



**TECHNOLOGY AND NEW PRODUCT DEVELOPMENT (ENTP 6375)
FALL 2024**

Professor Anavir Shermon
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Teaching Assistant

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Course Code

This class is cross-listed with SYSM 6332, MIS 6375, OPRE 6394, and MKT 6375.

Class Schedule for Fall 2024

Section 001: Tuesday, 4 - 6:45PM, Room: JSOM 12.206
Section 501: Tuesday, 7 - 9:45PM, Room: JSOM 2.107
Section 502: Monday, 7 - 9:45PM, Room: JSOM 2.901

Office Hours

Tuesday, 2:30-4:00PM, Room JSOM 4.222

Students are welcome to visit office hours *without an appointment* to discuss course details (e.g., logistics, material, assignments, exams). If the above time does not work for you, or if you have something specific to discuss, please email me to schedule an appointment.

Course Description

This course addresses the strategic and organizational issues confronted by firms in technology-intensive environments. The course reflects six broad themes: (1) managing firms in technology-intensive industries; (2) forecasting key industry and technology trends; (3) linking technology and business strategies; (4) using technology as a source of competitive advantage; (5) organizing firms to achieve these goals; and (6) implementing new technologies in organizations. Students analyze actual situations in organizations and summarize their findings and recommendations in an in-depth term project. Overall, students will gain a comprehensive understanding of how successful firms conceive, nurture, and execute innovation. They will acquire insights into the latest industry and technology trends, enabling them to align technology initiatives with overall business strategies. Additionally, the course equips students with decision-making skills essential for tackling the challenges during technology and new product development.

Course Objectives

Upon completion of this course and its comprising assignments and discussions, students will have achieved multiple objectives. First, they will understand processes that underpin

“technological change” and the implications of technological change across various strata: the macroeconomic context, industry dynamics, and the firm. Second, students will develop the acumen necessary to navigate the roles of firm managers or entrepreneurial founders and make important strategic decisions. In particular, they will recognize how to facilitate innovation and superior product development within firms. Finally, the course will equip students with tools and frameworks that they can apply to evaluate the ever-changing technological landscape.

The Case Method

This course is intended to help equip students with the insights, tools, and mindset needed to develop, critically evaluate, and execute new product development. As such, it **relies heavily on case-based learning**. Before each case-based class, you should thoroughly read and prepare the case and its supplements (if applicable). Preparation includes: (1) being well-versed in the general facts of the case (e.g., the firm, the key actors, and so on); (2) identifying the central decision to be made by the actors; (3) how frameworks and concepts discussed in the course can help make that central decision; and (4) identifying preliminary responses to the discussion questions provided. As such, students should be prepared at any point of time in class to provide their opinions and any supporting evidence. Please note that the cases do not necessarily illustrate effective or ethical business practices or managers. It is important to deeply consider the decisions made and provide a constructive evaluation or critique. The purposes of the cases are to provide a practice environment that can mirror future professional contexts.

Required Course Materials

All students must purchase the coursepack, which contains case studies for the class. The coursepack is available for purchase on Harvard Business Publishing (<https://hbsp.harvard.edu/import/1178971>).

Optional Readings

This class loosely follows this excellent textbook: “Schilling, Melissa A., *Strategic Management of Technological Innovation*. ISBN 978-0-07-321058-2. McGraw-Hill Irwin”.

Course Evaluation

Course grades will be based on the following four components:

1. Class Participation (30%)

Active engagement in the course plays an integral role in the learning process for you and your peers, and can be achieved through participation in class and in your assignment groups. Class participation will be evaluated as a function of the following:

- **Contribution to class and case discussions:** A critical component of the course experience will be rigorous and spirited discussion. I expect all students to be well prepared for each class, having studied the required pre-class material and analyzed assigned cases. Students who make consistent, meaningful contributions to class discussions will receive better class participation grades. The quality of comments is evaluated based on the clarity and coherence of arguments, application of theoretical frameworks, and the ability to support claims with quantitative or qualitative evidence

from the course materials (e.g., slides, cases, readings). Finally, engagement by colleagues during student group presentations is also acknowledged.

- **Consistent and high-quality contributions to class and case discussions are required throughout the semester** in order to receive full participation points. Sporadic contributions, contributions regurgitating case facts rather than opinions, or contributions without evidence will merit a few but not full participation points.
- **Important:** Please bring name tents (i.e., prominent sign with your full name on it) to every session. This is critical for making sure you accurately receive your participation points.
- **Nomination of peers for high-quality contributions:** To foster a supportive learning environment, I encourage you to nominate peers who initiated good questions or comments during class and breakout sessions. Please nominate your peers at this [link](#). These nominations are optional and you can submit them as many times as you would like. As submitting this is optional, no participation points will be deducted for not submitting nominations but bonus points will be awarded to both students who fill them out and students who receive nominations.
- **Regular attendance to class:** Though not individually graded, attendance is your obligation and you are responsible for all the work, including tests and written work, of all class meetings. No right or privilege exists that permits you to be absent from any class meetings except for excused absences for authorized University activities or Religious Holy Days. **Regular absence from class will severely impact your class participation score.** Two unexcused absences per semester are allowed for which no points will be deducted — for these absences, you do not need to inform me.
- **Late attendance to class:** Arriving to class past the start time will be marked as late. Excessive late attendance to class will result in a reduction of participation points.
- **Group project peer evaluation:** At the end of the semester, you will be required to submit peer evaluations for your group project. These will have an impact on your overall class participation score.

2. Group Project (30%):

- In this assignment, you will work in groups of 4-6 to design and craft the deployment strategy for a new product into an industry. In particular, you will choose an existing or emerging industry and identify a new product that could be launched in that industry. I encourage you to pick an industry that is of professional interest (e.g., one that you have worked in in the past or look forward to working in the future).
- In this group project, your objective is to:
 - Evaluate the industry's structure, competitive conditions, and other aspects of its innovation ecosystem
 - Identify and conceptualize a new product relevant to that industry

- Propose a complete strategy for the new product launch in that industry by considering multiple strategic decisions in this class (e.g., potential for disrupting the existing industry, entry timing, collaboration strategy, intellectual property strategy, go-to-market strategy, and more)
 - Critically assess the practical challenges associated with their product launch strategy, including budget constraints, regulatory hurdles, and potential consumer adoption barriers, to ensure their analysis is both thorough and grounded in real-world applicability
- The project should be well-researched and based on an extensive review of publicly-available information as well as additional databases available via UTD's libraries. A strong strategy will clearly identify the logic for the choices made for the new product's launch strategy. Students should also deeply consider relevant concepts and frameworks from class.
 - Each group will first provide a 3-page double-spaced proposal that would be evaluated for fit and provided with initial feedback. Please submit your proposal in PDF format on eLearning. Only one submission is needed per group but make sure to include all group members' names in the document. The proposal should include the following:
 - Project motivation
 - Brief overview of chosen industry
 - Brief overview of 2-3 potential new products you are considering for the industry
 - Brief overview of preliminary product launch strategy
 - General list of sources of data that the group expects to use
 - There are two core deliverables.
 - First, each group will submit a **slide deck** with a maximum of 12 slides (excluding the title slide). Students will present their analysis to the class during the assigned class session. Each group will have 15 minutes to present (12 mins for slides; 3 mins for class Q&A). The slides should be readable (i.e., font should not be too small or too much material should not be packed into each slide). If visuals are used, ensure they are appropriate for a professional audience. Make sure to provide appropriate attribution for any third-party images that are used. Students will be graded primarily on answering the above questions but a portion of the grade will be allocated to the quality and cohesiveness of their presentation delivery. I encourage student groups to practice the delivery of their presentation at least 3-4 times prior to the final presentation in class. As such, student presenters should be clear and engaging while also delivering the material at an appropriate pace without rushing or speaking too slowly. High-quality delivery also includes good engagement with the audience during Q&A and finishing within the allocated time. Slides should be submitted on eLearning prior to the session in which the group will present.
 - Second, you will submit a 7-page **report** (excluding title page, figures, tables, and references) outlining your product launch strategy. The report should be double-spaced with 12-point font and standard 1-inch page margins. Report should be submitted on eLearning prior to the session in which the group will present.

- The breakdown of grades is as follows: 20% for material in presentation slides and written report; 5% for quality of slides, verbal delivery of presentation, and report formatting; and 5% for project proposal

3. Midterm Exam (15%)

The format and mode of administration of the midterm exam will be discussed in class.

4. Final Exam (25%)

The date, format, and mode of administration of the final exam will be discussed in class.

Final Course Grades

Final grades will be assigned based on the following scale: 93-100% (A), 90-92.99 (A-), 87-89.99 (B+), 83-86.99 (B), 80-82.99 (B-), 77-79.99 (C+), 73-76.99 (C), 70-72.99 (C-), and so forth. I reserve the right to make changes to this distribution based on overall class performance at the end of the semester. No exceptions or rounding up of grades will be provided.

Other Class Policies

1. **Midterm and Final Exam Rescheduling Policy.** No alternative dates will be provided for the midterm or the final exam unless a student is scheduled to take more than one exam at the same time, or where the student is scheduled for more than three (3) examinations in the same day, or there is a conflict with a Religious Holy Day.

2. The Use of Generative AI Tools in the Classroom:

- On some assignments, students may use generative AI platforms (e.g., ChatGPT, Claude, or similar). When appropriate, they can be used to: brainstorm ideas, explore possible responses to questions, revise and edit your written work, fix citations, and so forth. When the use of generative AI is not permitted in an assignment, I will let you know. When in doubt about any of the above details, please reach out to me.
- It is important to note that generative AI may occasionally generate incorrect or misleading information, or produce offensive or biased content. As such, do not rely on them without doing your own independent research. You will be responsible (and graded accordingly) for any material that is AI-generated that you include in your submissions.
- When submitting work in which generative AI has been used in *any capacity*, students must cite the text generated by AI. If the above policies are violated, I reserve the right to prohibit the use of generative AI tools in any or all assignments. Should UT-Dallas' official policy on the use of generative AI change over the course of the semester, I will defer to it immediately.

3. **The Use of Smart Devices in the Classroom:** The use of electronic devices can disrupt learning for everyone in the classroom. Devices must be turned off and put away, except in

cases of personal emergency. Laptops and tablets can be used for note-taking and referring to the case contingent on them not becoming a distraction to the class. In the event that appropriate use is not followed, the student's participation points will be reduced.

4. **University Course Policies:** Information contained in the following link constitutes additional University's policies and procedures. Please go to UT Dallas Syllabus Policies webpage for these policies (<https://go.utdallas.edu/syllabus-policies>).
5. **Honor Code:** As members of the UT Dallas community, all students are expected to uphold the Comet Creed: *"As a Comet, I pledge honesty, integrity, and service in all that I do."* Severe implications will exist for plagiarism in any capacity, unethical academic behavior, or violations of UT Dallas' official [student code of conduct](#). In the event of a violation of the honor code, I will follow UT Dallas' official reporting process for investigation.
6. **Accommodations for Students with Disabilities:** The University of Texas at Dallas is committed to providing reasonable accommodations for all persons with disabilities. The syllabus is available in alternate formats upon request. If you are seeking classroom accommodations under the Americans with Disabilities Act (2008), you are required to register with the AccessAbility Resource Center (ARC), located in the Administration Building, Suite 2.224. Their phone number is 972-883-2098, email: studentaccess@utdallas.edu and the website is <https://accessability.utdallas.edu/>. To receive academic accommodations for this class, please register and request services by completing the Request for Services form with the proper documentation and meet with the Director of ARC at the beginning of the semester.
7. **Expectations for Learning Environment in the Classroom:** I encourage a learning environment where individual differences are understood, respected, appreciated, and recognized as sources of strength. It is critically important that every member of the class feels safe and welcome to participate, regardless of race, gender, national origin, sexuality, disability, mental health, class background, or anything else. I expect that students will respect differences and demonstrate diligence in understanding how classmates' perspectives, behaviors, and worldview may be different from their own.
8. **Syllabus:** I reserve the right to make any changes to the syllabus, including projects due dates, test dates, and course policies. These changes will be announced as early as possible.
Last Updated: August 19, 2024.

Course Schedule

Week	Dates	Topic	Task List
Module 1: Understanding Technological Change			
1	Sec. 502 8/19 Sec. 001/501 8/20	Introduction	(1) Read: Syllabus
2	Sec. 502 8/26 Sec. 001/501 8/27	Sources, Types, and Patterns of Innovation	(1) Read article: Crazy New Ideas by Paul Graham (2) Read article: Innovation is not linear by Jason Crawford
3	Sec. 502 9/2 (No Class - Labor Day) Sec. 001/501 9/3*	General-Purpose Technologies	(1) Read article: The impact of generative AI as a general-purpose technology by Beth Stackpole in MIT Sloan Management Review, 2024 (optional) (2) Listen: Unpacking the mysteries of productivity , a McKinsey podcast with Chad Syverson (optional) *Material will not be tested in exams.
4	Sec. 502 9/9 Sec. 001/501 9/10	Disruptive Innovation	(1) Read article: What is Disruptive Innovation? by Clayton Christensen, Michael Raynor, & Rory McDonald in Harvard Business Review (2) Read article: What is going wrong for Intel? in The Economist (3) Read case: Kodak and the Digital Revolution (4) Read article: The Disruption Dilemma by Joshua Gans (optional)
Module 2: Technology Strategy			
5	Sec. 502 9/16 Sec. 001/501 9/17	Strategy Formulation	(1) Read article: All Revenue is Not Created Equal: The Keys to the 10X Revenue Club by Bill Gurley (2) Read case: Metaverse Wars (3) Read article: Ways to think about a Metaverse by Benedict Evans (optional) (4) Read article: Interviewing Meta CTO Andrew Bosworth on the Metaverse, VR/AR, AI, Billion-Dollar Expenditures, and Investment Timelines by Matthew Ball (optional)

Week	Dates	Topic	Task List
6	Sec. 502 9/23 Sec. 001/501 9/24	Platforms	(1) Read article: Pipelines, Platforms, and the New Rules of Strategy by Marshall W. Van Alstyne, Geoffrey G. Parker, and Sangeet Paul Choudary in Harvard Business Review (2) Read article: Meta and Open by Ben Thompson (3) Read case: Adobe Systems (4) Submit: Group project proposals
7	Sec. 502 9/30 Sec. 001/501 10/01	Timing of Entry	(1) Read article: Why Your Car Isn't Electric , by Maggie Koerth-Baker in the The New York Times Magazine (2) Read case: Uber: Competing Globally
8	Sec. 502 10/7 Sec. 001/501 10/8	Choosing Innovation Projects	(1) Read case: Guidant Radiation Therapy (2) Read: Choosing your North Star Metric by Lenny Rachitsky (3) Watch: Choosing Projects by Melissa Schilling
9	Sec. 502 10/14 Sec. 001/501 10/15	Midterm Exam	
10	Sec. 502 10/21 Sec. 001/501 10/22	Collaboration Strategies	(1) Read case: Millennium Pharmaceuticals (2) Read article: Finding the Right Path by Laurence Capron & Will Mitchell (3) Listen: The Complete History & Strategy of LVMH (Moët Hennessy Louis Vuitton) on the Acquired podcast (optional)
11	Sec. 502 10/28 Sec. 001/501 10/29	Protecting Innovation	(1) Watch: IP Protection by Melissa Schilling (2) Read case: Hollywood in India: Protecting Intellectual Property

Week	Dates	Topic	Task List
12	Sec. 502 11/4 Sec. 001/501 11/5	Organizing for Innovation	(1) Listen: The Strategies and Tactics of Big Tech Firms , an a16z Podcast with Benedict Evans and Steven Sinofsky (2) Read interview: How Perplexity builds product with Johnny Ho, by Lenny Rachitsky (3) Read case: Barca Innovation Hub: Getting the Ball Rolling on Innovation
13	Sec. 502 11/11 Sec. 001/501 11/12	Crafting a Go-To- Market Strategy	(1) Read case: Drinkworks: Home Bar by Keurig
14	Sec. 502 11/18 Sec. 001/501 11/19	Group Project Presentation Day	(1) Submit group project slides & report
15	Sec. 502 11/25 Sec. 001/501 11/26	Fall Break - No Class	
16	Sec. 502 12/2 Sec. 001/501 12/3	Wrap-Up & Final Exam Review	
	Dates to be announced	Final Exam	

Description of Cases

1. Kodak and the Digital Revolution

The introduction of digital imaging in the late 1980s had a disruptive effect on Kodak's traditional business model. Examines Kodak's strategic efforts and challenges as the photography industry evolves. After discussing Kodak's history and its past strategic moves in the new landscape, the case 'Kodak and the Digital Revolution' questions how CEO Daniel Carp can use digital imaging to revitalize Kodak.

2. Metaverse Wars

In 2023, the term metaverse - a combination of "meta" and "universe" - had become a catch-all for a diverse set of expectations about online virtual worlds and the future of the internet. To some, the metaverse conjured images of a massive participatory videogame inspired by science fiction. To others, the metaverse meant the evolution of the internet into something more three-dimensional and social. In October 2021, Facebook CEO Mark Zuckerberg announced that his strategy would be "metaverse-first," leading him to change Facebook's name to Meta. However, executives at other companies like Epic Games, Microsoft, Nvidia, Electronic Arts, and Apple had different views of if, when, and how the metaverse would take shape. Amid the hype and uncertainty, executives and entrepreneurs had to grapple with critical questions as they strove to form their own vision and strategy for the metaverse. First, was the metaverse going to emerge in the next few years or much further down the road, if at all? Second, what would be the important use cases? Some expected gaming to emerge first, while others expected enterprises would drive adoption. Third, and perhaps most critically, would the metaverse be an open and interoperable virtual world, like the internet itself? Or would the development of the metaverse play out like the more recent models of app stores and social networks, born on the internet but maintained as distinct walled gardens? Answers to these questions would shape billions of dollars of investment, profits, and losses.

3. Adobe Systems, Inc

Examines Adobe's battle with Microsoft to establish de facto standards in the emerging eBook space.

4. Uber: Competing Globally

This case describes Uber's global market entry strategy and responses by regulators and local competitors. It details Uber's entry into New York City (New York), Bogotá (Colombia), Delhi (India), Shanghai (China), Accra (Ghana), and London (United Kingdom). In each instance, the case includes information about Uber's strategy in that market, existing regulations on taxis and transportation in each market, the reactions of competitors and regulators, and regional information. The case allows for instruction related to competitive strategy, global expansion, nonmarket strategy, regulation, market economics, supply restrictions, and related topics.

5. Guidant: Radiation Therapy

Describes a potential new approach to treating cardiac disease--radiation therapy. Guidant, a leading medical device maker, faces a choice about whether to pursue this new and risky technology and, if so with what strategy.

6. Millenium Pharmaceuticals

Focuses on Millennium's strategy to grow and revolutionize drug development through the use of new technologies such as genomics. Describes how Millennium Pharmaceuticals—a fast-growing biotechnology firm in Cambridge, MA—has used strategic alliances to finance the development of technology platforms based on the latest breakthroughs in genomics. As the firm considers developing pharmaceutical drugs itself, they face a number of challenges: 1) Can they revolutionize drug development by making it more predictable, faster, and less costly? 2) How should they select their alliances such that they move closer to becoming a pharmaceutical firm and still attract the funding needed for their strategy? 3) How can they continue to grow rapidly and attract and retain some of the best minds in the pharmaceutical industry?

7. Hollywood in India: Protecting Intellectual Property

In January 2010, Fox Star Studios is preparing to release the Bollywood film *My Name is Khan* in Indian and international markets. What strategies should the company adopt to protect their intellectual property? How much should the company invest in anti-piracy initiatives? Should releases be restricted only to more secure digital screens? Should the company be concerned about the frequent comparisons of the movie with *Forrest Gump*, in light of several recent cases of Hollywood studios suing Bollywood producers for plagiarism?

8. Barca Innovation Hub: Getting the Ball Rolling on Innovation

This case study follows the Spanish football club, FC Barcelona, as it starts to innovate and create an organizational structure for open innovation. At the beginning of the case study, FC Barcelona has an outstanding track record of on-field performance and a set of knowledge management and research activities that support that performance. However, there was no real innovation activity. In 2015, not only the aspirations of the new management but also the exponential pace of technology and the raised pressure to win on the field pushed FC Barcelona to 'up its game' and move from research and knowledge management to collaborative innovation projects. In 2020, when the case study was developed, FC Barcelona has been busy executing its vision to become the 'Silicon Valley of sports', supported by its innovation unit called Barca Innovation Hub or Bihub, for short.

9. Drinkworks: Home Bar by Keurig

In the summer of 2018, Drinkworks CEO Nathaniel Davis needed to make a number of go-to-market decisions ahead of his company's upcoming product launch. Formed through a joint venture between Keurig Dr. Pepper and Anheuser-Busch InBev, Drinkworks had developed an innovative home bar system that let consumers make single-serving cocktails or beer with the push of a button. Keurig and AB InBev provided valuable technological, supply chain, and regulatory expertise, but since the Drinkworks Home Bar was a novel product, there were no established market benchmarks for the Drinkworks team to follow as they prepared for the Home Bar's upcoming market launch. After conducting several market research experiments, they needed to interpret the results and make several decisions around customer segmentation, value proposition, product assortment, pricing, and distribution channels. Could Drinkworks be the next billion-dollar opportunity for Keurig and AB InBev?