TECHNION Israel Institute of Technology | **FACULTY OF DATA AND DECISION SCIENCES** MAKING SENSE OF IT | **THE WILLIAM DAVIDSON MBA**

MBA - Focusing on Entrepreneurship, Innovation & Technology Management

COURSE TITLE:
INNOVATION MANAGEMENT

Course Number: 099792		**2.0 Credit points**		
Mini-Semester: 2,7	**Year: 2025**	**Number of weeks:7**	**Day: Thursday**	**Time: 14:00-17:30 Room 216**

COURSE INSTRUCTOR:
PROF. MIRIAM EREZ

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SYLLABUS

COURSE GOAL and DESCRIPTION

Innovation is a core driver of organizational growth, competitive advantage, and long-term resilience. Innovation gains a special meaning in the era of AI. Considering Person- Machine Interaction, and specifically Person – Intelligent Machine interaction, the course aims to offer a structured methodology for managing innovation across six key stages of the "journey of an idea": From identifying unmet needs and generating creative solutions to securing organizational support, implementing innovation, and achieving market penetration.
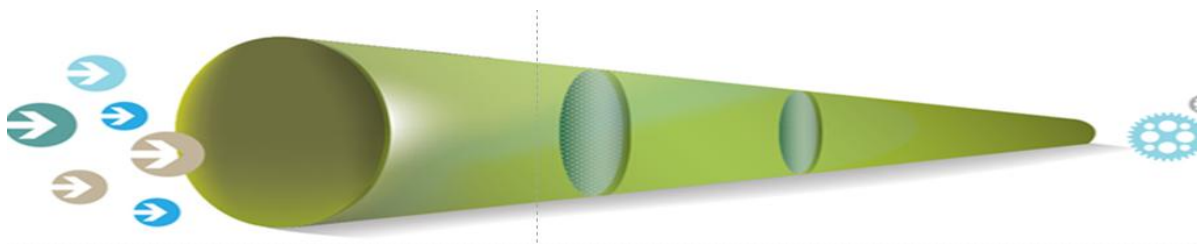
Through lectures and podcasts, experiential learning and group discussions, tools, AI tools, and team-projects, course participants will learn how to develop and implement innovative solutions within organizational contexts and how to assess their potential success before final implementation and afterwards. The course emphasizes (a) the organizational ecosystem and the competitive, uncertain environment, (b) the technology, digital transformation, and AI, (c) the organizational structure, processes, culture, leadership, the integration of internal and external knowledge, and (d) the behavioral processes that shape innovation: Attitudes and aptitudes, attention focus, creativity, decision-making, risk taking versus resistance to change and empathy.

Learning Outcomes

Upon completing this course, students will be able to:

- **Lead Innovation Processes:** Navigate and manage each of the six phases of the innovation model.

- **Practice Creative Ideation:** Identify problems/opportunities and generate multiple creative solutions using individual and team methods.

- **Validate and Adapt Solutions:** Apply design thinking tools such as empathy mapping and pivoting to refine solutions, and test for the validity of the proposed solution.

- **Shape Innovation Culture:** Diagnose organizational culture and propose changes to support person-technology interaction that leads to innovation.

- **Overcome Resistance to change:** Use evidence-based frameworks for gaining support from stakeholders.

- **Drive Implementation and Market Penetration:** Develop structured plans and empathy for product design and user adoption.

Content & Scope

The course consists of lectures, guest lectures, case discussions, and experiential exercises. Each class focuses on a specific phase of the innovation process, ensuring a detailed understanding of each stage.

Teaching Materials

All essential materials (excluding recommended books) will be available on the course Moodle.
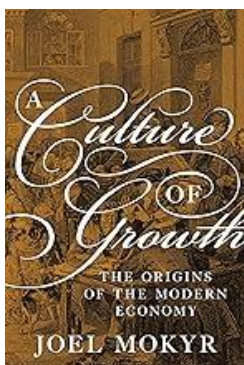
Participants are invited to enrich the lectures with discussions, presentations, and case studies they initiate.

Assignments and Grading

1. **Class Attendance:** Attend at least 6 out of 7 sessions.

2. **Active Participation (10%):** Engage with course materials, participate in discussions, and share with the class additional material relevant to the course content.

3. **Final Team Project (70%):** Develop a comprehensive PowerPoint presentation covering the six parts of the innovation process, plus integration. Consider implementing your project in your work context.

➢ **Mid-Course Submission: Submit the first three parts of ideation by 29/01/2025. Feedback will be provided on the ideation phase.**

4. **Individual Assignment (10%) by 04/02/2025**

5. **Final Presentation (10%): Present the team project on 12/02/2025. (10-minute presentation + 2 minutes Q&A).**

➢ **Submission of Final Project between 12/02/2025 and 19/02/2025.**

Recommended readings

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2. **דדי פרלמוטר, מוליכים להצלחה. 2021**
https://ezlibrary.technion.ac.il/login?url=https://kotar.cet.ac.il/KotarApp/Viewer.aspx?nBookID=112138978#6.942.6.default

3. Safi Bahcall Loonshots (2019). How to Nurture the Crazy Ideas That Win Wars, Cure Diseases, and Transform Industries.

   בעברית: <u>**ספי בקל. הבלחות.**</u> איך לטפח רעיונות פורצי דרך שמרפאים מחלות, מנצחים במלחמות ומשנים תעשיות https://ezlibrary.technion.ac.il/login?url=https://kotar.cet.ac.il/KotarApp/Viewer.aspx?nBookID=108678313#

4. Vijay Govindarajan (2016). The three-box solution: A strategy for leading innovation. Boston: Mass: Harvard Business Review Press.
   (see on Moodle a summary and a video) https://www.youtube.com/watch?v=wgD2VzFqCaE

5. Nathan Furr & Jeff Dyer (2014). The Innovator's Method: bringing the lean startup into your organization. Boston Mass. Harvard Business Review Press. (see Ch. 1 on Moodle)

6. Ethan Mollick. (2024) Co-Intelligence: How to Live and Work with AI

   https://knowledge.wharton.upenn.edu/article/co-intelligence-how-to-live-and-work-with-ai/

Course outlines:

Lesson 1 (08/01/2026): Introduction to Innovation and Its Strategic Importance
Topics:

a. Definition and types of innovation (incremental, disruptive, radical, and architectural)

b. Importance of innovation in business strategy

c. The Process of Innovation

d. The first phase of Problem Identification

Class Exercise: Challenge/problem/opportunity Identification, the Fishbone Tool.

Learning Outcomes:

➢ Understand what innovation is and why it matters.

➢ Identify the role of innovation in achieving competitive advantage.

➢ Identify challenges and opportunities that need innovative solutions

Readings:

- Joel Mokyr (2018). Culture of Growth, Ch.1. Princeton University Press.
- Breynjolfsson, E. et al., (2025). GENERATIVE AI AT WORK. T*he quarterly Journal of Economics,* 140 (2), 889-942.

- Christensen, C.; Raynor, M.E. & McDonald, R. What is disruptive innovation? (Dec. 2015). *Harvard Business Review.* https://hbr.org/2015/12/what-is-disruptive-innovation

- ***דדי פרלמוטר. מובילים להצלחה.*** משכל, ידיעות אחרונות. 2021

Recommended

- Sawhney, M., Wolcott, R., and Arroniz, I. (2006). The 12 Different Ways for Companies to Innovate, *MIT Sloan Management Review*, 47 (3) p.75-82.
- Simon Sinek (2009). Start with Why. How great leaders inspire everyone to take action. NY: Portfolio, Penguin. *Video: **http://www.youtube.com/watch?v=l5Tw0PGcyN0***

For the team project part 1: As a team, select one organization/business for which you would like to develop an innovation project. Using the Fishbone methodology, identify the main challenges faced by the organization, and propose a challenge or problem you want to solve or an opportunity you plan to promote.
- Describe the challenge/opportunity/problem
- Analyze the causes for it, using the fishbone diagram.

Lesson 2 (16/01/2026). The ideation phase: Individuals' and teams' creative idea generation

a. The creative process

b. The Knowledge Base for Innovative Idea Generation

c. Generating creative ideas as an individual

d. Generating creative ideas as a team

Learning Outcomes:

➢ Recognize types of divergent and convergent cognitive processes.

➢ Identify the role of innovation in achieving competitive advantage.

➢ Identify challenges and opportunities that need innovative solutions

Class Exercise: Idea generation - a brainstorming exercise and other tools. Criteria for selecting one idea for implementation as the solution to the problem, versus other ideas.

Reading:

- Lasar M. et al., (2025). Would Archimedes Shout "Euroeka with Algorithms? The hidden hand of Algorithmic Design in idea generation, the creation of ideation bubbles an how expert can burst them. *Academy of Management Journal, 68, 881-906.*
- Amabile, T. (2012). Componential Theory of Creativity (2012) HBS Working Paper, 12-096.
- Dyer, J., Gregersen, H., and Christensen, C. 2009. The Innovator's DNA, *Harvard Business Review*, 87 (12), p. 60-67
- Erez, Lisak & Harush (Ch. 9, 2019). In: Michael D. Mumford and E. Michelle Todd (Editors) (2019). Creativity and Innovation in Organizations (SIOP Organizational Frontiers Series) 1st Edition. Taylor & Francis

For the team project Part 2: For your team's challenge/problem/opportunity, generate novel ideas, state all of them, and suggest three potential ideas for implementation by order of preferences, with #1 as the most preferred idea, and explain why you chose the specific idea for a solution versus other ideas, using the tools and criteria learned in class.

Lesson 3 (22/01/2026): Solution validation

a.   Idea verification for implementation – evaluation tools

b.   Design Thinking: Methods and tools for idea validation.

Learning Outcomes:

➢   Learn to use tools for assessing the relative value added of the three alternative ideas for a solution

➢   Learn to use the Empathy Map for interviewing potential users.

➢   Learn to Pivot and change the proposed solution accordingly

Class exercise: Practicing the Design Thinking method.

Reading:

- Brown, T. (2008) Design Thinking, *Harvard Business Review*, 2008

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- Weissenbock, A. (2025). Coordination, sensemaking, and idea work: How founding teams pivot their venture ideas. *J. of Business Venturing*, 40, 106472.

For the team project Part 3: Validate your solution by observing and talking to potential users. Reshape your solution based on the empathy map.

> **Submission of the first three parts by 29/01/2025**

Lesson 4 (29/01/2026): The organization eco-system: Leadership and organizational culture for innovation

a. What is culture, what is an organizational culture, and how to measure it?

b. Building a culture that supports creativity and risk-taking

c. Leadership's roles in fostering innovation

d. The Ambidextrous Leadership Behavior

Learning Outcomes:

➢ Learn to cultivate an organizational culture that values innovation.

➢ Understand leadership roles, strategies, and how to communicate messages to promote creativity.

Class Exercise: As a team, consider the organizational culture you want to create for implementing your potential solution. Consider and describe current practices you plan to keep, practices, that you need to change, and new practices that you plan to implement.

Reading:
- Isaacson, W. The real leadership lessons of Steve Jobs. *Harvard Business Review*, June 2012.

Recommended:
- Miron, E., Erez, M., Nave, E., 2004. Do Personal Characteristics and Cultural Values that Promote Innovation, Quality, and Efficiency Compete or Complement Each Other? *Journal of Organizational Behavior*, 25, p. 175-199.

Individual assignment part 4: Use the Organizational Culture Assessment Tool to evaluate your work organization's culture. 1. Portray it on the graph. 2. Write an evaluation and a recommendation for modifying your Organization/Unit culture.

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Submission of Individual Assignment Part, 4, 04/02/2025

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Lessons 5 (5/02/2026): overcoming resistance to change

a.   Sources of Resistance to Change

b.   Getting to "yes" when implementing innovation (Processes, Products, Services).

c.   Methods for overcoming resistance and their underlying theory

   o   Kurt Lewin – Top-down
   o   Kotter – Top-down
   o   Lauche & Erez – Bottom-Up change initiation

Learning Outcomes:

➢   Understand the sources of resistance to change

➢   Strategies for overcoming resistance to change

➢   Learning methods for getting to "yes".

Class Exercise: Use of Kotter's tool for overcoming resistance to change.

Reading:
- Cialdini, R.B. (2001). Harnessing the Science of Persuasion. *Harvard Business Review,* 72-79.

Recommended:
- Dutton, J., Ashford, S., O'Neil, R., & Lawrence, K. (2001). Moves that matter: Issue selling and organizational change. *Academy of Management Journal*, 44 (4), 716-736.

- Lauche, K. & Erez, M. (2023). How innovators negotiate resources: Relational dynamics of issue selling and collective moaning. *Academy of Management Journal*, 66(2), 553–577.

For the team project part 5: Identify sources of support and obstacles to implementing innovative solutions, and propose a program for overcoming the barriers to implementing your innovation.

Lesson 6 (12/02/2026): Integrating external knowledge of startup acquisition.

a. Structural Integration: learning the pros and cons of high versus low structural integration when acquiring external knowledge via startup acquisition.
b. Methodologies for overcoming the challenges of external knowledge assimilation.
c. Market penetration and getting to the end customer.
d. Assessing the impact of innovation

Learning Outcomes:
➢ Understand the challenge of external knowledge integration
➢ Getting familiar with potential methodologies for structural integration
➢ Learn to use metrics for assessing the impact of innovation
➢ Learn to optimize the "last mile" to reach the end customer.

Class exercise: Class Discussion of different forms of Structural Integration of an acquired startup. Motivation for the acquisition, the pros and cons of structural integration, and how to optimize it for successful integration.

*R*eadings:

Avnimelech, G., & Amit, A. (2024). From startup nation to open innovation nation: The evolution of open innovation activities within the Israeli entrepreneurial ecosystem. *Research Policy, 53*(9), 105079.

Puranam, P., Singh, H., & Zollo, M. (2006). Organizing for innovation: Managing the coordination-autonomy dilemma in technology acquisitions. *Academy of Management Journal, 49*(2), 263-280.

Stettner, U., & Lavie, D. (2014). Ambidexterity under scrutiny: Exploration and exploitation via internal organization, alliances, and acquisitions. Strategic Management Journal, 35(13), 1903-1929.

For the team project part 6: Two alternatives:
A. Prepare "the last mile" of getting to the user and offering a unique user experience and added value.
B. Propose a structural integration process for bringing in external knowledge and integrating it with the organizational goals for future developments and new innovative products.

Class 7 (19/02/2026): Presentation of the final team project.
<u>10 minutes per team + 2min.</u> Q&As.

Submission between 12-02-2025 to 19-02-2025