



Open Innovation Modelling and R&D
Master of Science in Innovation Management - MAIN
Academic year 2021/22
Version of December 20, 2021

1. General information on the course

Name of the course	Open Innovation Modelling and R&D
Degrees	Master (“Laurea Magistrale”) in Innovation Management – <i>MAIN</i>
Type	Mandatory
Cycle/Year/Semester	2nd Year; 2nd Semester
Class hours	36h - 6 CFU
Language	English
Department	Institute of Management (IoM)
Lecturer	<p>Andrea Piccaluga Office: IoM, Alliata Palace, Piazza Martiri Libertà, 26 (1st floor) e-mail: a.piccaluga@santannapisa.it</p> <p>Alberto Di Minin Office: IoM, Alliata Palace, Piazza Martiri Libertà, 26 (1st floor) e-mail: a.diminin@santannapisa.it</p>
Time and place of lectures	<p>The course will include 12 lectures. Each lecture will last 3 hours. All lectures will start at 10.00 am and end at 1.00 pm.</p> <ol style="list-style-type: none"> 1. February 21, 2022 - The management of innovation and the role of R&D (A. Piccaluga) 2. February 22, 2022 - R&D organization in small and large firms (A. Piccaluga and A. Di Minin) 3. February 23, 2022 - The evolution towards Open Innovation: theory and practice (A. Di Minin and A. Piccaluga) 4. February 25, 2022 - R&D, creativity and innovation: the role of people (C. Marullo) 5. February 28, 2022 - The strategic management of IP (A. Di Minin) 6. March 7, 2022 - IP: how patents work (B. Politi and A. Piccaluga) 7. March 8, 2022 - Innovation management and Industry 4.0 (G. Ferrigno-TBC) 8. March 9, 2022 - The dynamics and management of knowledge exchange (A. Piccaluga) 9. March 11, 2022 - Venture Capitalists for innovative entrepreneurship (N. Redi-TBC and A. Piccaluga) 10. March 14, 2022 - Business Model Innovation (A. Di Minin and A. Piccaluga) 11. March 15, 2022 - Innovation in family firms (A. Di Minin and A. Piccaluga)



	12. March 17, 2022 – Innovation in SMEs during Covid-19 (A. Piccaluga)
Office hours	Appointment by email.

1. Content of the course, objectives and list of topics

2.1 Contents

The course aims to provide a broad and critical understanding of the management issues which firms face in their innovation processes, in terms of types, sources, determinants and patterns of innovation. The central aim of the course is to understand the management of innovation in different types of firms and its multifaceted nature.

2.2 Objectives

Through this course the objective is to provide students with actionable knowledge, concrete ideas on innovation, management, strategy and IP management. Moreover, we will try and help them to develop their capabilities to critically discuss a business strategy and develop their capacity to work in team.

2.3 List of topics

The list of topics coincides with the list of lectures above.

3) Prerequisite

There are no specific prerequisites.

4) Teaching method

Lectures and seminars are the major teaching methods used. Company case studies will also be discussed and analysed in the light of the theoretical aspects taught in class.

The course will involve presentations by managers and/or business owners for the purpose of better illustrating some of the issues described in the course programme and the country focus.

5) Evaluation method

The final evaluation will take place through a written exam (if possible despite Covid-19 restrictions), and an oral part.

The programme of the final evaluation includes: (a) *the compulsory readings* (see below), (b) *slides given to the participants* and (c) *any topic/issue discussed during the lectures*.

Furthermore, students may choose to start the exam with a short (3 pages) .ppt presentation about a case taken from <https://sme.easme-web.eu/>. If they voluntarily choose to prepare a case, the exam will start from the discussion of the case and then will go on as usual. It is therefore their own choice to prepare this short case or not.

Compulsory readings (a limited number of lectures may be added before the end of the course):

Lecture #1

- Tirpak T.M., Miller R., Schwartz L., Kashdan D. (2006), “R&D Structure in a changing world”, in *Research-Technology Management*, 49:5, 19-26.

Lecture #2

- Nobelius D. (2004), “Towards the sixth generation of R&D Management”, in *International Journal of Project Management*, 22, 369-375.

Lecture #3

- Di Minin A., Frattini F., Piccaluga A. (2010), “Fiat: Open Innovation in a downturn (1993-2003)”, in *California Management Review*, Vol. 52, n. 3.
- Gassman O., Enkel E., Chesbrough H. (2010), “The future of open innovation”, in *R&D Management*, 40, 3.

Lecture #4

- Vossen, R. W. (1998), “Relative strengths and weaknesses of small firms in innovation”, in *International small business journal*, 16(3), 88-94.

Lecture #5

- ArKolbjørnsrud, V., Amico, R., & Thomas, R. J. (2016), “How artificial intelligence will redefine management”, in *Harvard Business Review*, 2, 1-6.
- Loureiro, S. M. C., Guerreiro, J., & Tussyadiah, I. (2020), “Artificial intelligence in business: State of the art and future research agenda”, in *Journal of business research*.

Lecture #6

- Fisher W., Oberholzer-Gee F. (2013), “Strategic Management of Intellectual Property: an integrated approach”, in *California Management Review*, Vol. 55, n. 4.

Lecture #7

- Gallini N. (2017), “Do patents work? Thickets, trolls and antibiotic resistance”, in *Canadian Journal of Economics*, Vol. 50, n. 4.

Lecture #8 (Piccaluga KT)

- Brescia F., Colombo G., Landoni P. (2016), “Organizational Structures of Knowledge Transfer Offices: an analysis of the world’s top-ranked universities”, in *Journal of Technology Transfer*, 41, 132-151.

Lecture #9

- Arena M., Bengo I., Calderini M., Chiodo V. (2018), “Unlocking finance for social tech start-ups: Is there a new opportunity space?”, in *Technological Forecasting & Social Change*, 127, 154-165.

Lecture #10

- Rachinger M. et al. (2019), “Digitalization and its influence on business model innovation”, in *Journal of Manufacturing Technology Management*, Vol. 30, n. 8, 1143-1160.

Lecture #11

- De Massis A., Di Minin A., Frattini F. (2015), “Family-Driven Innovation: resolving the paradox in family firms”, in *California Management Review*, Vol. 58, n.1.

Lecture #12

- De Massis, A., Di Minin, A., et al. (2020), Succeeding through a crisis: Lessons from the “European Innovation Champions”, JRC Working Papers on Corporate R&D and Innovation No 06/2020, European Commission, JRC121856.



Non-compulsory readings (these readings represent a list of publications which may be useful for the students in the future or for their dissertation):

Lecture #1

- Di Minin A. e A. Piccaluga (2013), Processi di sviluppo e innovazione, in Baglieri D., Dagnino G.B., Faraci R. (2013), *Economia e Gestione delle Imprese*, Isedi, pp. 97-122.
- Pisano G. (2015), “You need an innovation strategy”, in *Harvard Business Review*, June.
- Tidd J. (2001), “Innovation Management in context: environment, organization and performance”, in *Int. Journal of Management Reviews*, Vol. 3, Iss. 3, 169-183.
- Varaldo R. (2014). *La nuova partita dell’innovazione*, Il Mulino, Bologna.
- Schilling M. (2016). *Strategic management of technological innovation*. Mc Graw-Hill (5th ed.).
- <https://iri.jrc.ec.europa.eu/scoreboard/2021-eu-industrial-rd-investment-scoreboard> (The R&D Scoreboard)

Lecture #2

- Chesbrough (2003): *The Era of Open Innovation*, by Henry Chesbrough, *Sloan Management Review*, vol. 44, #3. (only pages 35-38).
- Meulman F. et al. (2018), “Searching for Partners in Open Innovation Settings: How to overcome the constraints of local search”, in *California Management Review*, Vol. 60(2), 71-97.

Lecture #3

- Casprini E., De Massis A., Di Minin A., Frattini F., Piccaluga A. (2017), “How family firms execute open innovation strategies: the Loccioni case”, *Journal of Knowledge Management*, Vol. 21 Issue: 6, 1459-1485.
- Nobelius D. (2003), “Towards the sixth generation of R&D management”, in *Int. Journal of Project Management*, 22, 369-375.

Lecture #4

- Boudreau K., Gaule P., Lakhani K.R., Riedl C. & Woolley A.W. (2014). From crowds to collaborators: Initiating effort & catalyzing interactions among online creative workers. *Harvard Business School Scholarly Articles* 14-060.
- Tan, G. (1998), “Managing creativity in organizations: a total system approach”, in *Creativity and Innovation Management*, 7(1), 23-31.
- Florida, R. (2002). The economic geography of talent. *Annals of the Association of American geographers*, 92(4), 743-755.
- Tushman, M. L., Smith, W. K., & Binns, A. (2011). The ambidextrous CEO. *Harvard Business Review*, 89(6), 74-80.
- Mehmood, M. S., Jian, Z., Akram, U., & Tariq, A. (2021). Entrepreneurial leadership: the key to develop creativity in organizations. *Leadership & Organization Development Journal*.

Lecture #5

- Haenlein, M., & Kaplan, A. (2019). A brief history of artificial intelligence: On the past, present, and future of artificial intelligence. *California management review*, 61(4), 5-14.
- Iansiti, M., & Lakhani, K. R. (2020). *Competing in the age of AI: strategy and leadership when algorithms and networks run the world*. Harvard Business Press.

Lecture #6

Lecture #7



- Rogo F., Grimaldi M., Cricelli L., Di Giovanni M “The patent portfolio value analysis: A new framework to leverage patent information for strategic technology planning” – Elsevier, *Technological Forecasting & Social Change* 94 (2015) 286–302.

Lecture #8

- Cesaroni F., Piccaluga A. (2015), “The activities of university knowledge transfer offices: towards the third mission in Italy”, *Journal of Technology Transfer*.

Lecture #9

- https://www.huffingtonpost.it/entry/il-fallimento-del-modello-start-up_it_604cc3fec5b6cf72d096959a?ncid=other_trending_qeesnbnu018&utm_campaign=trending