



Syllabus

Academic Year	2021/2022
Program	Data Science and Management
course	Data Driven Innovation
Term	II Semester
Year	1
SSD	SECS-P/08 - Economia e gestione delle imprese
Credits	6

INSTRUCTIONAL GOALS

The course provides tool to understand the strong correlation that exists nowadays between the available data sources and the innovation path of an enterprise. The theoretical approach will be put side by side with successful case histories of real enterprises that have built innovation starting from data. The course will provide students with an introduction of data, information and knowledge concepts, techniques used to collect and process data and approaches used to drive the innovation. Different types of innovation will be explored during the course; the well-known product innovation will be split in configuration, offer and experience innovation. The course will focus on how the innovation can often be used to obtain a competitive advantage.

Knowledge and understanding:

The course will offer an introduction to data collection and solution to obtain knowledge from data; it will proceed with exploring all the innovation types according to a classification that follows mainly the competitive goal. The course will use real cases to show how innovation is able to enable and accelerate innovation in the business world. Moving on this path, the course will show how data are no longer used to analyze the past, but rather how data are behind every decision process that affect the future of an enterprise and how data can inspire the change.

INTENDED LEARNING OUTCOMES

They describe what a learner is expected to know, understand and be able to demonstrate after completion of a learning path.

Applying knowledge and understanding:

On successful completion of this course students will be able to:

- know the main data source and techniques used to collect data.
- know the most important innovation areas that are mainly affected by data as innovation enabler or accelerators.
- recognize in real cases how the innovation is the result of a fruitful exploitation of available data sources.
- define innovation paths in real cases according to an exhaustive evaluation of useful data sources.

Making judgements:

Students are expected to be able to analyze real cases of successful innovation and to demonstrate an in-depth, critical understanding of how such results have been obtained distinguishing both employed data sources and innovation types. Throughout the entire course, students will be invited to critically evaluate real case of notable innovation in order to recognize how this impressive result was obtained.

Communications Skills:

This course will give the students the possibility to acquire and to understand major terms and concepts so as to communicate effectively their ideas, findings, proposals, analysis and critical



	<p>reasoning in the area of data-driven innovation. A special emphasis will be given to critical analysis and pitches in project group works.</p> <p>Learning skills: This course will ensure the capability to analyze real innovation cases, to make conceivable assumptions on the innovation path, and to exploit data sources. Using a learning by example technique, the aim is to allow students to define original innovation strategies in real world leveraging on data actually available.</p>
Pre-requisites	<p>Basic knowledge of the differences between data, information and knowledge. Basic knowledge about the main functions of an enterprise.</p>
Course content	<p>The course will cover the following topics:</p> <ul style="list-style-type: none">- Data, information & knowledge.- Inductive vs deductive approach.- Innovation types & cycle.- Classifying the innovation.- Using data to drive innovation <p>.</p>
Reference Books	<p>Reference lecture notes and course material will be made available on the e-learning platform.</p> <p>Recommended reading: Larry Keeley, Ryan Pikkell, Brian Quinn, Helen Walters "Ten Types of Innovation: The Discipline of Building Breakthroughs is the culmination of thirty years of analysis and research", 1st Edition, Wiley.</p>
Teaching Methods	<p>The course consists of lectures complemented by practical lab sessions and group project works.</p>
Assessment	<p>There will be a written exam and a project.</p> <p>In the written exam students are required to demonstrate that:</p> <ul style="list-style-type: none">• they have a deep understanding of the main data source and techniques used to collect data;• they understand how innovation areas can be affected by data as innovation enablers or accelerators;• they understand how innovation can derive from the exploitation of available data sources. <p>The written exam will count for 50% of the grade.</p> <p>In the project students are required to demonstrate that they are able to:</p> <ul style="list-style-type: none">• define innovation paths in real cases according to a critical evaluation of data sources;• analyze real innovation cases, make conceivable assumptions on the innovation path, and exploit data sources;• communicate effectively their ideas, findings, proposals, analysis and critical reasoning. <p>The project will count for 50% of the grade.</p> <p>The overall assessment will take into account the level of knowledge and understanding of innovation strategies that leverage on data; the capacity for thinking creatively, innovatively and critically; the capacity to define innovation paths in real cases; and the capacity to present effectively findings and conclusions.</p>
