

**TECHNOLOGY STRATEGY
B8570**

Spring 2017, A Term
Mondays and Wednesdays, Warren 207
Section 001: 2:15 – 3:45 PM
Section 002: 4:00 – 5:30 PM

Professor Dan J. Wang
djw2104@columbia.edu
Uris Hall 723
212-854-5875 (office)

Office Hours:
TBD, and by appointment

Teaching Assistants:
Alessandro Piazza – APiazza18@gsb.columbia.edu
Natalie Carlson – NCarlson19@gsb.columbia.edu

REQUIRED COURSE MATERIAL

All readings and cases will be available on Canvas. All cases will also be available in a physical coursebook to be distributed during the first class session.

COURSE OBJECTIVES AND DESCRIPTION

This course provides an introduction to the strategic management of technology. *Technology Strategy* has three goals, which relate to the three modules of the course. The purpose of the first module, “Basics of Technology Markets”, is to understand how technology and innovation shape strategic decisions. In the second module, “Technology Platforms and Network Dynamics”, we will examine how firms, both in the technology sector and outside, can leverage network effects especially around two-sided platforms to gain competitive advantage – an increasingly relevant business model in today’s economy. Finally, in our third module, “Technology Strategy and Society”, we will interact with guest speakers to discuss how technological change impacts social organization, and how businesses might use these opportunities to create and capture value.

Specific topics and questions include but are not limited to the following:

- How do firms leverage network effects to build sustainable competitive advantage?
- What are the optimal strategies for building multi-sided platforms?

- How should an incumbent firm respond to “disruptive” innovations?
- How can firms commercialize and protect new innovations or scientific discoveries?
- How do new technologies change the way we interact, and how should businesses respond?

PREREQUISITES AND CONNECTION TO THE CORE

Prior to taking Technology Strategy, students must have completed Strategy Formulation (B6502). We will utilize, build on and extend concepts covered in Strategy Formulation, including tools for evaluating competitive advantage, competitive dynamics, and corporate scope. The class will specifically build on concepts such as value propositions (as in the Brooklyn Brewery, Walmart, and Zara cases), diversification (as in the Disney case), network effects (as in the Apple, Alibaba, and Uber (A) cases), the player analysis framework (Airbus vs. Boeing), and two-sided platforms (as in the Alibaba and Uber (A) cases). The class will also integrate material from Marketing, Managerial Economics, Business Analytics, and Operations Management.

COURSE ADMINISTRATION

Grading will be based on 1) class participation, 2) two case write-ups, and 3) an optional final project. These components of the grade are weighted as follows:

Class Participation	40%
Two Case Write-ups	20% (10% each)
Optional Final Project	40%

All the foregoing components of the grade are individual of type C vis-à-vis the honor code.

A student who only participates actively in class and does a good job on the two case write-ups can receive a maximum grade of HP. Students who wish to receive an H must also submit an individual final project as described below in addition to actively participating in class and doing well on the two case write-ups. There is no reason to do a final project unless you are going to put forth a serious effort on all three components of the grade.

1. Class Participation

An important course requirement is active involvement in class discussion. Your participation is essential for both your own learning and that of other students. Because Technology Strategy is a case-based course, much of the learning will take place in our class discussion of these very cases. I expect that every student will arrive well prepared and able to answer the day’s assignment questions. Students should also expect to be cold called in class. 40% of your overall course grade will be your participation grade, which is further decomposed into three components: 1) Poll question completion (10%), 2) Frequency of class participation (10%), and 3) Quality of class participation (20%).

Poll question: There is one poll question for each case we will study (starting with session 2). Poll questions will be posted as assignments in your Canvas Calendar for Technology Strategy. They require you to read the relevant case or article and give a short response to 1-2 questions. You must submit your *answer to the poll question through Canvas by 9 AM on the day we discuss the relevant case in class.*

Frequency and quality of class participation: Both the frequency and quality of your class participation will be affected by non-attendance. Obviously, not coming to a class means that you will not have a chance to take part in class discussion, which is a critical component of your overall grade. As part of your participation, please bring your clicker to class. If you forget your clicker, or your clicker is broken, please see me before or after class so that your participation grade does not suffer.

In terms of the quality of participation, the best class comments:

- Articulate a clear stance or argument
- Raise issues from past classes, current events, or other anecdotes that are relevant to the discussion
- Show curiosity and a willingness to experiment
- Use data, examples, or your own personal and professional experience to support arguments
- Be respectful when disagreeing by summarizing the contravening opinion before delivering your own

Help others feel safe about participating by inviting further discussion or referring to points that have already been made by your classmates. Students are also expected to be present, prepared, and participate per the Columbia Core Culture. For excused absences, please submit the OSA administered survey on Canvas before the session you have to miss to make sure that your participation grade does not suffer. Use of electronic devices in class is not allowed.

2. Two Case Write-Ups

You must complete two (2) case write-ups, each of which addresses a question posted on Canvas. Write-ups should analyze and aim to persuade rather than recite facts (700 word limit). Write-ups should be uploaded to Canvas by 7 AM on the day the associated case is covered in class.

3. Optional Final Project

The final project is for students that are hoping to receive an H in the course, but doing a final project does not guarantee that a student will receive an H, and receiving an H also requires doing well in class participation and on the two case write-ups.

In the project, an individual student should analyze a company or industry, ideally concerning a particular strategic decision or issue, using the concepts from the course. There is a 2500 word limit, including all exhibits. While providing some details is necessary, you should emphasize analysis over description. Discussing your topic with me in advance is advised but not required. Do not use cases covered in this course or other courses at Columbia Business School. You are welcome to make use of industry contacts. *I am also happy to provide a real-world 'case' if you have trouble deciding on your own.* Students who wish to do a final project must sign up on Canvas two weeks prior to the final class.

CLASS SESSIONS

Session	Date	Module	Key Concepts	Case(s)
1	Wed., Jan-25		Introduction & Overview	eHarmony (14 pp. case) & Tinder (5 pp. case)
2	Fri., Jan-27	Basics of Technology Markets	Innovation and Intellectual Property	Lego: Publish or Protect? (7 pp. case, Videos) [Optional but highly encouraged: Lego (A) background case, 15 pp.]
3	Mon., Jan-30		Managing Product Innovation	Food Truck Challenge (In-Class Group Simulation Exercise)
4	Wed., Feb-1		Disruptive Innovation	Netflix (11 pp. case)
5	Mon., Feb-6		Scaling Network Effects	Uber (B): New Roads Ahead (9 pp. case) [Optional: Uber (A): Driving into Uncharted Territory case from Strategy Formulation as a refresher, 10 pp.]
6	Wed., Feb-8	Technology Platforms and Network Dynamics	Multi-Sided Platforms	Google (16 pp. case)
7	Mon., Feb-13		Content Platform Strategy	Timehop (Article, Video, <u>Guest Speaker in Class: Jonathan Wegener, Co-Founder and CEO</u>)
8	Wed., Feb-15		Peer-to-Peer Platforms	Airbnb (4 pp. case) & HomeAway (11 pp. case)
9	Mon., Feb-20		Creating New Markets	AmazonFresh (10 pp. case)
10	Wed., Feb-22	Technology Strategy and Society	Education and Technology	Thinkful (Article, Video, <u>Guest Speaker in Class: Darrell Silver, Co-Founder and CEO</u>)
11	Mon., Feb-27		Finance and Technology	IEX Trading (10 pp. case, <u>Guest Speaker in Class: Rob Park, Co-Founder and CTO</u>)
12	Wed., Mar-1		Capstone	Facebook (14 pp. case)