Technology Strategy

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Office hours: by appointment

Course Description

This course addresses what determines the competitive advantage of a firm and applies tools from microeconomics and industrial organization to business-decision making. We study this issue in an economic environment where technological innovations can transform markets and create opportunities and threats for both start-ups and established companies. Finally, we analyze the interplay between patent rights, the market for patents, and venture lending. The course will rely on the analysis of case studies.

Objectives

- Understand the nature of strategic competitiveness and develop the ability to analyze the competitive environment facing a firm, assess the attractiveness of the industry and identify potential sources of competitive advantage.
- Recognize typical technical, organizational, and market issues that occur during the product life cycle, and be better equipped to anticipate and manage such problems.
- Consider the actions of competitors and how that impacts the ability of a business to accomplish its strategic goals. Develop courses of actions that incorporate the actions of multiple players in the marketplace.
- Discriminate among the types of data that general managers need to evaluate alternative scenarios. Make quantitative assessments of strategic alternatives and develop logical, coherent and persuasive analyses for a desired course of action.

Methodology

This course exploits four complementary approaches to reach the objective highlighted below: Individual class contribution, Group case presentation, Group case reports, and In-class final exam.

Individual class contribution

Active participation in the class is an essential part of the learning experience. We will be using cases as well as other readings and you must be prepared to discuss everything assigned for the particular session. The grade will be based on both the quality of student contributions and attendance.

Group case presentation

Students will participate in one case analysis presentation to the class as part of a group. You will make your group presentations with the aid of visuals, and use your business Technology Strategy | MSc in Management

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communication skills to explain and defend your conclusions. Students will be assigned specific questions to guide the preparation and reports. The goals are to analyze a real problem in further depth, based on information available in each case. Presentations should last 20 minutes with an additional 10 minutes for questions from the students and professor. Presentations will be judged by 3 criteria:

1. Comprehension – how well did students understand the case?

2. Analysis - application of insights from the class, evidence used to support argument, novel insights and use of information provided in the case.

3. Style - clarity, slide quality, etc.

You should email me the PowerPoint presentation the day before the lecture.

**Group case reports**

Students will have to prepare specific reports on the business cases we will study in their assigned groups, addressing questions that will be distributed in due time for each case. The case reports are to be uploaded to Aula Global the day before the class discussing that case. The discussion questions included for the case will provide the framework within which the case is to be analyzed. In the group-case reports, the student must combine the analysis of the case with the conceptual material in the course.

**In class final case-study exam**

At the end of the trimester, there will be an in class final case exam. To prepare for the exam, I will hand in advance a case to take home and read. However, I will not provide any questions. Neither group collaboration nor the use of outside information will be allowed in preparing for the exam.

On the date of the in-class final exam, I will give you the questions of the same case that you were given a week in advance. You will write the answer to the questions in class.

**Evaluation criteria**

Evaluation will be based on class participation (20%), case write-ups (20%), group case report presentation (25%), and the in-class final case-study exam (35%).

Students are required to attend 80% of classes. Failing to do so without justified reason will imply a Zero grade in the participation/attendance evaluation item and may lead to suspension from the program.

As with all courses taught at the UPF BSM, students who fail the course during regular evaluation will be allowed ONE re-take of the examination/evaluation. Students that pass any Retake exam should get a **5 by default as a final grade for the course**. If the course is again failed after the retake, students will have to register again for the course the following year.

In case of a justified no-show to an exam, the student must inform the corresponding faculty member and the director(s) of the program so that they study the possibility of rescheduling the exam (one possibility being during the “Retake” period). In the meantime, the student will get an “incomplete”, which will be replaced by the actual grade after the final exam is taken. The “incomplete” will not be reflected on the student’s Academic Transcript.
Plagiarism is to use another’s work and to present it as one’s own without acknowledging the sources in the correct way. All essays, reports or projects handed in by a student must be original work completed by the student. By enrolling at any UPF BSM Master of Science and signing the “Honor Code,” students acknowledge that they understand the schools’ policy on plagiarism and certify that all course assignments will be their own work, except where indicated by correct referencing. Failing to do so may result in automatic expulsion from the program.”

Calendar and Contents

Part 1: Industry Analysis and Competitive Advantage
- Introduction and Industry Analysis, Porter’s Five Forces Analysis
- Innovation and Competitive Advantage

Part 2: Creating Value from Innovation: Technology and Market Dynamics
- The Evolution of Industries and Markets
- Technological Disruption

Part 3: Capturing Value from Innovation
- Capturing value from Innovation
- Media, newspapers, and the Internet.

Part 4: Patents, Market for Patents, and Venture Lending
- Patent as signals for investors
- Patent wars and new business models to monetize patents
- Venture lending and the use of patents to secure debt financing

Part 5: Frontiers of Business Economics and Strategic Management
- Trading and Enforcing Patent Rights

Bio of Professor

Carlos J. Serrano is an Assistant Professor of Economics and Business at the Universitat Pompeu Fabra in Barcelona and an Affiliated Professor at the Barcelona GSE, where he teaches Business economics and Business strategy and the management of innovation. Professor Serrano has been a Research Associate at the Research Institute for International Business at the University of Toronto since 2012. He recently was a Research Fellow at the Bank of Spain’s Research Department. Prior to coming to Pompeu Fabra, Serrano was on the faculty at the University of Toronto and a Faculty Research Fellow at the NBER in Boston. In the summer of 2012, he was a Visiting Scholar at the Stanford Institute of Economic Policy Research at Stanford University. He received his Ph.D. in Economics from the University of Minnesota in 2006. Prior to completing his doctoral studies, his career includes positions as a Research Analyst at the Federal Reserve Bank of Minneapolis and Instructor at the University of Minnesota.

Professor Serrano’s research focuses on innovation and technological change, entrepreneurship, and finance. His work has been published in academic journal such as the Journal of Economics and Management Strategy, The Rand Journal of Economics, and Science. Professor Serrano is currently an Editorial Advisor at the Canadian Journal of Economics.