HARVARD BUSINESS SCHOOL

Strategy and Technology

Syllabus for Spring 2022

Professor Andy Wu
Strategy Unit
Harvard Business School
Harvard University

MBA Elective Curriculum

OVERVIEW

This course explores the unique aspects of creating effective strategies for technology-intensive businesses.	What strategies win in markets with network effects? How can technology be leveraged to build multisided platforms? How can firms create and capture the value from intellectual property? What are the unique challenges of governing technology-intensive firms? How can firms build and sustain value in new, emerging technologies?

The course provides a series of concepts and frameworks for students to directly apply to strategic problems they will encounter as managers and executives. The course places heavy emphasis on going from concepts and market analysis to the formulation of concrete strategies. The types of firms range from pre-revenue startups to large multinationals.

INDUSTRY COVERAGE Industries covered range widely, including: enterprise software, cloud services, e-commerce, social networking, video gaming, browsers, semiconductors, operating systems, PCs, media streaming, intellectual property, mobile communications, electronic ink, artificial intelligence, blockchain/cryptocurrency, internet of things, and wearable technology.

CAREER FOCUS The course should be of particular interest to those interested in managing a business for which technology is likely to play a major role, and to those interested in consulting, private equity, or venture capital. The course may also be valuable for students who do not necessarily plan to pursue a career specifically in technology. The concepts and frameworks covered apply well beyond technology industries, *e.g.*, network effects, competitive tactics, multisided platforms.

COURSE TEAM

Professor Andy Wu
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Office Hours By appointment.

Faculty Support Specialist Alyssa Tschirgi
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COURSE CONTENT AND ORGANIZATION

The course utilizes lectures, case analyses, academic articles, and analyst reports. Roughly half of the sessions are traditional case discussions. We will also have several visitors from entrepreneurial and large companies. The course consists of six modules:

NETWORK EFFECTS 1

Technology-intensive businesses have unique attributes, which make their products increasingly valuable if more consumers buy their product or if more complements become available. What are the implications for market tipping (winner-take-all/most), pricing, and growth strategies?

MULTISIDED PLATFORMS 2

The most important competitive battles in technology are no longer between standalone products or services, but between platforms. Many of the most successful companies build multisided platforms (MSPs), which spawn ecosystems of users and suppliers of complementary products and services. Why and how do MSPs differ from "normal" firms? What strategies create successful MSPs?

COMPETITIVE TACTICS 3

Many of the critical challenges in fast-moving technology businesses are tactical in nature: how and when do firms cooperate and compete with firms within their industry? How can entrepreneurial ventures rise up to compete with established incumbents? When and how can large firms impose their will against other players in their ecosystem, without running afoul of antitrust laws?

MANAGING INTELLECTUAL PROPERTY 4

A defining characteristic of technology industries is the disproportionate share of value which resides in intellectual property (IP) assets. We will explore current challenges in patenting and copyright system. How do firms create IP? What business models allow firms to *appropriate* or *capture* value from their IP? When should firms license their technology or even make it open source, accessible to even competitors?

LEADERSHIP AND GOVERNANCE 5

Great strategists in the technology world need to lead by betting on a vision for an uncertain future that brings about special governance problems, especially asymmetric information between management, boards of directors, and shareholder. This short module explores how to face these challenges in early stage tech firms as well as large, incumbent public companies.

LOOK FORWARD, REASON BACK 6

Large-scale industry change happens faster in technology than in other markets. Cutting edge technologies have unique problems related to untested demand, uncertain performance, and the challenge of how firms can build and maintain their competitive edge in order to take advantage of new technological opportunities. This module explores how managers 'look forward' into highly uncertain environments, then 'reason back' to devise strategies for today.

COURSE REQUIREMENTS AND GRADING

Criteria	Weight
Class Participation	40%
Pre-Class Polls	15%
Future of TV Exercise	5%
Final Project	40%
[Extra Credit] Final Project Group Presentation	Up to 5%

CLASS PARTICIPATION & PRE-CLASS POLLS Class participation and pre-class polls are important and required. On-time attendance counts towards participation. For most classes, you will take a position in advance of the session on a central issue in the case via a pre-class poll; the tabulated polls are shown in class. **Polls are due by 7:30AM the morning of class.** Answers submitted after 7:30AM will not be counted. Each poll counts for roughly 1 point in the grading.

FUTURE OF TV EXERCISE In the second half of the course, you will prepare 3–4 PowerPoint slides on the future of television and a strategy for Roku. To account for the extra preparation required, this assignment receives additional weight in the grading.

FINAL PROJECT See section on FINAL PROJECT.

[EXTRA CREDIT] FINAL PROJECT GROUP PRESENTATION Near the end of the course, five groups of volunteers can earn extra credit of up to 5% by presenting the research from their final projects to their classmates. The opportunity to present will be **first come, first serve**: you can **volunteer via email** to Alyssa Tschirgi (atschirgi@hbs.edu) **starting at 12:00PM Friday, April 8th**. If there are insufficient volunteers, groups will be cold-called.

CANVAS AND READINGS

All required readings, assignments, pre-class polls, announcements, and critical course information will be posted in Canvas. Slides and other optional follow-up materials will be uploaded after class for your personal reference.[1] **Please check Canvas often.**

Required readings will be indicated as such. In additional, optional recommended readings will give you a chance to go into more depth on particular subjects in which you are interested.

[1] Slides and other post-class reference materials will be available in the *Course Resources* folder located under *Files*. A link to these materials will also be added to the relevant assignment.

FINAL PROJECT

To apply the conceptual frameworks developed in the course, the final project consists of a paper that addresses a **strategy problem** faced by a **technology company** of your choosing: start-up or established firm, U.S. or international.

TEAM You are strongly encouraged to do the final project with a team of **up to four students** in the class; the quality of final projects usually improves substantially when you participate in a team.[2]

DEADLINES Each team should email Professor Wu (awu@hbs.edu) and CC Alyssa Tschirgi (atschirgi@hbs.edu) with a **proposal** for your final project describing the strategy problem and technology company you would like to write about in **200 words maximum**, no later than **5:00PM Wednesday, March 9th**. This is also the deadline for finalizing the members of your team. You will receive feedback on your proposal within two weeks.

Your final project must be submitted to Professor Wu (awu@hbs.edu) and Alyssa Tschirgi (atschirgi@hbs.edu) via email **no later than 12:00PM on Monday, April 25th**.

PAPER CONTENT REQUIREMENTS The proposal (and paper) should clearly identify **a specific strategy problem** AND **2–3 distinct and reasonable strategic options** for dealing with that problem.[3] The paper should focus on one key problem, not a list of tactical questions. The options can be yes/no, *e.g.*, should LinkedIn expand to non-professional social networking? Should Tesla vertically integrate into batteries?

The paper **should not be descriptive**, i.e., about an industry or a technology *per se*. Everything should be centered on the main problem and options for dealing with a strategic problem. Please keep description to the minimum needed for setting up the problem and solving it.

The paper should be structured around key concepts and ideas developed in class discussions and lectures. The paper should analyze the key **strategic and economic tradeoffs** among the various options you identify—making a reasonable case for each option—and conclude with **a strong case for one of those options** (similar to the structure of most class discussions).

The paper should aim for **depth, not breadth**.

[2] Teams of five may be allowed but require pre-approval by the instructor. Teams of five are graded on a higher standard, whereas teams of one to four students are graded to the same standard.
[3] The strategic options do not have to be options that the company is actively considering in real life. You can propose any option(s) for which you can make a reasonable argument and is theoretically possible, even if today, the real executives in charge may overlook or have a bias against it.

FORMATTING REQUIREMENTS The final paper should be a **maximum of 4000 words** (~8 pages), single spaced, with 12-point font and 1-inch margin. In addition to the text, you may provide up to 5 pages of supporting figures and tables. References should be included as endnotes after the figures and tables and do not count towards word or page limits.[4]

The **cover page** must include a **short executive summary** (half a page at most), **author names**, and **total word count** for the text portion of the paper (excluding exhibits and list of references).

FINAL PROJECT GRADING The final project will be assessed on the following criteria:

Final Project Criteria	Weight
Mastery and Application of Course Concepts	50 points
Quality and Depth of Research	25 points
Clear Writing and Effective Argument	20 points
Formatting Requirements	5 points

OFFICE HOURS

Professor Wu hosts office hours every week available by appointment; please use this link (also available on Canvas Pages) to schedule. Feel free to reach out to Alyssa Tschirgi, atschirgi@hbs.edu with any questions. There will be informal coffee breaks or lunches scheduled throughout the semester, with additional sessions scheduled based on demand.

CLASS SPEAKERS

Invited class speakers will make time to meet with a few students after class when their schedule allows. To attend these small-group meetings, you should fill out the sign-up form(s) to be posted to Canvas.

STUDENT GUESTS

Please email Professor Wu (awu@hbs.edu) at least 24 hours in advance if you wish to invite a guest to class. Guests are nearly always allowed.

[4] Reference formatting can be of any style but must be internally consistent. For teams that wish to interview executives or experts as a part of their research, endnotes should indicate that interviewee as the source, e.g., "Interview with Satoshi Nakamoto, Bitcoin Developer."