

Operations management is the activity of managing the resources which produce and deliver products and services. Creating products and services is the very reason for any organization's existence, whether it is large or small, manufacturing or service, public or private, for profit or not for profit. All organizations base their success on operations!

The main objective of the course is to develop your skills in understanding and analyzing various types of operations, in learning a mixture of practically oriented models for operations management, in applying analytical tools and frameworks into practice to assess and improve existing operations.

Operations management is definitely a keystone of your education path as a manager, regardless of your future career interests. The course has indeed two target groups. First, those of you who plan to work as managers in organizations where operations are at the basis of their competitive advantage (more or less every company). Second, those of you who need to evaluate and/or improve operations from an external perspective (e.g., consultants, analysts, investors).

#### Example of topics and themes

The first part of the course is concerned with introducing what we mean with "operations management", its performance objectives and its strategic contribution to the firm's business.

**What is operations management?** We will introduce the key concepts of operations management, e.g. the input-transformation-output process, what is operations' role in the whole organization, the main characteristics of operations processes, its main performance objectives and the existence of trade-offs between them.

**Operations strategy.** All organizations need a strategic direction, in terms of what they are heading and how they could get there. It is critical here to understand the contribution of operations to a firm's corporate strategy and viceversa. An operations strategy may take a market requirements perspective, translating market needs into operations decision, or a resource perspective, which sees the internal competencies of firms as the key sources of competitive advantage. These illustrate the pressures that shape operations strategy.

The second part of the course is concerned with the day-by-day delivery of products and services. Continuously operations managers are tasked with producing and delivering products and services. Here a number of activities are critical:

**Process design.** This is the activity that shapes the physical form and purpose of the processes that produce products and services. The nature of operation processes is influenced by the volume and variety of the output. Different types of processes and of process technologies will be described.

**Layout and flow.** The layout of an operation is concerned with the physical location of its transforming resources. This means deciding where to put all the facilities, machines, equipment and staff in the operation. Here we focus on basic layout types used in operations, and what layout design is trying to achieve.

**People, jobs and organization.** Human resources are extremely important in operations, and so is the way in which they are organized, in which labor is divided among them, in which their jobs are designed and work times are allocated.

**Capacity management.** It is the way the operations organize the level of value added activity which they can achieve under normal operating conditions over a period of time. The essence of the task is to reconcile, at a general and aggregated level, the supply of capacity with the level of demand which it must satisfy.

The third and last part is concerned with the development and improvement of operations. First we will talk about improving the output of operations, i.e. the object that is transformed like products and services. Second we will talk about improving the methods of operations planning and control through the lean philosophy.

**New product/service development.** The development of new products and services, that are superior to those of competitors, is one of the key factors in firm success. For the new product development process to be successful, the objectives of maximizing fit with customer requirements, minimizing time-to-market, and controlling development costs must be achieved. However, the high failure rate for development projects underscores the importance of identifying the best practices for improving both the effectiveness and efficiency of new product development, e.g. concurrent engineering, project champions, etc.

**Lean operations.** Lean is both a philosophy and an approach to operations which tries to meet demand instantaneously with perfect quality and no waste. The lean philosophy includes three overlapping elements: the elimination of waste; the contribution of all staff in improving operations; the continuous improvement of operations. We will see a number of lean frameworks and techniques that have wider implications for improving operations performance.

### **Intended learning outcomes**

To successfully pass the course, the student needs to demonstrate:

- 1) Knowledge and understanding of the core models, tools and frameworks of operations management, plus understanding how an organization's operation function contributes to the overall strategy and success of the organization.
- 2) Skills in selecting and applying operations management models, tools and frameworks in new contexts, to analyze the performance of an organization's operations and to provide suggestions for how it can be improved.

- 3) Ability to confront and relate different models, tools and frameworks to each other and to real world experience

Additional learning outcomes is to display analytical skills as well as ability in teamwork, all central to your future career.

### **Learning activity and pedagogy**

The pedagogical philosophy behind the course is that of experience based learning; hence simulations, cases and real experiences will be used throughout the course. A company visit completes the pedagogy of the course.

### **Practice integration**

An element of the course is a real-life Team Project. You will be asked to take the field, spot operations that appear to have pitfalls, use the models/tools/framework learnt in the course to evaluate their problems and suggest possible solutions.

### **Skills integration**

One of the most important skills concern analytical capacities in applying managerial models, i.e., abilities in interpreting reality, drawing conclusions, and suggesting proposals for operational change. Skills in putting theory into practice, i.e., knowledge in operationalizing theoretical concepts into practical situations, are also encouraged.

### **Prerequisites**

None

### **Literature**

Operations and Process Management: Principles and Practices for Strategic Impact, 2009, Second edition, Nigel Slack, Stuart Chambers, Robert Johnston and Alan Betts, Pearson Education, ISBN: 978-0-273-71851-2 Chapters 1,2,3,4,5,6,7,8,11.

### **Examination**

The examination of the course include:

- Exam: 40%
- Literature test: 15%
- Project assignment: 15%

- Attendance and participation in class: 10%
- Live case: 10%
- Examination week: 10%