SCHOOL OF BUSINESS RUTGERS UNIVERSITY-CAMDEN

Managing Innovation

COURSE SYLLABUS - SPRING 2025

Section: 52:620:470:90

INSTRUCTOR Supradeep Dutta

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EMAIL/WEB supradeep.dutta@rutgers.edu (I encourage you to use e-mail outside of

class or scheduled office hours and mention course name in the subject line). Course policies, slides, homework assignments, and guidance can be

found on Canvas. You should check this site regularly.

OFFICE HOURS Wednesday 1:00-2:00 pm (through Zoom); other times by appointment

(virtual or in-person).

TEXT & READINGS There is no "required" textbook for the course, although I will use some

chapters from the suggested textbook below as an optional pre- or postclass reading. It is prudent to read the chapters that will help in enriching

your contributions to the discussion.

 $Schilling, M.A.\ 2016.\ Strategic\ Management\ of\ Technological\ Innovation.$

New York: McGraw-Hill, 5th edition.

The book is available for rent on Amazon. You can also acquire older

editions of the book.

This is a case-based course. The primary reading material for most sessions is a case study (see the course pack link below). Often there will be additional readings associated with a session. These readings provide some conceptual frameworks that may help you in your case analysis. These readings come from a number of different sources (including academic research articles, short articles from both popular and business presses, and case studies) and have been carefully chosen to reflect a variety of perspectives and stimulate critical thinking.

Course pack: https://hbsp.harvard.edu/import/1260526

Other Materials:

Cases, teaching notes, narrated lectures, slide notes, videos, and other posted material is available on the course Canvas site.

This course will also use various news media outlets and websites (Wall Street Journal, Financial Times, etc.) as a supplement.

I encourage you to read business related news from reliable news outlets. You may want to register for the student subscription of <u>Wall Street</u> <u>Journal</u> from https://education.wsj.com/students/.

EMERGENCY POLICY

In the event of a major campus emergency, course requirements, deadlines

and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. Canvas will be the central way to get information about changes in this course. Please assure that your email address is validated for communications through Rutgers Canvas system so that communications can be sent directly to you.

I. Course Overview and Objectives

In recent years, innovation has increasingly become the source of sustainable competitive advantage for firms, regions, or countries, and has garnered significant attention from policymakers. However, building an organization at the forefront of innovation, to push the boundaries of technology, and to bring new innovations successfully and repeatedly to market is a daunting managerial challenge. In this course we focus on the practices and processes that managers use to develop and manage innovation effectively. Innovation is a broad, multifaceted subject, and covering every aspect of innovation is not justified in a single course. Therefore, our focus in this course will examine the following six aspects of innovation:

- Understanding the economic foundations of innovation
- How firms choose among multiple attractive innovation projects exploring, exploiting, and being ambidextrous
- How firms execute innovation: vehicles of execution decide whether to "do it alone" or collaborate; tradeoffs between protecting their proprietary technologies versus rapidly disseminating them
- Leveraging and renewing innovation: best practices on new product development processes to maximize likelihood of success.
- Examining and valuing Innovation: Understanding the economic value and societal impact of innovation; understanding the ethical dilemma in innovation the dark side of innovation; role of gender and race in Innovation.
- Innovation Policy Mix: role of government (state/federal) in the innovation ecosystem; how do you recognize policies and environments that impact creativity and innovation; how do policy initiatives encourage access to resources for women- and minority-led innovation projects; how do intellectual property rights (IP) affect innovation patents, copyrights.

In this course we will examine these questions through the lens of economic analysis, and data driven facts, covering both product related and process related innovation. Geared for students with an interest in innovation and being innovative, this course will provide you with an advanced theoretical foundation and a set of practical tools for the management of innovative businesses in a fast-changing environment. This course is designed to provide both a deep grounding in the field of innovation for managers and entrepreneurs whose goal is to spearhead innovation-driven firms. The course combines lectures, case analyses, experiential games, active discussions, and presentations. Like the firms / industries we will study, the course will be fast-paced, and every effort will be made to make the course content and delivery both challenging and exciting.

The readings are drawn from research in the management of technological innovation and technology-based entrepreneurship as well as from economics and organizational theory. The cases provide an extensive opportunity to integrate and apply these tools in a practical, business context, and draw from a wide variety of firms and industries: established and entrepreneurial, mainly from high technology. Our focus will be on firms (new and established) using real world cases and examples highlighting projects that have been successful and unsuccessful in their innovation.

The course content swings between strategic issues (what should you do?) and organizational and managerial issues (how should you get it done?), though the focus of the course is more on examples of process and implementation. The course design is grounded on the belief that innovation is a challenging process that helps a firm transform a great idea (which is worth little or nothing) into a commercialized entity (monetize the idea).

In this course, we will approach innovation management in the following way: First, we will gain a solid understanding of the economic foundations of innovation. Next, we will approach innovation issues from the entrepreneur and manager's perspective. While most firms have specialized R&D, other functions must all interface with R&D. Any business leader should be conversant with the futuristic thinking on innovation and should not leave this challenge to the R&D function alone. Third, this course will approach the management of innovation from a strategic perspective. As such, we will consider the relationship between processes and structures for innovation in firms, the strategies for exploration and exploitation and the environment in which these must be designed i.e., competitive landscape, rate of technological change, sources of innovation. Finally, we will delve into the policy perspective of catalyzing innovation – analyzing the tools available to firms to enhance their innovation and protect the intellectual property.

To achieve these objectives, the course is divided into six modules. The first three modules will be covered in the first half of the semester and the second half of the semester will focus on the remaining three modules.

Module 1 – Economic foundations of Innovation

Module 2 – Exploring innovation projects

Module 3 – Executing innovation projects

Module 4 – Leveraging and Renewing Innovation Practices

Module 5 – Examining and valuing Innovation

Module 6 – Innovation Policy Mix

II. Expectations from Students

This course is geared towards senior students with prior experience in analyzing cases. Familiarity with basic financial accounting terms is beneficial.

All students in the course are expected to regularly check their email accounts and the Canvas course websites. Course related announcements, updates, reminders, and guidance will be communicated through 'Canvas announcements'. Students are responsible for updating Canvas to reflect their current email address and set up notifications.

Method of Instruction

This is an online asynchronous course. Being successful in this course puts a great deal of responsibility in your hands. There are no scheduled meeting times, but deadlines are strictly enforced, as students work together in groups to achieve learning objectives. The class follows a rigorous schedule and you should expect to put at least as many hours into this course as you do with a traditional, face-to-face class. It is critical that you stay on pace with the reading material, understand lecture material, and participate in online discussions and strategy exercise each week.

You will notice the grading in this course is mix of multiple components. To succeed in the course, a prudent student should keep a check on the requirements and deliverables (individual/group). Plan to log into Canvas almost every day. As much as possible, we will try to stick with the weekly schedule.

Class Communication

All class communication will be conducted via Rutgers e-mail and Canvas. Posted will be the syllabus, deliverables checklist, resources (articles and examples), Power Point slides, announcements, guides, etc. You should check the Canvas course announcements regularly for important announcements. Please forward your Rutgers email to your personal email if necessary. Not checking your Rutgers email is not an excuse for missing any communication. All announcements will also be posted in Canvas and can be accessed via the "Announcements" page in Canvas.

If you have any questions or concerns, please contact me via email. I will try to respond to you within 24 hours. If you do not hear from me within 48 hours, please re-send your email. If you would like to meet me in person in my office or via Zoom outside of office hours in canvas, please make an appointment.

Course Organization

The course is structured in a module format. To access this system, go to https://canvas.rutgers.edu/ log in, and click on the course on the dashboard. All class materials can be obtained via Canvas. You are strongly encouraged to access this course via Canvas several times a week. You can imagine that the class seamlessly "runs" through from day 1 (Monday) to day 7 (Sunday).

The course consists of three different components:

Readings: There is no single text assigned to this course. Instead, a selected mix of classic and more modern readings in the area of innovation strategy will provide the background and frameworks for the case discussions. I will not be lecturing on the readings, but they will be important for conducting the case discussions. Therefore, unless you tell me otherwise (by asking questions), I will assume that you have read the assigned readings and understand the basic concepts in the readings.

Cases: This is a case-based class, and the centerpiece of all the activities in this class will be the case discussions. We will use cases extensively in this class to illustrate how to apply conceptual frameworks and arguments to actual business situations.

Mini Lectures: Mini lecture videos will set the stage or summarize course concepts. This will include some key takeaways from case discussions, when and how to use various frameworks, and suggestions of common mistakes with course frameworks.

Artificial Intelligence Usage

Given the exponential rise in the usage of generative AI in various fields and walk of life, it is my belief that going forward this technology will be required to complement and support our tasks and has tremendous potential to reshape our learnings. Accordingly, in this course we will have avenues to use generative AI tools to acclimatize with the appropriate usage, and in the process enhance our learning as well as develop skills to adapt to this new technology.

Generative AI tools (e.g., ChatGPT, Bard, Dall-e, etc.) will be used in this course for certain activities/assignments:

- Brainstorming and refining your ideas.
- Fine tuning your questions for cases.
- Finding information on your topic/concept.
- Drafting an outline to organize your thoughts.

The use of generative AI tools is not permitted for the following activities:

- Impersonating you in classroom contexts, such as by using the tool to compose discussion board prompts assigned to you or content that you put into a Zoom chat.
- Completing group work that your group has assigned to you, unless it is mutually agreed upon that you may utilize the tool as a complement to your work.
- Writing a draft of a writing assignment.
- Writing entire sentences, paragraphs or papers to complete class assignments.

You are responsible for the information you submit based on an AI query (for instance, that it does not violate intellectual property laws, or contains misinformation or unethical content). Your use of AI tools must be properly documented and cited (cite the platform used and highlight the prompts) in order to stay

within university policies on academic honesty. Any assignment that is found to have used generative AI tools in unauthorized ways based on guidelines in this syllabus, will be subject to report of a violation of Academic Integrity and thus the appropriate adjudication. When in doubt about permitted usage, please ask for clarification.

IV. Academic Integrity

Rutgers University-Camden and the School of Business support and expect the highest standards of academic honesty. Just as integrity is valued and important in the workplace, it is also the foundation for how we should conduct ourselves at school. Academic misconduct will not be tolerated in any shape or form. As such, students should neither share information regarding exams or presentations nor use information from previous semesters.

Discussion of "homework" assignments <u>is</u> allowed, but the end product is expected to be an individual's effort. Discussion of "group case" assignments <u>is not</u> allowed across groups. Assignments that appear to be copied in whole or in part will be considered to violate the academic code of conduct and will be dealt with accordingly. With regard to the group assignments, this also applies to groups copying from other groups.

Detailed information on the guidelines for academic integrity and rules for academic behavior can be found on http://studentconduct.rutgers.edu/student-conduct-processes/academic-integrity/. This website provides a guide and is not an exhaustive list of academic misconduct activities. If you are ever unsure of what is allowed, please contact me.

V. Accessibility Services/Accommodations

The University is committed to supporting the learning of all students and faculty will provide accommodations as indicated in a Letter of Accommodation issued by the Office of Disability Services (ODS). If you have already registered with ODS and have your letter of accommodations, please share this with me early in the course. If you have or think you have a disability (learning, sensory, physical, chronic health, mental health or attentional), please contact https://success.camden.rutgers.edu/disability-services. Accommodations will be provided only for students with a letter of accommodation from ODS. Their services are free and confidential. Letters only provide information about the accommodation, not about the disability or diagnosis.

VI. Code of Student Conduct

Rutgers University-Camden seeks a community that is free from violence, threats, and intimidation; is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and does not threaten the physical or mental health or safety of members of the University community, including in classroom space.

As a student at the University you are expected adhere to the Code of Student Conduct. To review the code, go to https://deanofstudents.camden.rutgers.edu/student-conduct

Note that the conduct code specifically addresses disruptive classroom conduct, which means, "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."

VI. Diversity and Inclusiveness

Openness and tolerance for diverse perspectives—taking the initiative to try to understand points of view that are different from our own:

Not respecting individual differences (for example culture, gender, sexual orientation, race, religion, disability status, or age) is perceived as intolerant. Not respecting others in general is a negative attribute and detrimental to the class. Examples of violations: not respecting or facilitating the input of individuals from different cultural backgrounds, making racist, sexist or otherwise insulting or derogatory comments about a class member; bullying a classmate or engaging in any actions that create a hostile learning environment.

Pronouns

This course affirms people of all gender expressions and gender identities. Feel free to correct me on your preferred gender pronoun. If you have any questions or concerns, please do not hesitate to contact me.

VIII. Course Requirements

To accomplish the course objectives, we use a variety of learning techniques: lectures, readings, written reports, presentations, class discussion, and experiential/simulation games. We will often refer to and apply the tools and frameworks when analyzing cases, preparing presentations.

A. Knowledge Sharing

You will have several opportunities to link course concepts to examples from your experience or the business press. The most common way to contribute to learning is through contributing to the knowledge sharing – the more you share knowledge, the better we learn. Fundamentally, a good contribution involves presenting a clear opinion, expressing it civilly, and supporting the opinion. In addition, we all have the responsibility to create an environment where each member of the cohort feels comfortable offering his or her opinion; thus, knowing how to acknowledge others' views is also important.

Knowledge sharing provides an opportunity to think critically, articulate the thoughts, and develop communication skills - in presenting a point of view and in listening. In many ways, these skills are as valuable as the "analytical frameworks" to be discussed during the course.

In grading knowledge sharing, I will use several criteria, most of which emphasize the quality of comments, including:

- a) Relevance Do your comments speak directly to the issues and concepts being addressed? Do they extend our understanding of those issues or concepts? Do they reflect your adequate preparation to participate in the discussion?
- b) Additivity Do your comments reflect active listening to the comments of other class members? Have they incorporated insights introduced earlier and built upon them?
- c) Substance Do your comments make a real contribution to the ideas being exchanged? Has anything new been gained from your contribution to the discussion?
- d) *Persuasiveness* Have your points been well articulated, argued, and supported, such that others take note of the convincing nature of your points?
- e) *Questioning* Have your comments reasonably questioned the comments of others or challenged their assumptions without disparaging the person who offered them?
- f) Amount of participation (this does NOT mean dominating the discussion).
- g) Scores range from 1 for no participation (default, just being present) to 4 for profound enlightenment.

Discussion Forum: The knowledge sharing will be administered through the "Knowledge Sharing" forum under the Discussion tab in Canvas. For each week, I will post a discussion question. You can put your views/thoughts to the questions and/or expand on existing discussion threads posted by other students. You are also encouraged to put news articles, open new discussion questions, share your views on a topic. I will also post current news articles relevant to the concepts learned in class to make it an Sp25 Managing Innovation 52.620.470

enriching channel to contribute to knowledge sharing and will help you score more points in class participation.

B. Class Reporter: The idea of the class reporter is for you to take something from either your experience or from an article you have read, or something related to innovation that is of interest to you that you want to share with the class. If you volunteer to be a class reporter, you will be expected to give a short 2-4-minute presentation as a PowerPoint voiceover or zoom video or YouTube or any format as long as you can share the presentation link on Canvas. The presentation video (or the link) should be shared through the "Class Reporter" forum under the Discussion tab in Canvas. This is intended to give students more practice at speaking in public. It is considered extra credit (maximum of 10 points). This is available once per semester for a student and once per week. If you want to be a class reporter, you to email me in advance with the week you want to be a class reporter.

CD. Two Scheduled Short Quizzes

There are two scheduled short quizzes with multiple choice and true/false questions. The quizzes are closed book, closed notes. Important information of each quiz follows: (1) it takes 5-10 minutes and will be given at the beginning of the class. (2) Each quiz is 10% of the grade. (3) The quizzes will be administered through Canvas. (4) No make-up quiz will be given after the formal one. You can schedule to take the quiz earlier if you have a good excuse with official document as proof. These quizzes will cover material from your assigned readings and cases. You should have little trouble on the quizzes if you do the assigned readings and study the cases.

F. Reflections

Reflections are designed to encourage participation and continuous learning. The goal is to send you on your path with a thorough understanding of forces that encourage and discourage innovation.

Reflections are graded on a 20-point scale, where "no submission" gets 0 and 20 is the perfect score. Perfect scores will be rare. Grades are based on the clarity of your argument, originality, and your use of evidence to back up your point of view. Assigned readings will form the foundation for these projects, and it is critical that that you review assigned materials. We will have 4 reflections in the semester worth 20% of the grade. In doing the reflections, with all readings, think about what have you learnt that you did not know before? And what are some open questions that remain to be answered? In other words, what else do you want to know? For instance, in the first second week we will ask: Why does innovation matter? In your view, what is the most important innovation policy that President Biden could push to support innovation from women- and minority-led teams to bring equality in accessing critical resources?

G. Case Analyses

Strategic thinking and analysis is best learned through practice. The cases we will study are about *real world* business situations; they are an opportunity to both apply the concepts we discuss in class as well as further develop our ability to think about business strategy. How much you get out of a case depends on your preparation and active participation.

I will provide general guidelines about the cases to be analyzed. Case analyses will be completed in groups. Late assignments will not be accepted and cannot be made up.

G1. One Group Case Presentation with Write-up

One group will be selected for each case presentation. Your group will play the role of consultants. The class will play the role of the firm's top management team/key stakeholders/shareholders.

<u>Group case presentation will be administered through Canvas. Here are some format options</u>. As a group, you can choose whichever option is convenient for you, for making a video of your presentation.

- Powerpoint file with voice-over narration. This can be saved as a Powerpoint Show (".ppsx") file (Powerpoint also allows saving it as mpeg-4 movie file). Upload the .ppsx / .mp4 file to Canvas for everyone in the class to view on the scheduled week.
- Zoom/Webex video recording of the group presenting the slides.
- Upload your presentation to YouTube / Vimeo / other platforms, and put the link on Canvas to share with the class.
- If you have any other creative solutions, you may adopt that format as long as it is user friendly and shareable to the class.

In the presentations, introduce each team member clearly at the beginning. Also mark clearly, with a separate PPT slide, the team member who is presenting the next set of slides in the presentation.

Since you may be geographically dispersed, group members will have to communicate and coordinate using some teleconferencing software/app like Webex, Zoom, Skype, FaceTime etc. to prepare for the presentation. Be creative in your presentation

More details will be available later, but the general approach is that your group will submit a presentation video along with the write-up (format given below). Each case discussion will have three parts:

Format for case presentation

- 1. Approximately 8-10 minutes identifying the problem(s) facing the company along with the symptoms of the problems;
- 2. Approximately 12-15 minutes outlining the central issues confronting the company, analyzing these issues using course concepts and models, developing at least three alternatives for solving the problems facing the company, and recommending one of the alternatives along with a discussion of potential implementation issues;
- 3. Approximately 8-10 minutes leading a discussion with the class answering questions and trying to determine where they agree and disagree with your team's analysis. You should defend your position, but also be willing to incorporate good suggestions from the class.

You should spend more time on the analyses that are most critical to specific challenges the company faces.

Note: All group members must be present for the presentation, and all members must participate in the presentation. The submission (presentation video, write-up document) is due by Friday of the week the group is scheduled to present (see course schedule). You should also prepare some discussion issues for the class and post it in the discussion forum.

Format of the Write-up (word doc): In your case write-up, you need to follow the format:

- Title page with your section number, your group number, the names of your members, the word count for the document (around 1250 words);
- 3-4 pages (<u>excluding</u>, title page, tables, figures, appendices and references);
- 1-1/2 line spacing;
- Times New Roman 12-point font;
- 1-inch margin all around (i.e., top- bottom-, left- and right-hand margins);
- Use 8.5 x 11 paper;
- Use page numbers;
- Insert footnotes if necessary.
- Structure the document with appropriate headings/sub-headings. Each paragraph should make sense in the flow of the manuscript. Think as if you are giving this report to the top management of the company.

H. Group Innovation Project

Completion of this course involves a group project. Students collaborate inside and outside of class to identify a problem and create a new service, product, or process innovation. Group projects allow you to apply (and

expand on) the course material. Each group will develop an idea for a new service, product, or process starting from problem identification and idea generation to the point where the idea can be "pitched" to potential investors. This should include research to provide feedback on your idea and support design, development, and launch plans. Examples of some projects include a 3D printing consulting company, an educational program for hospitalized children, or a mobile app to buy / sell vacant or vacated sports or concert seats.

In designing the innovation, you are encouraged to embrace generative AI tools (e.g., Dall-E; web10.io) to make the design process efficient.

Groups consist of up to 5 students and are formed and begin work the first week of the semester. Four different components of your project will be graded:

- a. Articulating the problem that the innovation will address (100 pts)
 - Write a short 1-page document describing the innovation, explaining the problem the innovation aims to solve, and the approach the team is going to take to develop the innovation.
 - Submit by end of week 3 (see schedule)
- b. Two project updates (record short videos showcasing the group working/brainstorming on the project)
 - Record two short video sessions showcasing the group members working on the project. For example, you can record a zoom session of the group members working on the project.
 - Provide a short 1-page summary supporting each video that highlights the tasks assigned to each member, contributions by each member, and the expected outcomes of the meeting.
 - First project update end of week 5 (see schedule)
 - Second project update end of week 11 (see schedule)
- c. Final project "pitch" (150 pts, class and instructor evaluation)
 - Final presentation by the group. It is a pitch presentation wherein the group is pitching their innovation to prospective investors/resource holders.
 - Presentation time: approx. 15 minutes
 - Think of this presentation as an advertisement of your innovation that should excite the investors. Highlight the market need, the uniqueness of the innovation, emphasize the kind of competition, and the commercial appeal of the product/service.
 - The final project "pitch" may involve evaluations from other students, faculty, or industry experts.
- d. Final written project report (150 pts, instructor evaluation)
 - A detailed report of the innovation project. It should include an executive summary, market need/gaps, competitive analysis, potential risks, plan for executing the commercialization, timeline, expected costs, and return projections.
 - 8-10 pages (excluding, title page, tables, figures, appendices and references);
 - 1-1/2 line spacing;
 - Times New Roman 12-point font;
 - 1-inch margin all around (i.e., top- bottom-, left- and right-hand margins);
 - Use 8.5 x 11 paper;
 - Use page numbers;
 - Insert footnotes if necessary.
 - Structure the document with appropriate headings/sub-headings. Each paragraph should make sense in the flow of the manuscript. Think as if you are giving this report to potential investors.

In addition, depending on how the innovation project progresses, if the student groups wish (and they are encouraged to do so), the course will offer the opportunity to apply for the NSF I-Corps program that offers

training/workshops in customer identification efforts and small grants towards commercialization of the innovation.

Notice: All Group Work

In order for a group to do well, each member must be actively involved in the research, discussion, and preparation of the final report and presentation. Failure to actively participate cheats both you and your other team members. Thus, there is little tolerance for free riding. It is primarily your responsibility to eliminate free riding. The incentive alignment mechanism will be the **peer evaluation** at the conclusion of the course. <u>Individual members who have not contributed to the group reports will have the final grade for group assignments adjusted to reflect their actual contribution level.</u> See peer evaluation section of this syllabus for further clarification. This has affected a small percentage of students each semester.

Should the group dynamic be less than ideal, it is encouraged that members of the group try and work issues out on their own. This is the same dynamic that will be encountered in team settings in the workplace. Should the problem be slightly more difficult to rectify it is encouraged that students bring this to light early in the semester so that some potential solutions can be discussed.

VII. Grades

Your performance will be evaluated on the basis of the following components:

Knowledge Sharing		
(Participation through Discussion forum)	100	
Reflections	= 4 assignments x 50 points each	ch
Scheduled Quizzes	100 = 2 quizzes x 50 points each	
Group Case Presentation w/ Report	200 = (100 - report; 100 - presentat)	ion)
Group Innovation Project	$\frac{400}{100}$ = 1 case write-up x 400 points	
	1000	

VIII. Final Grading Scale

Each student's grade is determined by adding the points for each of the individual requirements. The grading scale below indicates the points associated with each letter grade.

Course Points	Final Grade
920 - 1000	A
870 - 910	B+
820 - 869	В
770 - 819	C+
700 - 769	C
650 - 699	D
< 650	F

If at any time you have a concern about grades, the material in the course, or other issues that can improve your future career, feel free to discuss these with me.

IX. Cases

The following cases/mini cases will be discussed in the course:

- Tesla
- Blackberry
- Polaroid
- Netflix

- Corning
- Ferrari
- Best Buy Health
- Merck

• 3M

PEER EVALUATION FORM – Filled Out On-Line IT IS <u>REQUIRED</u> THAT EVERY CLASS MEMBER FILL THIS OUT Supradeep Dutta

(All ratings are confidential)

One of the enduring difficulties of using group projects in a class is assessing the contributions of individual group members to the final cumulative product of the group. Consequently, in evaluating group project work and assigning grades, it is important to have input from the members of the groups that participated. In this regard, you will be <u>evaluating each of your group member's</u> contribution_on the following scale:

- 1 = this group member did virtually nothing on the project.
- 2 = this group member gave minimal input, i.e., he or she came to some meetings (missing others) and did only a few things to contribute.
- 3 = this group member gave a fair amount of input, i.e., he or she came to most meetings and contributed in meaningful ways.
- 4 = this group member substantially contributed to the project, i.e., at almost all meetings, made strong contributions to data collection, analysis, writing, organizing, etc.
- 5 = this group member was a mainstay of our project, a major contributor.

Before you assign a score to each group member, please consider your responsibility in this task. Evaluation can be unpleasant at times. It is always hard to decide what is "fair". On the other hand, it will be something you face the rest of your managerial career and it is not to be taken lightly. Equity is not just a perception; it is real. Members of organizations who contribute more should expect more. Members who do not contribute should not receive the same benefit of those who contribute. Be fair, be honest, and be frank.

Students who receive an average rating that is less than 3 but greater than or equal to 2, i.e., 2.0 to 2.99, by other team members will have 10% deducted from their group work point total; students who have an average rating less than 2 will have 15% deducted.

At the end of the semester students will be sent a link to an on-line form. This process is extremely important as a reasonable amount of the course points are group work.

At the end of the course students fill the form and submit it directly to the instructor (by hand or email). This process is extremely important as a reasonable amount of the course points are group work.

1.	Your Name:					
	I would rate my contribution as:	1	2	3	4	5
2.	Team Member 1:					
	Please rate the contribution of Team member 1:	1	2	3	4	5
3.	Team Member 2:					
	Please rate the contribution of Team member 2:	1	2	3	4	5
4.	Team Member 3:					
	Please rate the contribution of Team member 3:	1	2	3	4	5
5.	Team Member 4:					
	Please rate the contribution of Team member 4:	1	2	3	4	5

Additional Comments:

Instructor: Supradeep Dutta Managing Innovation – Spring 2025

Name (Last Name, First Name):			
Name you prefer to be called:			
Contact Information:			
Major/Concentration:			
Undergrad Major:			
Nationality (optional):			
Countries or Regions visited around the world:			
Briefly describe your work experience (if any) (mention company name):			
Career Interests:			
Companies or industries you would like to learn more about:			
Learning objectives / goals for the class:			
Something interesting about yourself or something else you would like me to know:			

Spring 2025 SCHEDULE

Note:

- ALL chapters are in the required textbook, and ALL cases are in the required casebook.
- Instructor reserves the right to adjust schedule as needed some topic may run longer.
- Homework will be assigned on the day it is marked on the schedule. Homework due date is generally one week from the day it is assigned.
- Assignments are due as per the date set on Canvas. Late assignments are not accepted / cannot be made up.
- ALL students prepare ALL cases not just the case you present!

Session No. : Date

1: Week 1 | Jan 21 - Jan 26

Course Introduction. Introduce syllabus.

Knowledge Sharing Discussion Question:

What is Innovation?

Dynamics of technological innovation.

Type and Patterns of Innovation

Consider the electric vehicle industry:

- Do you think plug-in electric vehicles are a radical or incremental innovation?
- Draw where you think this technology is on the S-curve of performance improvement.
- Draw where you think this technology is on the diffusion curve (i.e., what category of adopters do you think it has reached?)
- Does this innovation disrupt a different technology's s-curve? Is this innovation at risk of being disrupted by a different technology's s-curve?

Read Case: Tesla Motors (Frank Rothaermel)

Knowledge Sharing Discussion Question:

What do you think of Tesla's entry strategy? What barriers did it have to overcome? Will other firms follow in Tesla's footsteps?

<u>Read</u>: Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms (Rebecca Henderson & Kim B. Clark)

Optional Read:

Bloom, Nicholas, Charles I. Jones, John Van Reenen, and Michael Webb. "Are Ideas Getting Harder to Find?" American Economic Review 2020, 110(4), pp. 1104-1144.

• Students should form groups of 5-6 members per group. Email me the group members by the end of first week.

2: Week 2 | Jan 27 - Feb 02

Industrial implications of technological innovation

<u>Read</u>: Christensen, Clayton. The Innovator's Dilemma. Boston, MA: Harvard Business School Press, 1997. ISBN: 9780875845852. (Chapter 3 only.)

Competitive implications of market and technology dynamics

<u>Read</u>: Gladwell, Malcolm. "The Televisionary." The New Yorker, May 27, 2002. Read two of the following articles:

- Here are the innovations we need to reopen the economy, Bill Gates, Washington Post, April 23, 2020
- Beat COVID-19 through innovation, Science, May 8, 2020
- How climate change can benefit from mobilization and digitalization
- We need more physician scientists like the Yellow Berrets, STAT, Sept 2, 2020.

Assign Reflections 1: Why is Innovation So Important? (due by end of Week 3)

Why should we care about innovation? Why does it matter to you personally? What are the main benefits that you expect from economic analysis of creativity and innovation?

Drawing from the readings and your experiences, what do you think are key forces that encourage innovation? And what are forces that discourage innovation?

<u>Format:</u> In short structured paragraphs (word/pdf) submit your reflections assignment.

Page limit: 1-2 page; Times New Roman 12; 1.5-line spacing; 1-inch margin all around

3: Week 3 | Feb 03 - Feb 09

Exploring innovations: experimentation and iteration

Knowledge Sharing Discussion Question:

Why some firms – including very successful ones – struggle or even fail to embrace the next wave of technological change even when they have the internal capabilities?

Group 1 Case Presentation/Write-up: Polaroid: Entering the Digital Imaging (Giovanni Gavetti and Mary Tripsas) (See Coursepack)

- What are the main reasons for Polaroid eventual demise?
- How is it possible that such a dominant firm was eventually topped by later entrants?

Experimenting with markets

Knowledge Sharing Discussion Question: What is disruptive Innovation? Optional Reading: Disruptive Technologies: Catching the Wave, Harvard Business Review Jan 1995

Timing of entry (Read chapter 5, Melissa Schilling book): When to enter a market or industry with a new product, technology or business model is a critical strategic decision.

Read Case: "Innovation at 3M Corp." Harvard Business School Case. Boston, MA (See Coursepack)

Submit: Articulating the problem the innovation project will address (end of week 3).

4: Week 4 | Feb 10 - Feb 16

Executing innovations: organizing to execute

Defining the Organization's Innovation Direction: In groups, choose a company with a strong technological innovation focus to analyze according to the frameworks in Chapter 6 (Melissa Schilling book), and identify what you believe the company's innovation direction ought to be. Identify at least one innovation project you believe the company is working on, or ought to be working on.

Choosing Innovation Projects

Read: Iansiti, M., and A. MacCormack. "Developing Products on Internet Time." Harvard Business Review 75, no. 5 (1997): 108-117.

Cusumano, Michael. "How Microsoft Makes Large Teams Work Like Small Teams." MIT Sloan Management Review 39, no. 1 (1997): 9-20.

5: Week 5 | Feb 17 - Feb 23

No assigned readings for the week – Meet in groups to discuss the approach to Group Innovation Project.

First team project update (submit video and supporting document by end of week 5)

6: Week 6 | Feb 24 - Mar 02

Collaboration Strategies - Alliances, Licensing

Examine how firms can enhance their ability to innovate by working with other firms within the same industry or across different industries.

<u>Read</u>: How to Make Strategic Alliances Work (Jeffrey H. Dyer, Prashant Kale, Harpreet Singh) (See Coursepack)

Make vs Buy

Knowledge Sharing Discussion Question:

Examine the conditions under which the acquiring firm can preserve (and possibly even enhance) the ability to innovate of the target firm.

Platform mediated Innovation

A growing number of markets are platform-mediated as they encompass users (e.g., consumers and advertisers) whose interactions are subject to network effects

Read: Marshall W. Van Alstyne, Geoffrey Parker, Sangeet Paul Choudary, 2016. Pipelines, Platforms, and the New Rules of Strategy (See Coursepack)

Assign Reflections 2: What are the pros and cons of collaborative innovation? (due by end of Week 7)

What are the main benefits and challenges that you expect from alliances in pursuing innovation?

What are the best practices firm/teams can follow in adopting a collaborative approach towards innovation?

Drawing from the readings and your experiences, identify a company/project that adopted collaborative approach in developing the innovation? Assess the benefits/concerns that the alliance partners faced in the process.

<u>Format:</u> In short structured paragraphs (word/pdf) submit your reflections assignment.

Page limit: 1-2 page; Times New Roman 12; 1.5-line spacing; 1-inch margin all around

7: Week 7 | Mar 03 - Mar 09

Growing through Innovation

Read Case: 150 years of Corning (see Coursepack)

What is your evaluation of Corning's growth strategy over time? What do you think enable Corning to pursue that strategy?

Intellectual Property: Patents

America Invents Act (2011)

Knowledge Sharing Discussion Question:

How firms make difficult choices between protecting their proprietary technologies vs. rapidly disseminating them. Specifically, when do firms are more or less likely to patent their inventions or rely on other intellectual protection mechanisms such as secrecy, licensing, complementary assets, etc.

Read:

- Are patents indicative of Chinese innovation? China Power
- What we Learned from Reading Jeff Bezos' patents. HBS Working Knowledge, February 2020.
- In a first, China knocks U.S. from top spot in global patent race, Reuters, April 7, 2020.

Group 2 Case Presentation: Netflix, Inc. (see Coursepack)

How did Netflix disrupt the entertainment industry?

What do you think explains the success of Netflix's innovative business model? Do you think this model is sustainable over time? Why?

8: Week 8 | Mar 10 - Mar 16

Trademarks, Secrecy, and other Alternatives to Patents

Ouiz #1

Read:

- Moser, Petra "Patents and Innovation: Evidence from Economic History." Journal of Economic Perspectives, Volume 27, No. 1, February 2013, pp. 23-44
- The Difference Between Copyrights, Trademarks and Patents, New York Times, April 16, 2020

Read Case: The Value of a Patent to the Entrepreneur (James G. Conley, Feng Qu, Geoff Nudd and J. Cooper Marcus) (see Coursepack)

See also: https://en.wikipedia.org/wiki/Patent_troll

Knowledge Sharing Discussion Question:

Do you think patents are an effective mechanism to protect proprietary technologies? What other form of protection could firms use to protect them? Spring Break (Mar 17-23)

9: Week 9 | Mar 24 - Mar 30

Looking Inside the Innovation Process

A false assumption is that innovation is the result of a rather loose, even chaotic process that does not lend itself to being organized but is different every time. While this might be true in a few situations, received evidence suggests that an inherently creative process can be flexible but within well-defined constraints.

Innovating via Organizational Design

Group 3 Case Presentation: Ferrari (see Coursepack)

- Why has Ferrari been so successful?
- What is the "Ferrari Way"? Please characterize its elements.

Assign Reflections 3: Patenting versus Secrecy (due by end of Week 10)

How do expect individual choices between patenting and secrecy affect innovation at a large scale, across countries and industries? How would you as an inventor protect your investments in R&D? Explain your choice

<u>Format</u>: In short structured paragraphs (word/pdf) submit your reflections assignment. Page limit: 1-2 page; Times New Roman 12; 1.5-line spacing; 1-inch margin all around

10: Week 10 | Mar 31 - Apr 06

Group 4 Case Presentation: Blackberry (see Coursepack)

Strategic Leadership

Knowledge Sharing Discussion Question:

What characterizes an effective strategic leader?

What attributes of leadership are critical in pursuing radical innovations?

11: Week 11 | Apr 07 - Apr 13

Group 5 Case Presentation: Merck (see Coursepack)

Open Innovation

Second team project update (submit video & supporting document end of week 11)

12: Week 12 | Apr 14 - Apr 20

Innovation Policy Mix - Role of government

Gender and Minority - Access to resources Social Impact of Innovation

Group 6 Case Presentation: Best Buy Health (see Coursepack)

Read:

• Bloom N, Van Reenen J, Williams H. A toolkit of policies to promote innovation. Journal of economic perspectives. 2019 Aug 1;33(3):163-84.

Quiz #2

Assign Reflections 4: Public Policy: Should the government be involved in commercializing innovation or should it be left to the private markets? (due by end of Week 13)

What should be the role of the government in advancing innovation in an economy? How can public and private markets complement in enhancing innovation? Or do they cat as substitutes? Given the government puts tax payers' money into supporting innovation, how should the tax payer benefit from it?

Do you think the government has the capability to identify and support the right innovation projects? Why or why not? Support your views with examples. In your view, what is the most important policy that President Biden could push to encourage innovation

<u>Format</u>: In short structured paragraphs (word/pdf) submit your reflections assignment. Page limit: 1-2 page; Times New Roman 12; 1.5-line spacing; 1-inch margin all around

13: Week 13 | Apr 21 - Apr 27

Wrap-up and overview

Final Innovation Project Presentations (Group 1)

14: Week 14 | Apr 28 - May 04 Final Innovation Project Presentations (Group 2 and 3)

15: Week 15 | May 05 - May 11

Final Innovation Project Presentations (Group 4 and 5)

Spring 2025 COURSE DELIVERABLES

This table provides a snapshot of all the deliverables, dates, and requirements.

	Schedule	Deliverable
Week	Dates	
1	Jan 21 – Jan 26	Form student groups (4-5 students per group); email the
		instructor with names of the students in the group.
2	Jan 27 – Feb 02	Reflection -1 due by Sunday 02/02
3	Feb 03 – Feb 09	Case Presentation & write-up - Polaroid Group 1 (due by Sunday 02/09)
3	Feb 03 - Feb 09	Innovation Project: Submit articulating the problem that the innovation will address (due by Sunday 02/09)
5	Feb 17 - Feb 23	Innovation Project: First team project update (due by Sunday 02/23)
7	Feb 24 - Mar 02	Case Presentation & write-up - Netflix Group 2 (due by Sunday 03/02)
7	Mar 03 – Mar 09	Reflection -2 due by Sunday 03/09
8	Mar 10 – Mar 16	Quiz 1
9	Mar 24 – Mar 30	Case Presentation & write-up – Ferrari Group 3 (due by
10	May 21 Arry 06	Sunday 03/30)
10	Mar 31 - Apr 06	Case Presentation & write-up - Blackberry Group 4 (due by Sunday 04/06)
10	Mar 31 - Apr 06	Reflection -3 due by Sunday 04/06
11	Apr 07 - Apr 13	Innovation Project: Second team project update (due by Sunday (04/13))
11	Apr 07 - Apr 13	Case Presentation & write-up - Merck Group 5 (due by Sunday 04/13)
12	Apr 14 - Apr 20	Quiz 2
12	Apr 14 – Apr 20	Case Presentation & write-up - Best Buy Health Group 6
		(due by Sunday 04/20
13	Apr 21 – Apr 27	Reflection -4 due by Sunday 04/27
13	Apr 21 – Apr 27	Final Innovation Project Presentations (Group 1)
14	Apr 28 - May 04	Final Innovation Project Presentations (Group 2 and 3)
15	May 05 - May 11	Final Innovation Project Presentations (Group 4, 5, and 6)