Syllabus

Course Description

Course Title	Innovation Management
Course Code	25563
Course Title Additional	
Scientific-Disciplinary Sector	ECON-07/A
Language	English
Degree Course	Master in Entrepreneurship and Innovation
Other Degree Courses (Loaned)	
Lecturers	Prof. Alessandro Narduzzo, Alessandro.Narduzzo@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/5125
Teaching Assistant	
Semester	Second semester
Course Year/s	1
CP	5
Teaching Hours	30
Lab Hours	-
Individual Study Hours	-
Planned Office Hours	15
Contents Summary	The course prepares students to analyze problems and make informed decisions related to innovation and its management. Students learn models, tools, and methods to manage innovation within organizations. In particular, the course covers the following topics: - Managing innovation in a systemic perspective - Sources of innovation – Types of innovation – Patterns and models of innovation – Technological cycles – Managing innovation in Open Systems

	– Managing exaptative innovation and technological speciation – Innovation management tools – Innovation management metrix - Building innovative organizations: experimentation and psychological safety – Ambidexterity.
Course Topics	0. Course presentation Learning goals, approach, teaching format, learning materials and how they are selected to be consistent with the nature of the course. 1. Innovation, innovative firms, innovation management – An introduction. Why does innovation matter? How do practitioners and scholars think about innovation? Why and how do organizations want to manage the innovation journey? This first session introduces the framework adopted in this course to approach innovation and select the topics. 2. Innovation management: problems, myths, traps. This part of the course offers a problematic perspective for framing the management of innovation, both as a phenomenon and as a domain of expertise; any further theorizing can be reconnected to this foundation. 3. Innovation: models and conceptualizations. In this section, we review and discuss well-known definitions, conceptualizations, and models. Concepts and models provide complementary perspectives to understand innovation phenomena through multiple lenses. 4. Managing innovation in open systems. To innovate, firms often need to draw from various outside sources of knowledge. At the same time, they also need to be focused on capturing returns to their innovative ideas. This gives rise to a paradox of openness - the creation of innovations often requires openness, and the commercialization of innovations requires appropriability. 5. Managing innovation as exaptation. Innovation management through an evolutionary perspective. Innovation management consists of managing a system of interdependent and evolving components. Innovation as exaptation will be discussed.

	6. Innovation management: techniques and tools. We review a repertoire of tools traditionally adopted by firms to manage innovation. We discuss to what extent they cope with the problems introduced in Class 3. In particular, we wish to focus on those tools that deal with complexity and uncertainty. 7. Innovation management: innovation measurements. Measuring innovation is a tricky issue. On the one hand, there is a need to assess the impact of innovation; on the other hand, the complexity of the phenomenon suggests avoiding simplistic solutions. The most common measures of innovation look at inputs (e.g. intensity of R&D investment) or outputs (e.g. number of patents). The approach proposed for this class proposes to extend this repertoire by including the assessment of the innovation as a process. 8. Building innovative organizations: experimentation. Innovation is conceived as a process of experimentation that is grounded on a trial-and-error logic. Its effectiveness depends on the organization's ability to adopt and adapt to this mindset consistently. Organizational culture may inhibit innovation. Building a psychologically safe environment is regarded as a contextual condition to nurture innovation. 9. Building innovative organizations: ambidexterity. Firms may adopt organizational forms that are more suitable to support innovation. Through the concepts of organizational ambidexterity and organizational bricolage, we discuss how firms may combine exploration and exploitation.
Keywords	innovation, innovation cycle, uncertainty, experimentation, exaptation, circular innovation, management tools, ambidexterity, open innovation
Recommended Prerequisites	
Propaedeutic Courses	
Teaching Format	The course is based on both theoretical lectures and the discussion of case studies and other empirical materials, and it requires the active participation of students in class discussions.
Mandatory Attendance	
Specific Educational Objectives and Learning	INTENDED LEARNING OUTCOMES (ILO)

Outcomes	ILO 1: KNOWLEDGE AND UNDERSTANDING ILO 1.a The student acquires advanced knowledge and understanding of the models and tools of economic-business analysis for starting a new company, with particular focus on identifying new market opportunities, accessing and obtaining economic-financial resources, as well as technological and organizational skills for the development of the company; ILO 1.b The student acquires advanced knowledge and understanding of the theories and tools for the economic analysis of business decisions; ILO 1.c The student acquires advanced knowledge and understanding of models for new product development and innovation management within enterprises; ILO 1.d The student acquires advanced knowledge and understanding of business analysis tools and solutions for the development of innovations and organisational knowledge; ILO 1.e The student acquires advanced knowledge and understanding of innovation economics models and systems for regional innovation development; ILO 2: ABILITY TO APPLY KNOWLEDGE AND UNDERSTANDING ILO 2.a Ability to acquire and select information that may be relevant from an entrepreneurial point of view, also in economic-productive contexts different from those studied; ILO 2.b Ability to analyse the combination of market opportunities and resources of the enterprise and to identify entrepreneurial formulas, also with the elaboration of original, compatible and sustainable solutions and combinations; ILO 2.c Ability to select business economics models, suitable for the appropriate analysis of a specific economic-social and productive context ILO 2.d Ability to select the tools for the strategy and management of the enterprise, consistent with the enterprise economy models considered appropriate; ILO 2.e Ability to evaluate the entrepreneurial potential associated with the development of an innovation by a company (learning area 2); ILO 2.f Ability to acquire and select relevant information to frame cases of innovation (product, service, social, managerial organisational), also different from the studied contexts;

	ILO 2.g Ability to select product development models, suitable to appropriately analyse a specific economic-productive context; ILO 2.h Ability to classify, analyse specific innovations and assess their potential ILO 2.i Ability to select innovation management and organisational knowledge development models, suitable for a specific economic-social-productive context, such as digital transformation, resilience and sustainability; ILO 2.l Ability to select the tools for innovation management and organisational knowledge development, consistent with the models deemed appropriate; ILO 2.m Ability to propose and implement strategic and operational courses of action to foster the development of innovations by a company; ILO 2.n Ability to assess the potential of an innovation within existing companies compared to the creation of a new company (e.g., intrapreneurship, open innovation, etc.). ILO 3: AUTONOMY OF JUDGEMENT ILO 3.a Acquire the ability to analyse complex entrepreneurial problems, such as the elaboration and evaluation of an entrepreneurial project (business plan) or the development of a new product; ILO 3.b Acquire the ability to make predictions, such as analysing the future consequences of entrepreneurial, managerial and operational choice; ILO 3.c Autonomy of judgement is developed in the training activities carried out for the preparation of the thesis, as well as in the exercises that accompany the lectures and that involve group discussions and the comparison of individual analyses carried out by students in preparation for the lecture. ILO 4: COMMUNICATION SKILLS ILO 4.a Acquire the ability to describe and communicate in an intercultural context, in a clear and precise manner, problematic situations typical of the management of a new enterprise and the development of innovation, such as, for example, the conditions for the validation of a problem or solution, the prospects and risks associated with a business model or an innovation project. The development of communication competences assumes

	heterogeneous situations such as, for example, the presence of internal stakeholders (e.g. colleagues, managers, owners), or external stakeholders (e.g. potential investors, suppliers and other business partners) and the ability to sustain an adversarial process; ILO 4.b The achievement of these objectives is assessed in the course of the training activities already mentioned, as well as in the discussion of the final thesis. ILO 5: LEARNING SKILLS ILO 5.a Acquire the ability to study independently, to prepare summaries; ILO 5.b Acquire the ability to identify thematic connections and to establish relationships between different cases and contexts of analysis; ILO 5.c Acquire the ability to frame a new problem systematically and to generate appropriate taxonomie; ILO 5.d Acquire the ability to develop general models from the phenomena studied.
Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	Written (closed books) final exam (60 minutes). It consists of open questions to assess both acquired knowledge and analytical competencies. A case will be made available on the Teams platform a few days before the exam. Students are expected to read the case in advance and bring a paper copy to the exam. Some questions assess students' ability to demonstrate their proficiency in understanding the knowledge they have acquired (ILO1). Other questions foresee the use of the acquired knowledge to analyze the case (ILO2), and to apply this knowledge to the case (ILO3). Other questions ask the students to reason across concepts and thematic domains (ILO5). All questions are also instrumental to assess communication competence (ILO4).
Evaluation Criteria	The evaluation criteria are the following: • Appropriateness of the answer and commanding the contents (ILO1, ILO2) • Structure and coherence of the answer (ILO4) • Mastering critical analysis (ILO3, ILO5).

Required Readings	**For each topic, the readings are listed according to the order of reading.** ***Innovation, innovative firms, innovation management – An introduction.*** *Baregheh A., Rowley J., & S. Sambrook. 2009. Towards a multidisciplinary definition of innovation. Management Decision, 47, 8, 1323-1339.* *Cheng, J.Y.J. and Groysberg, B., 2018. Innovation Should Be a Top Priority for Boards. So Why Isn't It?. Harvard Business Review.* *Tidd, J., & Bessant, J. 2020. Managing Innovation: Integrating Technological, Market and Organizational Change (6th ed.). Wiley.* ***Chapters 1.*** *Innovation reports issued by IBM, PwC and McKinsey, made available in the Team folder collecting the course readings.* *Banholzer, M., LaBerge, L., West, A. & Williams, E. (2023). How innovative companies leverage tech to outperform. McKinsey Report.* ***Innovation management: problems, myths, traps.*** *Van de Ven A.H. 1986. Central Problems in the Management of Innovation. Management Science, 32, 5, 590-607.* *Williams T.M. 1999. The need for new paradigms for complex projects, International Journal of Project Management Vol. 17, No. 5, pp. 269-273.* *Mendonca, L.T., Sneader, K.D. 2007. Coaching innovation: An interview with Intuit's Bill Campbell. The McKinsey Quarterly. February.* ***Innovation: models and conceptualizations.*** *Schilling, M. A. 2022. Strategic Management of Technological Innovation (7th ed.). McGraw-Hill.* ***Chapter 3****.* *Bagno, R.B., Salerno, M.S. and da Silva, D.O., 2017. Models with graphical representation for innovation management: a literature review. R&D Management, 47(4), pp.637-653.*

Managing innovation in open systems.

Bogers, M., Chesbrough, H., & Moedas, C. 2018. "Open Innovation: Research, Practices, and Policies." California Management Review, 60(2), 5-16.

*Von Hippel, E. 2019. The Free Innovation Paradigm. In **Chen**, J., Brem, A., Viardot, E. and Wong, P.K. eds. The Routledge companion to innovation management. Routledge. **Chapter 8**.*

*Frank Piller, Sumit Mitra, and Susanna Ghosh MitraVon Hippel, E. 2019. Bringing Open Innovation into Practice. In **Chen**, J., Brem, A., Viardot, E. and Wong, P.K. eds. The Routledge companion to innovation management. Routledge. **Chapter 10**.*

Managing innovation as exaptation.

Andriani, P., & Cattani, G. 2016. Exaptation as source of creativity, innovation, and diversity: Introduction to the special section. Industrial and Corporate Change, 25(1), 115-131.

Adner R., & D. A. Levinthal. 2002. The Emergence of Emerging Technologies. California Management Review, 45, 1, 50-66.

Innovation management: techniques and tools.

*Chen, J., Brem, A., Viardot, E. and Wong, P.K. eds., 2019. The Routledge companion to innovation management. Routledge. **Chapter 26.***

Haefner, N., Wincent, J., Parida, V. and Gassmann, O., 2021. Artificial intelligence and innovation management: A review, framework, and research agenda¿. Technological Forecasting and Social Change, 162, p.120392.

List of IM tools from The Innovation Tools Handbook.

Innovation management: innovation measurements.

Gamal, D. 2011. How to measure organizational innovativeness? An overview of Innovation framework and Innovation audit. TIEC.

Björk, J., Frishammar, J., & Sundström, L. 2023. Measuring Innovation Effectively—Nine Critical Lessons. Research-

	Technology Management, 66(2), 17-27. ***Building innovative organizations: experimentation.*** *Thomke S. 2001. Enlightened experimentation: The new imperative for innovation. Harvard Bus. Rev. 79(2) 66–75.* *Edmondson A.C. 2011. Strategies For Learning From Failure. Harvard Business Review. April 48-55.* ***Building innovative organizations: ambidexterity.*** *Birkinshaw J., C. Gibson. 2004. Building Ambidexterity Into an Organization. MIT Sloan Management Review, Summer, 47-55.* *Pisano, G.P., 2019. The Hard Truth About Innovative Cultures. Harvard Business Review.*
Supplementary Readings	For each topic, the readings are listed according to the order of reading. Innovation, innovative firms, innovation management – An introduction. Baregheh A., Rowley J., & S. Sambrook. 2009. Towards a multidisciplinary definition of innovation. Management Decision, 47, 8, 1323-1339. Cheng, J.Y.J. and Groysberg, B., 2018. Innovation Should Be a Top Priority for Boards. So Why Isn't It?. Harvard Business Review. Tidd, J., & Bessant, J. 2020. Managing Innovation: Integrating Technological, Market and Organizational Change (6th ed.). Wiley. Chapters 1. Innovation reports issued by IBM, PwC and McKinsey, made available in the Team folder collecting the course readings. Banholzer, M., LaBerge, L., West, A. & Williams, E. (2023). How innovative companies leverage tech to outperform. McKinsey Report. Innovation management: problems, myths, traps.

	Van de Ven A.H. 1986. Central Problems in the Management of Innovation. Management Science, 32, 5, 590-607. Williams T.M. 1999. The need for new paradigms for complex projects, International Journal of Project Management Vol. 17, No. 5, pp. 269-273. Mendonca, L.T., Sneader, K.D. 2007. Coaching innovation: An interview with Intuit's Bill Campbell. The McKinsey Quarterly. February. Innovation: models and conceptualizations. Schilling, M. A. 2022. Strategic Management of Technological Innovation (7th ed.). McGraw-Hill. Chapter 3. Bagno, R.B., Salerno, M.S. and da Silva, D.O., 2017. Models with graphical representation for innovation management: a literature review. R&D Management, 47(4), pp.637-653. Managing innovation in open systems. Bogers, M., Chesbrough, H., & Moedas, C. 2018. "Open Innovation: Research, Practices, and Policies." California Management Review, 60(2), 5-16. Von Hippel, E. 2019. The Free Innovation Paradigm. In Chen, J., Brem, A., Viardot, E. and Wong, P.K. eds. The Routledge companion to innovation management. Routledge. Chapter 8. Frank Piller, Sumit Mitra, and Susanna Ghosh MitraVon Hippel, E. 2019. Bringing Open Innovation into Practice. In Chen, J., Brem, A., Viardot, E. and Wong, P.K. eds. The Routledge companion to innovation management. Routledge. Chapter 10. Managing innovation as exaptation. Andriani, P., & Cattani, G. 2016. Exaptation as source of creativity, innovation, and diversity: Introduction to the special section. Industrial and Corporate Change, 25(1), 115-131. Adner R., & D. A. Levinthal. 2002. The Emergence of Emerging Technologies. California Management Review, 45, 1, 50-66. Innovation management: techniques and tools. Chen, J., Brem, A., Viardot, E. and Wong, P.K. eds., 2019. The Routledge companion to innovation management. Routledge. Chapter 26. Haefner, N., Wincent, J., Parida, V. and Gassmann, O., 2021.

	Artificial intelligence and innovation management: A review, framework, and research agenda¿. Technological Forecasting and Social Change, 162, p.120392. List of IM tools from The Innovation Tools Handbook. Innovation management: innovation measurements. Gamal, D. 2011. How to measure organizational innovativeness? An overview of Innovation framework and Innovation audit. TIEC. Björk, J., Frishammar, J., & Sundström, L. 2023. Measuring Innovation Effectively—Nine Critical Lessons. Research-Technology Management, 66(2), 17-27. Building innovative organizations: experimentation. Thomke S. 2001. Enlightened experimentation: The new imperative for innovation. Harvard Bus. Rev. 79(2) 66–75. Edmondson A.C. 2011. Strategies For Learning From Failure. Harvard Business Review. April 48-55. Building innovative organizations: ambidexterity. Birkinshaw J., C. Gibson. 2004. Building Ambidexterity Into an Organization. MIT Sloan Management Review, Summer, 47-55. Pisano, G.P., 2019. The Hard Truth About Innovative Cultures. Harvard Business Review.
Further Information	
Sustainable Development Goals (SDGs)	Partnerships fot the goals, Industry, innovation and infrastructure