



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Service Science

2223-2-F9101Q022

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#### Learning objectives

A parallel can be drawn between the design of innovative services in established organizations and the creation of start-ups. In both contexts, the knowledge acquisition and management processes are paramount, in the first case, the focus is on existing users and known processes, while in the second case the focus is on users who are still "unknown" and processes to be created from scratch. The course will address the problems related to the design of innovative services in both scenarios.

At the end of the course, the students will learn:

- an approach for addressing knowledge management issues in service production and delivery processes, both in mature scenarios (e.g. long-lasting businesses) and in innovative and uncertain contexts (e.g., while creating a start-up where validating the business model assumptions is paramount);
- to identify the correct methodologies and technologies to design a service according to a specific business strategy;
- to design knowledge harvesting processes to create and improve innovative services (addressing questions like the following: does the service meet the customer needs, what can I do to increase the customer base?).

Furthermore, the students will be able

- to identify and apply the correct Social Media Analytics metrics and tools to evaluate the impact of the user collaboration in a business strategy;
- to create an analytical report starting from the web monitoring through the listening and integrating phases of structured and unstructured data;
- to design how collecting customer feedback to validate and (in case) to quickly change the start-up business model

## Contents

- 1) Service Science: the focus is on the relationship between Service Science, service design methodologies, information and knowledge management systems, and knowledge harvesting processes in uncertain scenarios;
- 2) Business strategies of service companies: the role of collaboration and value co-production in the business processes of service companies with the focus on Social Media based strategies and Social Media Analytics tools and techniques, business model assumption validation in start-up firms
- 3) Laboratory on the design of service systems, in particular the knowledge-based services;
- 4) Open data management issues and their relationship with the innovation of services.

## Detailed program

- Introduction to Service Science
- The characteristics of services and their delivery process
- Porter value chain of service sector
- The role of information and knowledge to innovation of services
- Service systems design (from engineering model to interpretative model)
- Business strategies of service companies
- Evolution of business processes
- The role of value co-production (network companies)
- Knowledge-based services (crowdsourcing and open innovation processes)
- The difference between an idea and a business opportunity
- Why do ventures require dynamic leaders who understand vision, strategy, risk, and tactics?
- Differences between a start-up and a mature firm (or between an innovative project and a project in a well-known scenario)
- The knowledge harvesting problem
- Validated learning, Build-measure-learn cycle. How to shorten the feed-back loop in a start-up?
- How to prevent endless loop: the sprint approach
- Business Model Canvas vs Business Plan
- Lab: Knowledge-based services design
- Open data and public services

- From e-government to open government
- Models and techniques of open data publication
- Design models of open data based services
- Case studies
- Big Data and services
- Case histories of public services based on Big Data

## **Prerequisites**

Knowledge about the main technologies and applications of Computer Science, Internet and social media.

## **Teaching methods**

The course is delivered in Italian and includes lectures in the classroom and laboratory exercises.

The lectures are dedicated to the study of the theoretical topics related to the course.

The lab exercises are aimed at designing a knowledge-based service.

## **Assessment methods**

The student must register for the examination using the university information systems by the required deadline (usually registration expires 3 working days before the examination date).

The examination is an oral exam.

The examination is the same for both attending students and non-attending students.

The student, in agreement with the teacher, can replace a part of the oral exam with the discussion of a project. The project must be agreed in advance with the teacher.

The oral exam is aimed at assessing the theoretical knowledge of the student on the topics presented during the course. The ability to reason and deepen the issues proposed during the examination, the methodological rigor of their development, and the ability to use theoretical knowledge to solve practical business cases will be evaluated.

## **Textbooks and Reading Materials**

- M. Mezzanzanica, D. Cavenago, "Scienza dei servizi – Un percorso tra metodologie e applicazioni", Springer-Verlag Italia, (2010) [ISBN: 978 88 470 1363 6];
- Ries, Eric. The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses. Currency, 2011.

## **Sustainable Development Goals**

INDUSTRY, INNOVATION AND INFRASTRUCTURE

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