Technology Strategy

Academic Year: 2017/2018

Instructor(s): Christian Peukert; tba

Contact(s) and Office hours:

You can reach me via email: christian.peukert@ucp.pt
However, it is better to ask questions in class or approach me after class.
Office hours: tba

Biography:

Christian Peukert is Assistant Professor of Information Systems and Management at CATÓLICA-LISBON. Christian received a Ph.D. in Economics and Management from LMU Munich. Before joining CLSBE, Christian was a post-doctoral researcher at the University of Zurich. Christian’s research interest is in innovation, intellectual property, digitization, and the industrial organization of media markets. Christian has taught at LMU Munich, EM Lyon, University of Zurich, IAE Toulouse and University of Basel.

Course overview and objectives:

Technology Strategy prepares students to manage technology within an organization and to relate technology and innovation to the broader strategic decision-making required at the corporate level. It will explore how market characteristics shape and are shaped by technological innovation in the larger context of corporate strategy. Furthermore, it addresses how managers and executives can identify which technologies are likely to succeed in markets, and which firms are best positioned to profit from this innovation. It addresses these issues in both entrepreneurial and established firms, and examines how the firm’s activities, assets, and relationships must complement one another to capture value from innovation.¹

Required background:

No specific requirements.

¹ This Syllabus was originally prepared by Francisco Veloso.
Course content and learning goals:

Class 1: Technology and the sources of competitive advantage for the firm
Class 2: Technological change, strategy and the competitive advantage of the firm
Class 3: Technology dynamics and industry evolution
Class 4: Network externalities, standards compatibility, switching costs
Class 5: Start-up growth, complementary assets and markets for technology
Class 6: Internal vs. external knowledge
Class 7: Disruptive innovation

A. Knowledge and understanding:
   - Understand how technology and innovation conditions firms and markets
   - Relate the technology and innovation dimensions to the broader strategic decision-making in both large firms and start-ups
   - Identify and know how to leverage complementarities between the firm’s technological assets and other resources both within and outside an organization

B. Subject-specific skills:
   - Use a set of tools to identify which technologies are likely to succeed in markets, and which firms are best positioned to profit from innovation

C. General skills:
   - Analyze markets, firms and strategies
   - Develop, present and defend recommendations
   - Improve the ability to work in teams

Grading:

Class participation (14%)

Active contribution makes class discussions sophisticated and lively, so reading and thinking before class, and debating during class is important. To be prepared for class, students need to have read the assigned material and completed any other assignments for that day. Preparation for a case study involves more than just reading the case. Students are expected to be prepared to offer original and thoughtful analysis in which their claims are supported by evidence, logic, and in cases calculations.

Case analyses (36%)

Students are required to write analyses of three cases. The case analyses should each be 4-5 pages long, plus appendices, and are due at the beginning of class on the day the chosen case is to be discussed. These cases should be written in groups of four. You cannot hand in more than three cases for grading to choose the best. So, please choose carefully and put on a strong effort on those that you hand in.

Exam (50%)

There will be a final exam. The exam will be an individual effort.
Extra Costs:

Students will be required to purchase case studies. Case studies typically cost about 5.00 EUR each.

Bibliography:

Class 2
- Collis, D., Rukstad, M. “Can you say what your strategy is?” (HBS Reprint R0804E)
- Case: Husky Injection Molding Systems (HBS 799157)

Class 3
- Thomas Eisenmann, “Business Model Analysis for Entrepreneurs” (HBS 9-812-086)
- Case: Dropbox: It just works (HBS 9-811-065)

Class 4
- Case: $19B 4 txt app WhatsApp...omg! (HBS 9-715-441)

Class 5
- Case: Abgenix and the XenoMouse (HBS Case 9-501-061)

Class 6
- Case: Open Innovation at Siemens (HBS 9-613-100)

Class 7
Additional details on requirements:

Class participation and case discussion

Your active contribution is what makes the class discussions sophisticated and lively, so reading and thinking before class, and debating during class are important. To be prepared for class, you need to have read the material and complete any other assignments for that day before class. Preparation for a case study involves more than just having read the case. You should be prepared to offer original and thoughtful analysis in which your claims are supported by evidence, logic, and often calculations. You may find it helpful to discuss the case with your classmates prior to the class. Since you are expected to contribute to the discussion and intellectual climate in class, class participation will be included in your course grade. Thus, I will be paying close attention to interventions in class and assembling participation scores. But you need to remember that I will be valuing mostly the substance of the contribution; vacuous comments do not add to the intellectual environment of the class or your grade. In my experience class is more interesting for everyone when everyone participates. So, I will sometimes cold call and sometimes not call on those who are volunteering to encourage the right climate. If you are not prepared for a particular class, please let me know at the beginning of class. Things happen, and I don’t need to know the reason, but I prefer not to embarrass you by exposing you as unprepared. If you are invited to participate and are not present in class, you will get a negative participation score.

Case analyses and homework

You are required to write analyses on three cases throughout the semester with some flexibility in your own choosing. This aims at providing some flexibility in managing the workload during the semester. These cases are written in groups. The case analyses should each be 4-5 pages long, and are due at the beginning of class on the day the chosen case is to be discussed. An analysis is not a summary of the case. A case analysis should focus on issues of “how” and “why,” supported by the factual “whos,” “whats,” and “whens” from the case. We provide you with case preparation questions before case, which you should use to guide your analysis. Most cases contain a lot of data and information, and there is a risk of getting so immersed in the detail that you lose the forest for the trees. For this reason, many people find it helpful to read the case twice.

On the first reading, you should look at the exhibits to see the type of material provided, but don’t spend too much time scrutinizing numbers. Rather, try to get an overall feel for the company, the issues it is facing, and the nature of its business environment. One or more of the following questions is usually helpful during this first reading of the case, which should require less than one hour of your time:

- Who are the customers and what is the company providing them?
- What is the company doing uniquely well that causes its customers to choose it over its competitors? Is the environment changing in some way that would make the current strategy or capabilities no longer effective?
- What information is available? Look at the exhibits to see what is there, but don’t study the data in detail (come back to them when you perform your analysis).

After this first pass, let your ideas solidify and then formulate an action plan. It can help to assume a role (e.g., a consultant or a manager) and ask what you would think and do if you were really in that person’s shoes. You should also reflect on how the tools and frameworks discussed in class are relevant and can be helpful to analyze the case.

Then you will want to use some of the data to develop and support your analysis. In many cases the analysis can be reduced to four questions: What are the problems? What are the causes of the problems? What are the possible solutions? Which solution or combination of solutions is the best course of action?
If a fact in the case is unclear or unknown, then proceed as you would in a real situation. Make the best assumption you can for your analysis and indicate how you would resolve the question if you had access to the company.

All case write-ups should have no more than 6 exhibits. Cases will be graded on the basis of the quality and completeness of your analysis and recommendations, as well as on the clarity and conciseness of your presentation. Keep the following criteria in mind as you prepare your write-ups:

Analysis
- Does the analysis use the relevant tools and methods to address the important issues?
- Are the tools used correctly?
- Are the assumptions made for the analysis clearly stated? Are they reasonable?

Recommendations
- Have you stated the criteria used for choosing among alternative recommendations?
- Is the plan of action integrated with the analysis in a logical way?
- Is the action plan specific, complete, and practical?

Presentation
- Is the report logically consistent? Concise?
- Is it effectively structured to sell its recommendations?
- Do the exhibits support and add to the text on key points?

Elements that contribute to a poor analysis include:
- Eulogizing the company in question.
- Too much summary.
- Trying to make arguments that are contradictory, inconsistent, or incoherent.
- Not really having a clear argument to make, story to tell, or idea what is going on. Don’t muddle through point by point and hope we will find something in it that is right. Have something to say.
- Being wishy-washy, non-committal, or trying to hedge your bets. We are looking for you to make a good argument, and to make the recommendations consistent with that argument. Staying on the fence in order to keep from saying the wrong thing is already the wrong thing.

Academic integrity:

Violations of academic integrity undermine a university, just as fraud undermines a financial system, bias undermines a judicial system, or corruption undermines an electoral process. I take violations of academic integrity very seriously. The consequences can be failing an assignment, failing a course, or suspension or dismissal from the university. No matter what the circumstances, you are much better off doing poorly on an assignment than risking one of the consequences of violating academic integrity. This section enumerates the expectations for individual and collaborative work in this course. You should not hesitate to contact me if you would like further clarification on the following issues.

Collaboration

Although you may discuss an assignment with classmates outside your group, your written analyses are expected to be your own efforts. In general, you should use discussion with other classmates to brainstorm what relevant issues are, evaluate alternative approaches to thinking about the problem, and consider the merits of various recommendations. You should use your own judgment to decide what the most important issues are, to construct your arguments, and to select what you ultimately decide is the correct conclusion.
Examples of acceptable collaboration
- In the course of discussing a case with colleague B, student A realizes that, although an investment seems like a good idea strategically, he has not done a net present value calculation to see whether it will be profitable. Student A goes home and does an NPV calculation. (If Student A “borrowed” Student B’s spreadsheet to use in generating his calculations, that would be unacceptable collaboration.)
- In discussion with classmates, Student C recognizes that her recommended course of action has some pitfalls she had not realized. Student C revises her recommendations. (If Student C were to simply adopt the recommendations made by Student D, that would be unacceptable collaboration.)

Examples of unacceptable collaboration
- Student W gets a copy of the write-up Student X intends to hand in. She rewrites X’s write-up in her own words and hands it in.
- Groups 1 and 2 discuss a case together. Together, they make detailed notes of what the issues are, what the evidence is, and what their recommendations are. They then separate and compose their write-ups independently, although working from the same detailed outline.

Because many business schools use the same cases that we will use, there may be analyses similar to the one you are assigned to write available on the Internet, from a friend at another business school, or from someone who has previously taken the course. Aside from the obvious point that using these sources would cheat you of the learning experience you are in the class to obtain, using these sources is unacceptable collaboration. It is equivalent to copying the work of a classmate who is currently in the course.

Plagiarism

The members of any academic community are expected not to present as their own ideas or material from other sources. Plagiarism is defined as the use of intellectual material produced by another person without acknowledging its source. This includes, but is not limited to:
- Copying from the writings or works of others into one’s academic assignment without attribution, or submitting such work as if it were one’s own;
- Using the views, opinions, or insights of another without acknowledgment; or
- Paraphrasing the characteristic or original phraseology, metaphor, or
- Other literary device of another without proper attribution.

For example, it would be unacceptable to find an analysis of your case company and quote or paraphrase it in the analysis you hand in without correctly attributing it. There is a difference between consulting a source and then forming your own opinion based on what you have read, and copying or paraphrasing material directly.

Turn-it-in

We will be using the turn-it-in software in class. This means that the case submissions will be handled through the software. The software will also help you make sure that the material and writings you do for the cases is not inadvertently plagiarizing others.
Code of conduct and ethics:

Católica Lisbon School of Business and Economics is a community of individuals with diverse backgrounds and interests who share certain fundamental goals. A crucial element to achieve these goals is the creation and maintenance of an atmosphere contributing to learning and personal growth for everyone in the community. The success of CATÓLICA-LISBON in attaining its goals and in maintaining its reputation of academic excellence depends on the willingness of its members, both collectively and individually, to meet their responsibilities.

Along with all the other members of our community, students are expected to follow professional standards and CATÓLICA-LISBON standards of Academic Integrity. Some details should be mentioned here: Please arrive on time for class with uninterrupted attendance for the duration of the class. Signing attendance sheet for anyone else in the class constitutes fraud and a violation of the CLSBE code of conduct. Use of computers and other electronic devices during the class is not allowed, unless expressly requested by the instructor of the course. Students who persistently act in a disruptive and disrespectful manner during the class session may be invited to leave.

Students are expected to behave at all times according to the fundamental principles of academic integrity, including honesty, trust, fairness, respect, and responsibility. In particular,

a) In **individual graded assignments** of any type, students may not collaborate with others or use any materials without explicit permission from the instructor of the course;

b) In **group assignments and reports**, all students listed as authors should have performed a substantial amount of work for that assignment;

c) It is dishonest to fabricate or falsify data in experiments, surveys, papers, reports or other circumstances; fabricate source material in a bibliography or "works cited" list; or provide false information in other documents in connection with academic efforts;

d) **Plagiarizing**, i.e. "to steal and pass off the ideas or words of another as one’s own and or to use another's production without crediting the source" (Merrian-Webster Dictionary) is an Academic Integrity breach. It can be avoided by using proper methods of documentation and acknowledgement. Visit this guide for additional resources on how to avoid plagiarism in your written submissions [http://en.writecheck.com/plagiarism-guide](http://en.writecheck.com/plagiarism-guide)

e) In **exams** students must not receive or provide any unauthorized assistance. During an examination, students may use only material and items authorized by the faculty. Use of smartwatches or other communication devices is not permitted during the exam.

Academic integrity breaches will be dealt with in accordance with the school’s code of Academic Integrity: [https://www.clsbe.lisboa.ucp.pt/system/files/assets/files/academicintegritycode.pdf](https://www.clsbe.lisboa.ucp.pt/system/files/assets/files/academicintegritycode.pdf)

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