

Syllabus

Technology and Innovation Strategy

STRT-463

Sections 31 & 32

Tue/Fri: 1:30pm & 3:30pm

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Virtual and In-Person Office Hour: Tuesdays 5:15-6pm

You have a great idea. How do you ensure that you, rather than another player in the industry, capture the value from that idea?

This course develops approaches to analyzing strategies within technology markets. It teaches you how to analyze technology markets, where firm structure, product cycles and competitive environment change rapidly. The course provides tools to analyzing both entrepreneurial and corporate innovation strategy. These challenges, opportunities, and tradeoffs are illustrated through general readings and with cases from computing, electronics, online, video games, ride hailing, software, and transportation markets. The course strikes a balance between presenting a few general models of market behavior and a few key episodes of market behavior.

This class is designed to be relevant both for those who want to be an entrepreneur and those working within an existing firm in a technology and/or innovation-intensive industry. The course is aimed at anyone who anticipates innovation to be a part of their future. For example:

- Entrepreneurs or managers in a start-up
- Students who anticipate taking management positions in technology-intensive firms where they must formulate strategy,
- Those who anticipate investing in technology markets and must analyze firm strategy,
- Students who anticipate contracting with firms that do much of their business in these types of markets.

Note: Obviously, there are no simple step-by-step paths to strategic success in innovation and technology industries. However, the course will provide you with a host of crucial questions, discussions, and insights to confront and respond to key challenges.

CLASS PREPARATION

Readings:

For each topic, there is a set of assigned readings. These readings help develop the underlying concepts and/or provide examples. It is essential that you read these materials prior to class.

The required readings are available online via Canvas. The Assignment tab indicates the required reading for each meeting.

Extra Readings:

This course provides a broad survey of many issues, and at times you may want to read further about issues of personal interest. The “extra reading” list therefore points to resources where you may find more extensive analysis, including some of the formal research and empirical evidence that help frame our discussions in class. These extra readings are entirely optional and are meant simply to provide a reference for you now or in the future. These readings are available through the course webpage.

ASSESSMENT AND GRADING

Your final grade from this course will be based on:

- Short In-Class Quizzes (3 quizzes for a total of 15%)—January 16th, February 16th, March 5th
- Group assignment (35%: 25% for writeup+10% for presentation)—due by 9am on Tuesday, February 27th
- Class participation (20%)
- Answers to discussion questions (10%)
- Reflection assignments (4 assignments to a total of 20%)

Group assignment: Current event; due by 9am on February 27th:

Prepare a presentation to pitch your own technology or a technology offered in the market today. The key factors for your score are:

1. How closely related your presentation/analysis is to the ideas and concepts in the course. Ideally, I should be able to take your case and include it as an example in one of my lectures when I teach this class again (I will never use your case as an example without getting your permission first).
2. How insightful your essay is. Basically, one of your fellow MBA students who is interested in business but has not taken this course yet shouldn't be able to guess your conclusions if they have read something about your innovation in a newspaper but has not yet seen your analysis. What I am looking for is some evidence that you were thinking about this class outside of the classroom.

Please do not feel compelled to apply as many course frameworks as possible: one can be enough, provided it is judiciously applied. **Aim for depth rather than breadth.**

Class Participation: Learning opportunities are maximized when all students are actively engaged in class discussion, and active engagement requires preparation. Participation will also be essential as we discuss the questions in the homework assignments, which will largely consist of specific questions about the readings. If a question is in the homework

assignment, then I will expect that everyone has something to say about it, and I will cold call class participants at every meeting.

The subject matter of this class should naturally stimulate a lot of discussion, and I am eager to have an active dialogue. Particularly valuable types of participation will be those that move the discussion forward, often by adding useful facts to the discussion or by providing a new insight on the issue at hand. Requests to clarify concepts being presented are also encouraged. If you are confused by something, then other people are probably confused as well, and participation that seeks to clarify an idea will likely be valuable for the whole class.

There will be ample opportunity for each of you to participate. If you feel that you are preparing well but not being called on enough, please let me know so that I can address the problem. And please realize that as long as you have invested quality time in the readings and worked through the questions, you will almost certainly have valuable contributions to make during the discussion.

Discussion questions:

In order to assist in preparation for discussion, for each session I will post some preparation questions. These are posted to the “Assignments” section of the Canvas website. Some of these questions require online responses while others require you to carefully consider what you have read for class that day. At a minimum, everyone in class should be prepared to answer *all* of the discussion questions (Think & Write) handed out in advance. The purpose of these questions is to prepare you for the material we will cover in class and for me to get a sense for student views before class starts. You are encouraged to discuss these questions with other classmates but each student should submit an individual answer on Canvas. Responses to these daily preparation questions are due by at the beginning of class. I do not expect you to “get it right” and grading would be based on effort—credit/no credit.

Reflection assignment:

There will be four reflection assignments that ask you to apply the material we discussed in class. The assignment will be graded on a scale of 1-10.

Missing class: This course is designed as an integrated whole. Later material builds on earlier material, and the whole picture will not be properly understood if you miss the parts. As a result, students should only register to the course if they intend to do all of the required reading and participate actively in every class discussion.

CLASSROOM ETIQUETTE

Students are expected to respect Kellogg’s Code of Student Etiquette at all times.

TEACHING MATERIAL

Reading material: All readings can be found in study.net or on Canvas.

Lecture slides: I will post electronic copies on my Canvas site before each lecture.

COURSE OUTLINE

January 5th: The challenges of Innovation

Readings:

- Kate Conger, "How the Copycats Came for Clubhouse," New York Times, December 21, 2021 (<https://www.nytimes.com/2021/12/21/technology/clubhouse-twitter-spaces.html>)

January 9th: Strategy and Diffusion

Readings:

- Note on Innovation Diffusion: Rogers' Five Factors, HBS 9-505-075
- Harry McCracken, "How Dropbox is finally breaking free of the folder," FastCompany, June 11, 2019

January 10th: Technology & Disruption

Readings:

- The Industry Life Cycle, memo
- "At Apple, Rare Dissent over a new product: Interactive goggles" NYT, March 26, 2023

January 12th: The Innovator's Dilemma I

Readings:

- UPS Tests Residential Delivery Via Drone, UPS, (https://www.youtube.com/watch?v=xx9_6OyjlrQ)
- Blue Apron article

January 16th: The Innovator's Dilemma II

Readings:

- Case: Blockbuster

January 19th: Corporate Innovation: Experimentation

Readings:

- Memo: Drones for Farmers
- Nick Wingfield, "Inside Amazon Go, a store of the future," New York Times, January 21, 2018 (<https://www.nytimes.com/2018/01/21/technology/inside-amazon-go-a-store-of-the-future.html>)

January 23rd: Corporate Innovation: Approaches

Readings:

- Case—X: The Foghorn Decision (HBS 9-618-060)
- Timothy B. Lee, "How Amazon Innovates in ways that Google and Apple Can't," Vox, Dec. 28, 2016

January 26th: Appropriation Strategies

- Case: Primateria

January 30th: Complementary Assets

Readings:

- Nikola: Building a Hydrogen Economy, memo, 2021
- Alan Ohnsman, "Nikola's Electric Big Rig Beats Delayed Tesla Semi To Market," Forbes, April 27, 2022. (<https://www.forbes.com/sites/alanohnsman/2022/04/27/nikolas-electric-big-rig-beats-delayed-tesla-semi-to-market/?sh=343218a41722>)

February 2nd: Commercialization Strategy

Readings:

- Microsoft Bets Big on the Creator of ChatGPT in Race to Dominate A.I. NYTimes, Jan. 12, 2023 Download Microsoft Bets Big on the Creator of ChatGPT in Race to Dominate A.I. NYTimes, Jan. 12, 2023
- A New Chat Bot Is a 'Code Red' for Google's Search Business. NYTimes, Dec. 21, 2022
- Case: Coursera (HBS 9-714-412)

February 6th: Technology platforms: Network effects

Network effects, homing costs, WTA, Coring, Governance, Mobilization

Readings:

- Charles Fleming, "With Beepi, used-car buying moves online," Chicago Tribune, September 19, 2014

February 9th: Technology platforms: Simulation

Readings:

- Simulation: Clash of Two Giants Simulation Exercise Instructions (HBS 9-623-092)

February 13th: Technology platforms: Simulation Debrief & platform mobilization

- Adam Epstein, "Why Quibi failed," Quartz, September 23, 2020 (<https://qz.com/1907265/why-quibi-failed/>)

February 16th: Platform mobilization and monetization

- Case: Optimization and Expansion at OpenTable
- S. Cantale, I. Buche., "How Tencent became the world's most valuable social network firm – with barely any advertising," January 18, 2018

February 20th: Open Platforms

- GitHub

February 23rd: Platforms and Adjacencies

Readings:

- Case: Ant Technology Group: Accelerating Toward Business-Facing Solutions

February 27th: Group Presentations I

March 1st: Group Presentations II

March 5th: Antitrust and Data-Driven Platforms

- Amazon: EC Investigation, The Capital Forum, November 5, 2018
- Amazon is offering customers \$2 per month for letting the company monitor the traffic on their phones. Insider, Dec. 5, 2022

March 8th: Antitrust & Web3

- Welcome to Web3. 2022. Memo. (Based on Harvard Business Review, What is Web3).

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