



College of Management of Technology  
Chair MIR – Management of Network Industries  
Prof. Matthias Finger  
ODY 101, Station 5  
[Matthias.finger@epfl.ch](mailto:Matthias.finger@epfl.ch)  
021.693.00.01

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Number of credits: 4

Course location: MEB331

## **Industry Dynamics, Models, and Trends**

### **Introduction**

The globalization of formerly national economies, their regulation, the pervasive role of the information and communication technologies, technological change more generally, as well as the convergence of markets and sectors today affect most industries. Students of management of technology must understand how industries are structured, how they change, how they are affected by both technology and regulation, as well as how they interact with one another and evolve as a result of it.

In this context, the courses will offer an understanding of how industries are structured and of the significant factors affecting industry evolution, in particular technology and regulation. It will furthermore crystallize the main characteristics of industry dynamics so as to be able to assess industry trends and emerging industry models.

### **Course objectives**

The purpose of this course is therefore to introduce the participants to the methods and approaches for analyzing industries, their trends, as well as to models of industry change. More precisely, the course will start out with Michael Porter's industry analysis framework and from there look more broadly at two of the main factors affecting industries and industry change, namely regulation and technology. Two sessions will be dedicated especially to the pervasive role digitalization plays in all industries. Overall, the course will offer an overview over the main concepts, tools, techniques, and methods, allowing the participants to analyze industries or sectors, as well as to assess their evolution, their performance, and their dynamics.

While the course focuses on *the* industry or *the* sector, the perspective of the course, i.e., the perspective from which industries and their evolution are being analyzed, is the one of the firm and the managers of

the firm (as opposed to the investors). It is indeed important for managers to be able to assess the broader industry or sector in which they are operating or into which they plan to expand, as it is important to be able to assess the profitability and possible evolutions – trends and models – of these industries. In this sense, industry analysis constitutes the basic foundation of a firm's analysis of its competitive environment, its position within the industry, and ultimately its strategy.

## Overview of content

In terms of content, the course will present the different approaches to industry analysis, as well as the different methodologies and tools which are generally used to perform such analyses. In this respect, Porter's five forces framework, the techniques used to analyse the degree of competition, the regulatory environment, the static and dynamic value chains, as well as other concepts and tools generally used to assess industry dynamics and trends will be presented.

Furthermore, we will discuss trends both from a theoretical as well as from a practical perspective. Particular attention will be paid to environmental changes and their subsequent impacts upon industry, such as regulatory and technological changes, with a special focus on digitalization. Finally, we will also consider the issue of industry evolution and corresponding models, in particular the question of convergence across industries.

The course is, in principle, open to all industries, but the cases presented will rather come from the infrastructures (communications, transport and logistics, energy), as well as from other regulated industries (such as pharmaceuticals, health, banking and others more), owing to the expertise of the professor.

## Course methodology and structure

The course takes place during 13 sessions. Each session is divided into two hours of lecture and one hour of group work/seminar, during which there will be guest speakers and during which participants will analyze and present the progress of their work.

More precisely, the course is structured into five blocks, preceded by an introductory session:

- Sessions 2 to 5 will present the main and basic tools for (static) industry analysis as they can be found in the current literature, focusing, in particular, on Michael Porter's industry analysis, as well as on the analysis of the value chain and of firm strategy more generally.
- Sessions 6 to 7 will focus on the regulatory dimensions of industries and of industry analysis. It will show, in particular, why and how industries are regulated and how such regulation affects firms' strategies, innovation, and industry evolution.
- Session 8 will address the question of industry change and evolution and present the corresponding tools for analysis.
- Sessions 9 and 10 will be devoted to the influence of technology and technological change on industries and industry dynamics, with a special focus on the pervasive role of digitalization.
- Session 11, finally, will combine the co-evolution between technology and regulation (institutions) so as to identify models of industry dynamics, as well as tools for analysing such industry trends and, in conclusion, address the question of the future of industry analysis.
- Sessions 12 and 13 will be devoted to the participants' presentations.

The course will be taught on Thursdays (13h15–16h00) from February 20<sup>th</sup> 2020 to May 28<sup>th</sup> 2020 in ODY016.

## Course readings

Participants will be given one compulsory reading per session, as well as a detailed bibliography and useful websites on industry analysis (see below).

Below, please find a list of relevant textbooks. During the 13 weeks of this course, participants are expected to read one of them.

- Bensoussan, B. & G. Fleisher (2003). *Strategic and Competitive Analysis: Methods and Techniques for Analysing Business Competition*. New Jersey: Prentice Hall.
- Johnson, M. W. (2010). *Seizing the White Space: Business Model Innovation for Growth and Renewal*. Cambridge MA: Harvard Business Press.
- Parker, G., van Alstyne, M. & S.P. Choudary (2016). *Platform revolution. How networked markets are transforming the economy – and how to make them work for you*. New York: Norton & Co.
- Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing industries and Competitors*. New York: Free Press (latest edition 2004)

### Course pedagogy and cases

While the course offers substantial conceptual input, the presentation of specific industries will be used by the Professor in order to illustrate the main concepts and approaches.

At the beginning of the course, participants will be required to select a particular industry as the topic of their research. The gathering of data, the analysis and the presentation of the findings should reflect the overall application of the concepts and techniques needed to perform an accurate industry analysis as presented in the course. Participants are encouraged to select industries which have less been studied in the past, so as to make more original contributions. They are also encouraged to study industries whose dynamics is affected both by regulation and/or by technology.

### Structure by sessions

The course is structured into 13 separate sessions, each of which is again subdivided into a 90' lecture and a 45' seminar. The lecture is given by the professor, while the seminar's purpose is to help participants to elaborate and apply the concepts of industry analysis.

#### Session 1 – February 20<sup>th</sup> 2020: Introductory lecture

Main session (90')	Introductory exercise and lecture: <ol style="list-style-type: none"><li>1. Industry analysis, its history, its context</li><li>2. Why perform an industry analysis?</li><li>3. The course's approach to industry analysis</li></ol>
Seminar (45')	Definition of and agreement upon the participants' work
Reading for this session	No reading for the first session

#### Session 2 – February 27<sup>th</sup> 2020: Defining industries and their environment

Main session (90')	<ol style="list-style-type: none"><li>1. An overview of the various types of industries</li><li>2. Industry and sector classifications</li><li>3. The industry environment</li></ol>
Seminar (45')	Definition of students' work; research approach and methodology

Readings for this session	Porter, M. (1980). <i>Competitive strategy: Techniques for analyzing industries and competitor</i> . New York: Wiley. Appendix B: 'How to conduct an industry analysis', pp.368-383
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### Session 3 – March 5<sup>th</sup> 2020: Industry analysis: the fundamentals (Porter's 5 forces)

Main session (90)	<ol style="list-style-type: none"> <li>1. Porter's five forces model</li> <li>2. Value chain analysis</li> <li>3. Business models</li> </ol>
Seminar	Examples of students' works from previous years (Finger)
Reading for this session	Bensoussan, B. & G. Fleisher (2003). <i>Strategic and Competitive Analysis: Methods and Techniques for Analysing Business Competition</i> . New Jersey: Prentice Hall, chapter 3 "Industry analysis", pp.29-43.

### Session 4 – March 12<sup>th</sup> 2020: Industry analysis: examples

Main session (90')	<ol style="list-style-type: none"> <li>1. The electricity industry</li> <li>2. The air transport industry</li> </ol>
Seminar (45')	Participants' progress
Readings for this session	Grant, R. (2010). <i>Contemporary Strategy Analysis</i> . West Sussex: John Wiley; chapter 4 "Further topics in industry and competitive analysis", pp. 94-119.

### Session 5 – March 19<sup>th</sup> 2020: Industry analysis and firm strategy

Main session (90')	<ol style="list-style-type: none"> <li>1. The firm and its environment</li> <li>2. SWOT analysis</li> <li>3. Industry analysis as part of the strategy formulation process</li> <li>4. Example: rail industry</li> </ol>
Guest speaker (45')	Dr. Martin Maegli, Swiss Post
Reading for this session	Hax, A. (2009). <i>The Delta model: reinventing your business strategy</i> . New York: Springer; chapter 11 "A comparison among the Three Strategic Frameworks: Porter, the Resource-based view of the firm and the Delta model, pp. 207-226.

### Session 6 – March 26<sup>th</sup> 2020: Introduction to industry regulation

Main session (90')	<ol style="list-style-type: none"> <li>1. Why regulate industries?</li> <li>2. Competition regulation</li> <li>3. Sector specific regulations</li> </ol>
Participants progress	
Reading for this session	Ricketts, M. (2008). Economic regulation: Principles, History and Methods. In: Crew, M. & D. Parker (eds.). <i>International Handbook on Economic Regulation</i> . Cheltenham: Edward Elgar, pp. 34-62.

### Session 7 – April 2<sup>nd</sup> 2020: How regulation affects industries and industry dynamics

Main session (90')	<ol style="list-style-type: none"> <li>1. Regulation and industry structure</li> <li>2. The regulation of firms</li> <li>3. Regulation and industry dynamics</li> </ol>
Guest speaker	Bernhard Meier, SBB
Reading for this session	Braithwaite, J. & P. Drahos (2000). <i>Global Business Regulation</i> . London: Cambridge University Press, chapter 8 "Financial Regulation", pp.88-142.

### Session 8 – April 9<sup>th</sup> 2020: Industry evolution, change and dynamics

Main session (90')	1. Presentation of the industry life cycle 2. Industry concentration 3. Co-evolution of technology and institutions
Guest speaker (45')	Dr. Bérangère Magarinoos-Ruchat, Head of Sustainability, Firmenich
Reading for this session	Grant, R. (2010). <i>Contemporary Strategy Analysis</i> . West Sussex: John Wiley; chapter 11 "Industry Evolution and Industry Change", pp. 269-294.

### Session 9 – April 23<sup>rd</sup> 2020: The role of technology and innovation in industry change

Main session (90')	1. Factors influencing industry dynamics 2. The role of technology 3. The evolving (tele-)communications industry
Guest speaker (45')	Dr. Olivier Crochat, Director, C4DT, EPFL
Reading for this session	Edgerton, D. (2008). <i>The shock of the old. Technology and global history since 1900</i> . London: Profile Books. Chapter 3 "Production", pp.52-74.

### Session 10 – April 30<sup>th</sup> 2020: The effects of digitalization on industries

Main session (90')	1. Platform revolution 2. How does digitalization affect industries? 3. The case of the network industries
Seminar (45')	Advancement of participants' work
Reading for this session	Parker, G., van Alstyne, M. & S.P. Choudary (2016). <i>Platform revolution. How networked markets are transforming the economy – and how to make them work for you</i> . New York: Norton & Co., chapter 4 "Disruption: how platforms conquer and transform traditional industries", pp.60-78.

### Session 11 – May 7<sup>th</sup> 2020: The future of industry analysis

Main session (90')	1. How to analyze trends 2. What are Megatrends? 3. The example of the higher education industry
Seminar (45')	Participants' progress
Reading for this session	Pucciarelli, F. & A. Kaplan (2016). Competition and strategy in higher education: managing complexity and uncertainty. <i>Business Horizons</i> , 59, pp.311-320.

### Session 12 – May 14<sup>th</sup> 2020: Participants' presentations

### Session 13 – May 28<sup>th</sup> 2020: Participants' presentations

### Course requirements

Participants will work individually or in teams of two or maximum three on a project. Participants will be graded (individually or collectively) on the basis of a written document (80% of the grade; see below) and an oral presentation during sessions 12 or 13 (20% of the grade).

The written document will be approximately 30 pages long (15'000 words +/- 500 words) and cover the techniques and concepts taught during the class. Ideally it should be structured as follows:

- A problem statement; why is the industry studied relevant and interesting (approx. 3 pages)
- The presentation of an industry and its evolution (descriptive, empirical; approx. 8 pages)

- Discussion of some of the key features of the industry in light of selected conceptual elements as presented during the course (8 pages)
- An analysis of the industry in light of the problem statement (7 pages)
- Conclusion (2 page)
- Sources, references (approx. 2 pages)

**This written document should be submitted (via email) at the latest on June 7<sup>th</sup> 2020 midnight (24:00), no exceptions to this deadline will be tolerated.**

Each participant/group will present their final work during a 15 minutes oral presentation. The oral presentation will be scheduled during session 9 and will take place during sessions 12 and 13. Each participant/group has approx. 10' for his/her presentation, which should cover (a) the presentation (5') and (b) the analysis of the case (again 5'). There will be 5' for the discussion of each participant's/group's work.

On March 19<sup>th</sup> 2020 (during class) at the latest, each participant/group has the possibility to hand in a written problem statement (1/2 page); on March 19<sup>th</sup> 2020 (during class) at the latest, each participant/group has the possibility to hand in a structure of the final document (1 page), and on April 30<sup>th</sup> 2020 (during class) at the latest, each participant/group can hand in its 8-page description of the empirical case. None of this is mandatory.

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### Useful websites

- **International Monetary fund** publishes reports about the economic situation around the world. *The World Economic Outlook: Advancing Structural Reforms (2004)* presents economics as well as financial surveys.  
<http://www.imf.org/external/pubs/ft/weo/2004/01/index.htm>
- **The Financial Times** provides financial indicators as well as company informations;  
<http://news.ft.com/industries>
- **Fortune** is a magazine which provides a ranking of the Fortune 500 companies;  
<http://www.fortune.com/fortune>
- **Forbes** is a magazine which provides information about corporations as well as news of any types of industries; <http://www.forbes.com>
- **BusinessWeekOnline** provides reports, information about industries, corporations and recent news about the business world; <http://www.businessweek.com>
- **The Economist** is a magazine about the latest news occurring in the world. The magazine also has a good Research tool which provides a good definition about economics terms;  
<http://www.economist.com/research/Economics>
- **Company's websites** are a good source of information. The annual report tends to describe the state of the competition, their market share in the industries and their future strategies.
- Company annual report can also be found at the US Securities Exchange Commission;  
<http://www.sec.gov>
- **OECD** <http://www.oecd.org>
- **World Bank** <http://www.worldbank.org/>
- **International Chamber of Commerce** <http://www.iccwbo.org>
- **The Mc Kinsey Quarterly** provides reports on specific industries and research papers on specific topics <http://www.mckinseyquarterly.com> :
- **INSEAD**: School of Business and Management, Paris, France;  
<http://knowledge.insead.edu/home.cfm> Provide research papers, case studies on various sectors
- **Gartner Dataquest** provides information about the Information technologies industries. Click on advanced search and specify free research and the search terms of your inquiry;  
[http://www.gartner.com/1\\_researchanalysis/research\\_overview.html](http://www.gartner.com/1_researchanalysis/research_overview.html)
- **UBS** provides reports about markets and sectoral trends;  
[http://www.ubs.com/1/e/media\\_overview/media\\_global/research.html](http://www.ubs.com/1/e/media_overview/media_global/research.html)
- UBS (2004) Outlook of the Swiss sectoral trends, 2004;  
[http://www.ubs.com/1/e/ubs\\_ch/bb\\_ch/market\\_information/industries\\_outlook.html](http://www.ubs.com/1/e/ubs_ch/bb_ch/market_information/industries_outlook.html)
- **INSEE** [http://www.alisse.insee.fr/european\\_industry\\_statistics.html](http://www.alisse.insee.fr/european_industry_statistics.html)
- **Eurostat**: Entreprises and industries in Europe. This site provides information about European industries, the RAMON database; [http://europa.eu.int/comm/enterprise/sectors\\_en.htm](http://europa.eu.int/comm/enterprise/sectors_en.htm)
- **Economics web institute**, Industrial dynamics : data, concept, software, papers:  
<http://www.economicswebinstitute.org/industrialdynamics.htm>
- **DRUID**: Danish Research Unit for Industrial Dynamics: <http://www.business.auc.dk/druid>
- European Roundtable of Industrialists: <http://www.ert.be>
- **Enterprise and Industry magazine**: provides regular updates on policy development, legislative proposals and their adoption, and on the implementation and review of regulation affecting enterprises: [http://ec.europa.eu/enterprise/magazine/index\\_en.htm](http://ec.europa.eu/enterprise/magazine/index_en.htm)
- **European commission, Enterprise and Industry**:  
[http://ec.europa.eu/enterprise/index\\_en.htm](http://ec.europa.eu/enterprise/index_en.htm)
- **CBI Industrial Trends Survey** ,Quarterly survey produced by the Confederation of British Industry, covering UK manufacturing trends and analysis: <http://www.cbi.org.uk/business->

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