

# DePaul University - Kellstadt Graduate School of Business

## GSB 525 – Business Innovation and Design

Winter 2022

**Instructors:** Rafael Tenorio and Gabriella Bucci

**E-mail:** [rtensorio@depaul.edu](mailto:rtensorio@depaul.edu) and [gbucci@depaul.edu](mailto:gbucci@depaul.edu)

**Important:** As the term progresses, we may need to adjust some parts of the syllabus (e.g. due dates or instructions for assignments) to keep the course running smoothly and in a way that is manageable for all. We will continuously work toward creating an excellent for all of us.

### **Course Description**

This course explores the role of innovation in organizations, markets, and society. By analyzing the forces behind creativity and innovation, we provide the foundation for understanding what determines successful innovation outcomes. Within organizations, the discussion focuses on people, including individual creativity, and process, such as Design Thinking, Lean Startup, Inventive Problem Solving, and others. We also explore the role of creativity in the economy and how to measure of innovation empirically in order to provide a useful and pragmatic view. We use an applied and experiential approach in this class, including group and individual work that allows students to be immersed in the creativity and innovation process.

While innovation and creativity methods and processes are widely used by practitioners, they are also studied by academics. Thus, in addition to practical methods and approaches we will also learn what academic research tells us about the foundations and effectiveness of different methodologies, the impact of various innovation policies, and how innovation fits within the firm's overall strategy.

### **Course Objectives**

In this class, students will learn to:

1. Critically evaluate different measures of innovation and creativity.
2. Understand the role of market forces in identifying and evaluating innovation opportunities.
3. Gain insight into how market structure, regulation, contracting, and joint ventures affect the supply of innovation.

4. Analyze empirical evidence about innovation activity, creativity, and performance in order to identify processes that are more likely to lead to successful outcomes.
5. Explore, enhance and demonstrate your own creative and innovative abilities to generate ideas and solutions to problems and opportunities.
6. Apply team creative collaboration principles to identifying problems and opportunities
7. Develop a practical approach to driving innovation in the organization through Design Thinking, Theory of Inventive Problem Solving, Behavioral Design, Lean Startup, and other complementary techniques and methodologies.
8. Analyze the leader's role in creating an organizational environment that fosters leading edge thinking by reducing barriers to creativity and building a culture to support innovation in the workplace.
9. Analyze the impact of Business Model Innovation and Disruptive Innovation on overall innovation outcomes and trends in the economy.

## **Course Format**

We will conduct this course in an online asynchronous format. This means that you are not required to be online at any specific time. You can work through each week's materials at your own pace but keep in mind that there will be group-based work and weekly deadlines for discussion posts and assignments. **We will post new weekly content on Mondays.**

Please make sure to have the necessary technical resources to be able to access course materials and complete assignments. If you do not have access to the following resources, please let us know immediately so that we can make accommodations for you:

- A computer that connects to the internet (web cam very helpful but not required).
- A working DePaul email address. All communication goes through your DePaul email address. You can forward your DePaul email address to your personal email if you wish.
- Access to Microsoft Office or similar software.
- Ability to playback video files.

## **Office Hours/Contact Hours**

We will conduct office hours in two ways:

-By appointment at a mutually convenient date and time. Please email us to make an appointment. We will do our best to reply as quickly as possible.

**-Every Thursday, we will host a live Zoom call from 6 to 7 p.m. Central (Chicago) Time.** This session is open to anyone who wants to network, ask questions about the class, talk about innovation and business news, and -in general- chat and get to know each other. **This is not a required session, but we encourage you to attend when you can for as long or as short a time as you are available. This will enrich our class experience and build a sense of community.**

## Materials

1. No required text.
2. No required readings.
3. Required lecture slides and videos posted on D2L.
  - a. The slides and videos are the core content for this class.
  - b. We expect you to carefully study and learn the content in these lectures and videos.
  - c. Some weeks our lectures are longer compared to other weeks. We present the topics and also review evidence for each topic.

## If You Are Interested

Once again, there are no required readings for this class. However, some of you may be interested in further pursuing some of the topics we discuss in the lectures. For those who are interested, we have carefully curated readings about the topics we cover. Each week on the syllabus you will find a few 'If You Are Interested' readings. **These are for you to read only if you wish to expand on topics beyond the lectures, and we will not test you on them.** These readings are meant to serve as a resource if you want to dig deeper into some of the topics now or as you continue your MBA and beyond. Perhaps you will want to revisit or come back to some of this material in the future, to help you develop ideas for papers/projects in other classes, or to help with a project at work.

## Grading

The grade you make is based on the following required components and points:

Individual Activities:	40 points total
Discussion Boards	25
Project Final Pitch Video	15
Group Activities:	60 points total
Case reports	20
Project Foundation Report	20
Project Final Report	20

The grading scale in this course is:

A	93% and above	C	73-76%
A-	90-92%	C-	70-72%
B+	87-89%	D+	67-69%
B	83-86%	D	60-66%
B-	80-82%	F	59% and below
C+	77-79%		

## **Description of Assignments**

### ***A. Case Reports (written with your group)***

You will have two case reports due in weeks 4 and 9 (see deliverables schedule below). The reports will be based on background information, lecture content, and questions that we post on D2L. Case reports will be graded on a 10-point scale.

If a team member has not worked on a case report, that person's name may be omitted from the report.

### **Case Report Requirements and Grading:**

- a. Reports must incorporate relevant class material, demonstrating a deep understanding and knowledge of concepts and frameworks from class, applying them correctly to the case.
- b. There is no re-teaching of class material. Use the class material and concepts in your analysis without re-teaching them.
- c. Analysis in the report is positive (not normative) and shows a high level of independent, critical thinking, and thoughtfully addresses the case questions. From Wikipedia: *"Positive statements are based on empirical evidence, can be tested, and involve no value judgements. Positive statements refer to what is and contain no indication of approval or disapproval. When values or opinions come into the analysis, then it is in the realm of what is normative. A normative statement expresses a judgment about whether a situation is desirable or undesirable, which can carry value judgements."*
- d. There are no unsubstantiated claims in the report.
- e. Report does not quote extensively from the case but explains things in your own words.
- f. Report is well organized.
- g. Report consistently uses active voice.
- h. Spelling, punctuation and grammar are accurate.

As reports deviate from the above criteria, the score on the report will be lower.

### ***B. Discussion Boards—Individual grade***

There will be required discussion board activities in weeks 1, 2, 4, 5, and 7; and an optional board in week 8. In weeks 1, 2 and 4 you will respond individually to a prompt. In weeks 5 and 7 you will work with your group to record brainstorming sessions using some of the techniques from class.

Your discussion board grade will be an individual grade, and we will update it twice; after week 4 and at the end of the course.

### **Discussion Board Requirements and Etiquette:**

- a. Posts demonstrate knowledge of the class concepts and are linked to evidence and/or course material.
- b. Adhere to the posting requirements. In general, each discussion board topic requires one comment, either as a thread or as a reply. Most weeks have two discussion board topics -- which means that you will write two total posts for the week, one for each topic.
- c. Timely -adhere to the time window set aside for each discussion, not posted at the last minute. Timely posting leads to productive discussions, in that it allows class members to respond to each other's comments. Posts will be marked down if they are consistently entered during the last hours the board is open.
- d. If your post is related to an existing thread, you must reply to the existing thread, not create a new thread.
- e. Respectful -even when there is strong disagreement.
- f. Stimulate thinking. Do not be afraid to challenge existing comments.
- g. Encourage others to provide evidence and/or refer to course concepts to support their arguments.
- h. Move the class understanding forward.
- i. Do not ramble.

Posts that simply state "I agree" or "I was going to say the same thing" or repackage what a previous classmate said are not actually discussion posts and will not be credited as such.

Please do not write in all CAPS. If you want to emphasize a word or phrase you may write it in bold, italics, underline it, or put an asterisk before and after the word or phrase.

We will monitor the discussion boards and participate when we see fit. We will keep track of the posting requirements and the quality of your comments. We will not respond to every comment or thread.

### ***C. Final Project—written with your group***

The purpose of the project is twofold:

- a. To learn more about the innovation process at a company or [open-source](#) community.
- b. To use innovation methods or processes from class to develop two innovations that are relevant to your organization and that will be presented to management and/or investors in a 25-minute (max) video presentation. Each member of the team must appear and contribute to the video.**

There are **three deliverables** for the project:

- a. Project Foundation Report
- b. Final Report

c. Final Video (in mp4 format) and Pitch Deck

***(i) Project Foundation.***

The purpose of the project foundation report is to introduce and describe the organization you have selected (subject to our approval), explain the innovation process, culture, and challenges in the organization, and identify needs or problems in the organization that can be solved through innovation.

Each team will submit a report that describes the organization and lays out the foundation for the final project. The project foundation report is limited to 6 pages maximum and must include the following:

- a. A description of the company or open-source community (we must approve your choice, please contact us in advance), including recent accomplishments and innovations.
- b. Innovation culture, management, and incentives of the organization. **Make sure to link this section to concepts from class.**
- c. Innovation challenges in the organization, such as financial, technical, political issues, the effect these have had on innovation, and how these challenges affect ongoing innovation processes.
- d. The role of technology-push and demand-pull in the organization's innovation processes.
- e. Other information about the research and development process and approach to innovation in the organization you select (this can include innovation cycles, approaches to team composition and collaboration, how innovation is measured and tested, open vs. closed-source, role of end and lead users, idea collection processes, etc.)
- f. A preliminary look at the types of innovations that could improve this organization's competitive position. This may include problems or needs that new innovations may address going forward. This is not intended to be a deep dive into specific innovations (leave this for the final-final project).

You may use primary sources—interviews—and/or secondary sources like articles, reports etc.

Unless the team identifies members who have not contributed (or only minimally contributed) to the report, the entire team will earn the same grade on the Project Foundation Report. A team may identify a member who has not (or only minimally) contributed to the report by leaving that person's name off the report, or by contacting Gabriella or Rafael to discuss the issue in advance.

***(ii) Final Deliverables.***

**Final Report—The purpose of the final report is to lay the groundwork for two innovations that you will present in the video pitch.**

Your Final Report must include:

- a. A short summary of the needs or problems you identified in your foundation report. At this point you may have gathered more information or further thought about this and you may want to expand/modify the ideas you laid out in your foundation. Whether you have new information or not, please give a brief summary of those needs/problems.

- b. Customer segments that will inform or guide your innovation ideas.
- c. The class methods or processes you have chosen to ideate and innovate, and why you selected them.
- d. A clear statement of your goals.
- e. A specific description of two innovations that address the problems or needs you identified in (a).
- f. A brief description of how the innovations fit within the general strategy of the organization.
- g. How you will measure and test innovation, and where the testing will take place. Examples of items that belong in this section are the projected time frame for prototype turnaround and/or a Minimum Viable Product, A/B testing and experimentation, etc.
- h. Any other relevant aspects (especially those covered in the class).

Unless the team identifies members who have not contributed (or only minimally contributed) to the report, the entire team will earn the same grade on the 6-page final report. A team may identify a member who has not (or only minimally) contributed to the report by leaving that person's name off the report, or by contacting Gabriella or Rafael to discuss the issue.

#### **Video and Pitch Deck – The Innovations:**

**The purpose of the video and pitch deck is to present your innovations to management or a group of investors. Your innovations must be relevant to your organization and can be products or processes**

Your video must include:

- a. A detailed description of your innovations and why they are relevant for your organization. What needs/pain points are addressed by the innovations?
- b. The opportunities and barriers related to the innovations. These can include market opportunities or obstacles, financing, marketing, technology, etc.
- c. How you will measure whether your innovations are successful or not including a description of experiments, A/B tests, etc.
- d. Timelines for prototyping, testing, learning, adjusting and re-testing.
- e. If applicable, you can include a prototype in your presentation.

Limit is 25 minutes.

We will grade each team member individually in the video. If a team member is not in the video, we will assume that person did not contribute.

## Schedule: Due Dates

<b>Assignment</b>	<b>Due Date. All are due at 11:59 pm Chicago time</b>	
<b>Group Signup</b>	Week 2	January 12 (Go to More → Groups)
<b>Video Introduction</b>	Week 3	January 17 (on discussion board)
<b>Case Report 1</b>	Week 4	January 24
<b>Project Foundation</b>	Week 7	February 14
<b>Case Report 2</b>	Week 9	February 28
<b>Final Deliverables</b>	Week 11	March 16
-Final report		
-Pitch Video		
-Pitch Deck		

## Course Organization

The learning unit in this course is the week. The term has 10 instructional weeks, and we will follow a weekly schedule that begins on Monday (i.e., we will post new lecture notes and videos and discussion questions on Mondays).

## Academic Integrity

All work completed for this course must adhere to the University Academic Integrity Policy which you can review at <http://academicintegrity.depaul.edu>.

We may use plagiarism detection technology for all written work submitted for this class to ensure the work is the student's (or group's) own creation and is not in violation of DePaul University's Academic Integrity Policy. Submission of work for this course constitutes (i) a pledge that the work is the student's own original work and (ii) consent to have the work submitted to verify that fact.

If you use any materials beyond the text and lecture videos in anything you write or submit for this course, you must cite them properly. Proper citation includes using quotation marks for all quoted text and adding references for anything you paraphrase.



## **Course Outline**

### **Week 1**

#### **Introduction**

- Coarse Roadmap
- Creativity, Design, and Innovation
- Role of Creativity and Innovation in the Economy
- Measuring Creativity, Innovation, and Innovation Outcomes
- Myths of Innovation

#### **If You Are Interested:**

- Kyllianen, The Importance of Innovation – What Does it Mean for Businesses and our Society? White Paper, *Viima*, 2019.
- Popa et. al., A Theoretical Approach to the Concept of Innovation, Managerial Challenges of the Contemporary Society, 2010.
- Gerguri and Ramadani, The Impact of Innovation into the Economic Growth, *MPRA Paper No. 22270*, 2010
- Berkun, The Ten Myths of Innovation: The Best Summary, 2013, retrieved from [scottberkun.com](http://scottberkun.com), 2013.

### **Week 2**

#### **Supply of Innovation**

- Demographics and Education
- Market Structure
- Innovation Policy and R&D
- IP and Control Rights
- Prizes and Contracting
- Open Innovation

#### **If You Are Interested:**

- Tam, How Immigrants Drive Entrepreneurship and Innovation, *Behavioral Scientist*, 2020.
- Amabile, Motivating Creativity in Organizations: On Doing what you Love and Loving what you Do, *California Management Review*, 1997.
- Simon and Shallone, Effects of Firm Size and Market Structures in Technological Innovation: A Review of Literature, *Journal of Sustainable Development Studies*, 2013.
- Bloom et. al., A Toolkit of Policies to Promote Innovation, *Journal of Economic Perspectives*, 2019.
- Belleflamme, Patents and Incentives to Innovate: Some Theoretical and Empirical Economic Evidence, *Ethical Perspectives: Journal of the European Ethics Network*, 2006.
- Chesbrough, The Era of Open Innovation, *MIT Sloan Management Review*, 2003.

## Week 3

### **Demand for Innovation**

- Market Pull Factors
- Identifying Opportunities
- End-User Approaches

#### If You Are Interested:

- Motoyama and Malizia, Demand Pull or Supply Push? Metro-level Analysis of Startups in the United States, *Regional Studies, Regional Science*, 2017.
- OVO, Identifying the Best Innovation Opportunities, White Paper, 2016.
- Schuurman, User Innovation, in *Bridging the Gap Between Open and User Innovation?: Exploring the Value of Living Labs as a Means to Structure User Contribution and Manage Distributed Innovation*, 2015.

**\*\*\*Video Introduction due on Discussion Board.**

## Week 4

### **Role of Management and Culture in Fostering Creativity and Innovation**

- Management of Innovation
- Evidence-Based Approaches to Innovation
- Corporate Culture
- Leadership

**\*\*\*Case 1 Due 11:59 pm**

#### If You Are Interested:

- Hamel, The Why, What and How of Management of Innovation, *Harvard Business Review*, 2006.
- Damanpour and Aaravind, Managerial Innovation: Conceptions, Processes, and Antecedents, *Management and Organization Review*, 2011.
- Rosing et. al., Explaining the Heterogeneity of the Leadership-Innovation Relationship, *The Leadership Quarterly*, 2011.
- Cameron and Quinn, The Competing Values Framework, in *Diagnosing and Changing Organizational Culture 3e.*, 2011.
- Tushman et. al., The Ambidextrous CEO, *Harvard Business Review*, 2011.

## Week 5

### **Design Thinking**

- The Design Thinking Process
- Design Thinking Variations
- Complementary Tools (Mind Mapping, Journey Mapping)
- Fundamentals of Brainstorming and Ideation

### If You Are Interested:

- Brown and Wyatt, Design Thinking for Social Innovation, *Stanford Social Innovation Review*, 2010.
- Kolko, Design Thinking Comes of Age, *Harvard Business Review*, 2015.
- Liedtka, Why Design Thinking Works, *Harvard Business Review*, 2018.
- Berkun, How to Run a Brainstorming Meeting, retrieved from [scottberkun.com](http://scottberkun.com), 2007.
- Dam and Siang, 14 Barriers to Ideation and How to Overcome Them, *Interaction Design Foundation*, 2020.
- Cy, Detailed Book Notes on 'Mind Mapping Mastery' by Tony Buzan, *Medium*, 2019.
- Temkin et. al., Mapping the Customer Journey, *Forrester*, 2010.

## Week 6

### **Brainstorming and Ideation Techniques**

- SCAMPER
- Six Thinking Hats
- Morphological Analysis and Brainswarming

### **Behavioral Design**

- The Behavior-Centered Design Model
- Fogg's Behavior Model
- Wendel's Behavior Change Model
- Eyal's Hook Model

### If You Are Interested:

- Dam and Siang, Learn How to Do the best Ideation methods: SCAMPER, *Interaction Design Foundation*, 2020.
- Rump, Six Thinking Hats, *Medium* (Various), 2019.
- McCaffrey and Pearson, Find Innovation Where You Least Expect It, *Harvard Business Review*, 2015.
- Sunstein, Nudging: A very Short Guide, *Journal of Consumer Policy*, 2014.
- Fogg, A Behavior Model for Persuasive Design, *Stanford University Persuasive Technology Lab*, 2009.
- Wendel, *Designing for Behavior Change* (Preface), 2013.
- Batterbee, How to Create Habit-Forming Products Using the Hook Model, *UX Collective*, 2020.

## Week 7

### **Learn Startup**

### **UX Design**

### If You Are Interested:

- Blank, Why the Lean Startup Changes Everything, *Harvard Business Review*, 2013.
- Blank, The Path to Epiphany: The Customer Development Model, in *The Four Steps to the Epiphany*, 2005.
- Kos, The Lean Startup Ultimate Guide – Everything you Need to Know About the Lean Startup, *AgileLeanLife.com*, 2017.
- Gallo, A Refresher on A/B Testing, *Harvard Business Review*, 2017.
- Minhas, User Experience Design Process, *Medium*, 2018.
- Gube, What is User Experience Design? Overview, Tools, and Resources, *Smashing Magazine*, 2010.

**\*\*\*Project Foundation Due 11:59 pm**

## Week 8

### **The Theory of Inventive Problem Solving (TRIZ)**

#### If You Are Interested:

- Illevbare et. al., A Review of TRIZ, and its Benefits and Challenges in Practice, *Technovation*, 2013.
- Souchkov, TRIZ for Business and Management: State of the Art, *Proceedings of the TRIZ Developers Summit*, 2019.
- Souchkov, TRIZ for Business and Management: State of the Art, *Proceedings of the TRIZ Developers Summit*, 2019.
- Mann and Domb, 40 Inventive Principles for Business, *The TRIZ Journal*, 1999.

## Week 9

### **Business Models and Business Model Innovation**

- Business Model vs. Business Strategy**
- Business Model Generation**
- Osterwalder's Business Model Canvas**
- Business Model Patterns**
- Game-Changing Moves**
- Paths to Business Model Innovation**
- Open Business Models**

**\*\*\*Case 2 Due 11:59 pm**

#### If You Are Interested:

- Osterwalder and Pigneur, *Business Model Generation Book Preview*, 2010.
- Cassadesus-Massanell and Ricart, How to Design a Winning Business Model, *Harvard Business Review*, 2011.
- Strategyzer, Business Models, <https://www.strategyzer.com/expertise/business-models>, 2020.
- Chesbrough, Why Companies Should Have Open Business Models, *MIT Sloan*

*Management Review*, 2007.

-Cuofano, Innovation in Business: What is Business Model Innovation, *FourWeekMBA*, 2020.

## Week 10

### **Dynamics of Innovation**

**-Technology and Market Dynamics**

**-Disruptive Innovation and the Innovator's Dilemma**

### If You Are Interested:

-Christensen, Exploring the Limits of the Technology S Curve, Part I: Component Technologies, *Production and Operations Management*, 1992.

-Christensen, Exploring the Limits of the Technology S Curve, Part II: Architectural Technologies, *Production and Operations Management*, 1992.

-Christensen and Bower, Disruptive Technologies: Catching the Wave, *Harvard Business Review*, 1995.

-Christensen et. al., What is Disruptive Innovation,? *Harvard Business Review*, 2015.

**\*\*\*Final Deliverables Due March 16, 11:59 pm Chicago time**