

Types of Competitive Positions

Low-Cost Leadership

- Achieve the lowest costs in the industry.
- Pass on lower costs in terms of lower prices.
- Become a successful player with a large market share.

• Differentiation

- Provide a 'very distinctive' product or service
- Focus on a segment of the market (that values the distinctive attributes provided).
- Higher cost structure → but can charge 'premium' price

Types of Competitive Positions

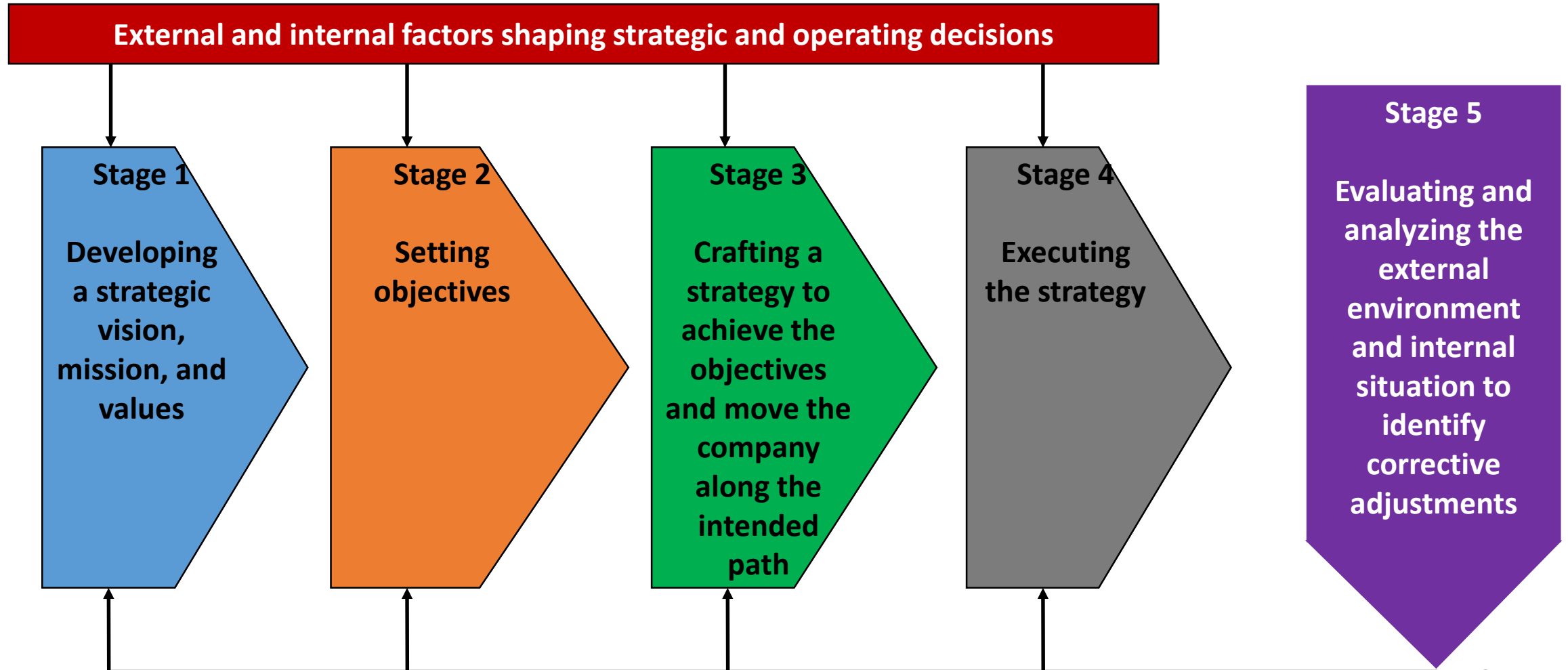
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- E.g. southwest

• Differentiation

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- Focus on a segment of the market (that values the distinctive attributes provided).
- Higher cost structure → but can charge 'premium' price
- E.g. Apple

Strategy Formulation and Execution Process



Difference between Vision and Mission

Vision

Where we are going

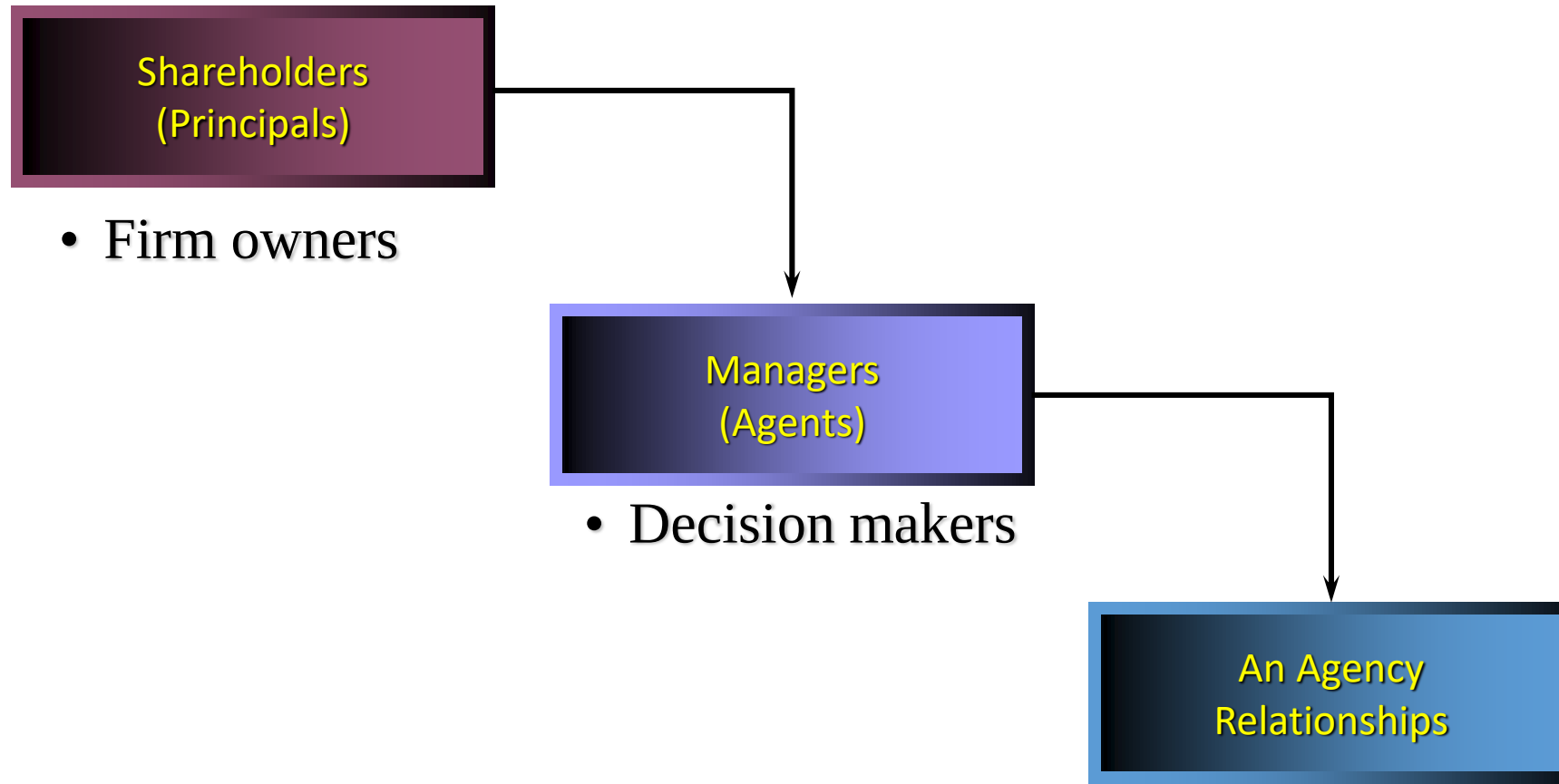
- Future business scope
- Future product / market / customer / technology focus

Mission

Who we are, what we do and why we are here

- Present business and purpose
- Current product and service

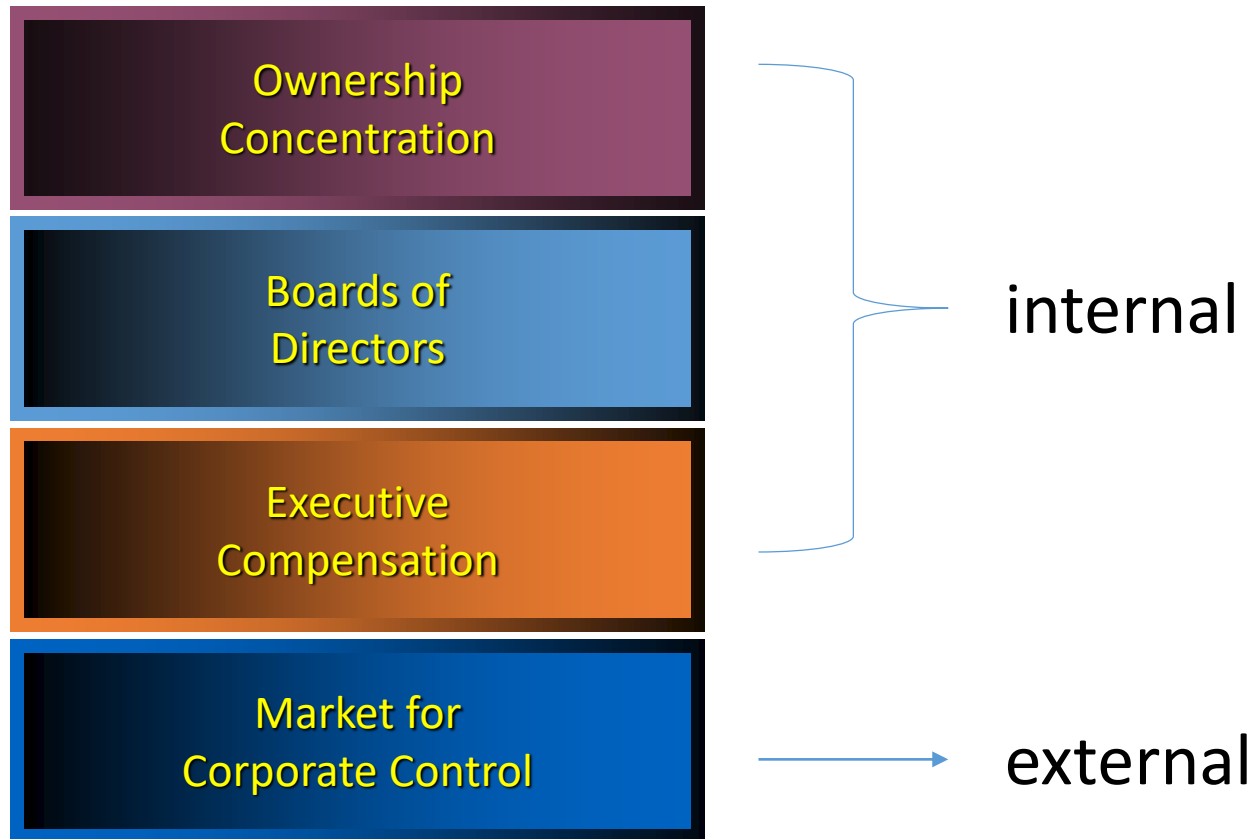
Agency Relationship: Owners and Managers



Corporate Governance Mechanisms



Corporate Governance Mechanisms



Corporate Board Structure

Insiders

- The firm's CEO and other top-level managers

Outsiders

- Individuals who are independent of the firm's day-to-day operations and other relationships

Q&A

- About participation: I do take notes.
- About current event write-up: check the updated syllabus. Two actions in two-page limit. Make sure that you fill in the google doc and no need to ask for my permission.
- About final presentation: 20-25 minutes and no limits of the number of slides.
- A separate final report of the final presentation: no need
- About final exam: pop quizzes. I will have a final review session for all the content. Everything in the final exam will come from the slides & case discussions.

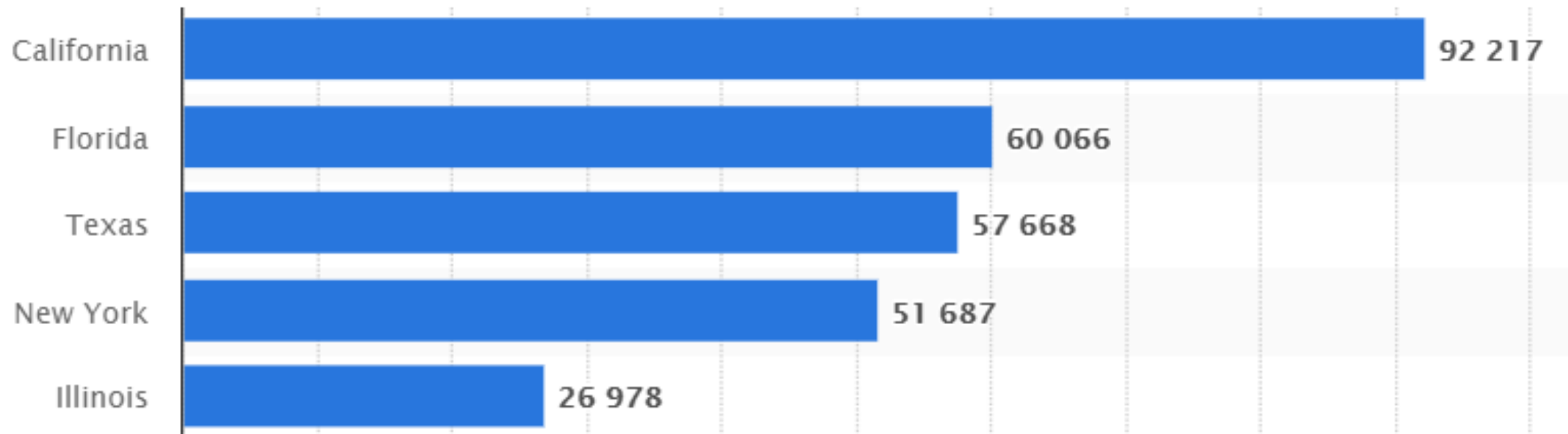
Entrepreneurship & Innovation

Entrepreneurship

- Start a new company
 - High-tech industry: e.g. semiconductor, biotech or pharma

Which states are most attractive for entrepreneurs?

- Number of new business establishments in the US in 2016



Why entrepreneurs fail?

- Difficult to get money (first half of today)
- Difficult to commercialize innovation (second half of today)

Entrepreneurial financing

Why difficult?

- Information asymmetry

What can startups do?

- Send signals

Signaling theory

- Signalers: job candidates
- Receivers: employers
- Signals: observable and costly
 - e.g. education (Spence, 1973)

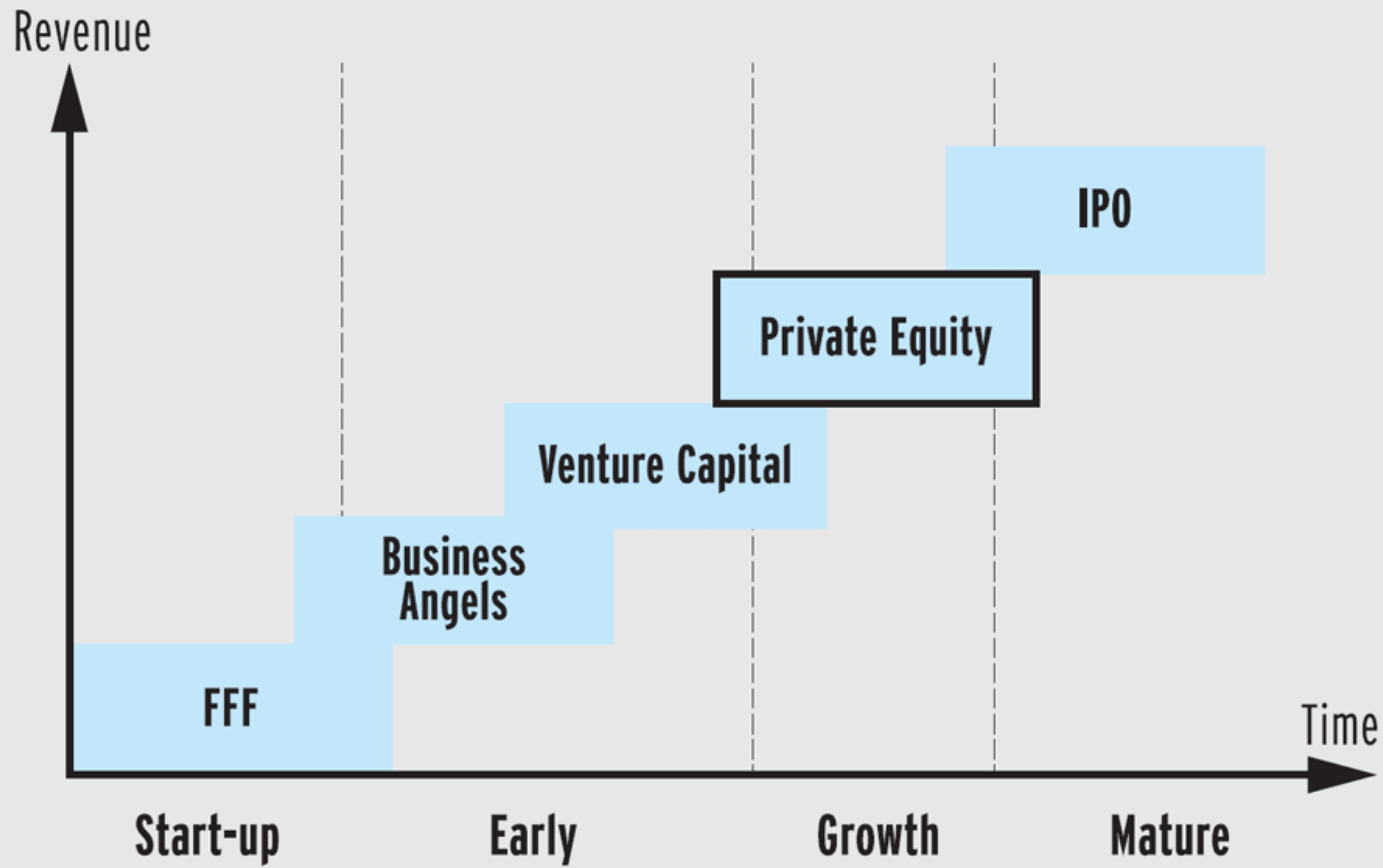
Signaling theory in the entre context

- Signalers: entrepreneurial firms
- Receivers: investors
 - Angels or seed capital
 - Venture capital (VC)
 - Private equity (PE)

Investors

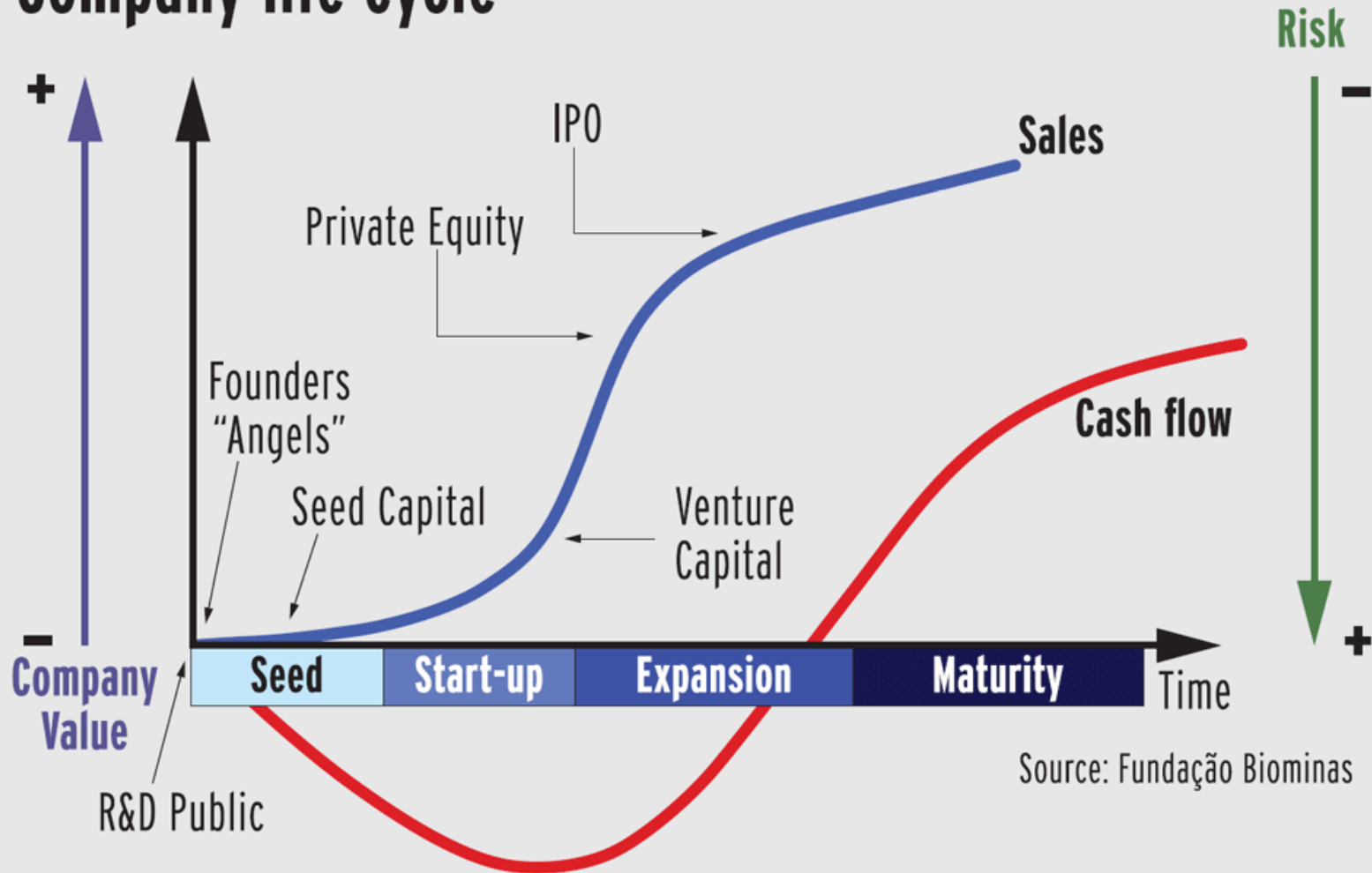
- Equity investment: ownership
- Get returns when exit (acquisition or IPO)
- Series: seed, A, B, C, ...

Company funding life cycle



Source: Dylan Taylor

Company life cycle



Amazon's quarterly net profit

\$2.0 billion

1.5

1.0

0.5

0

-0.5

'98

'00

'02

'04

'06

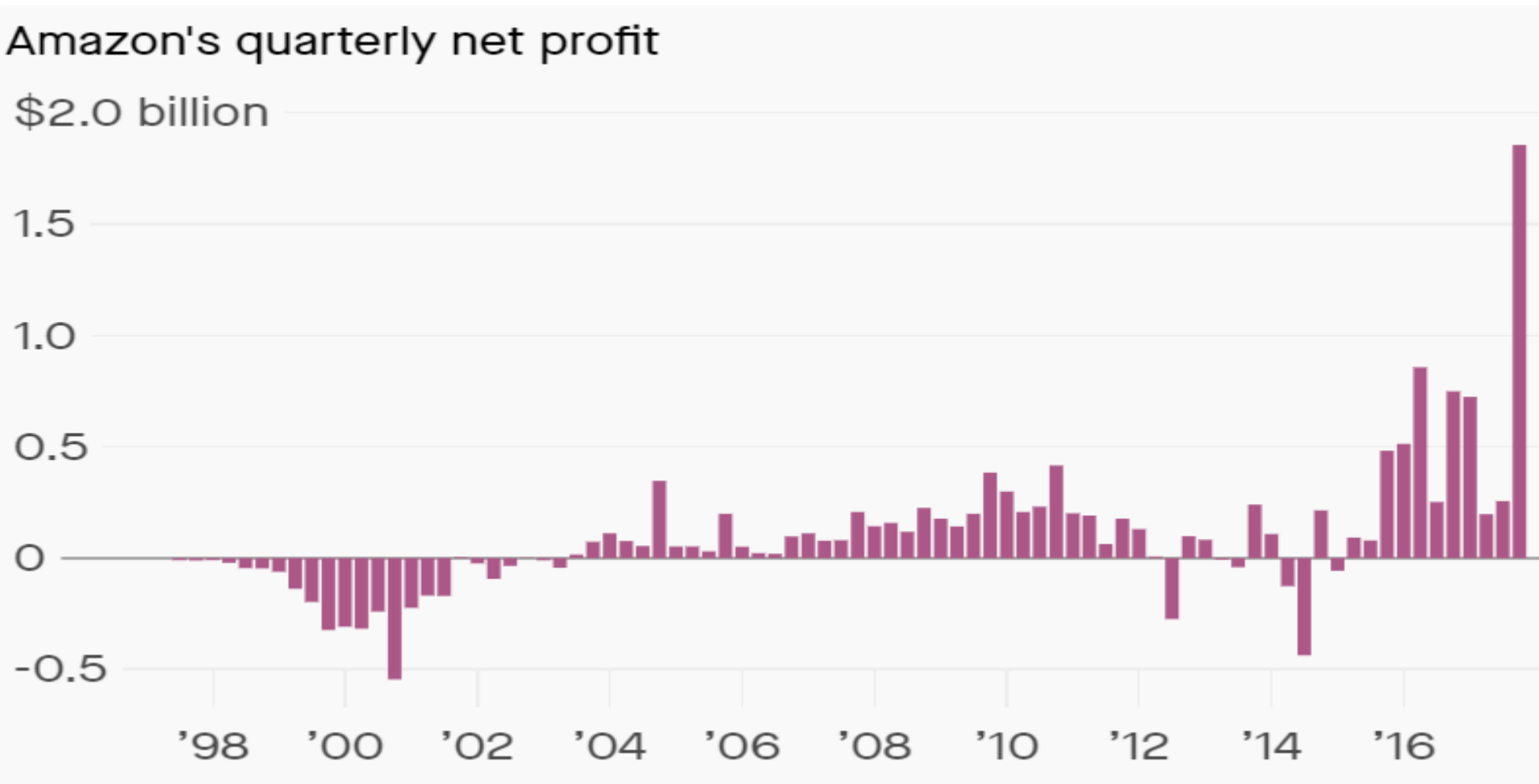
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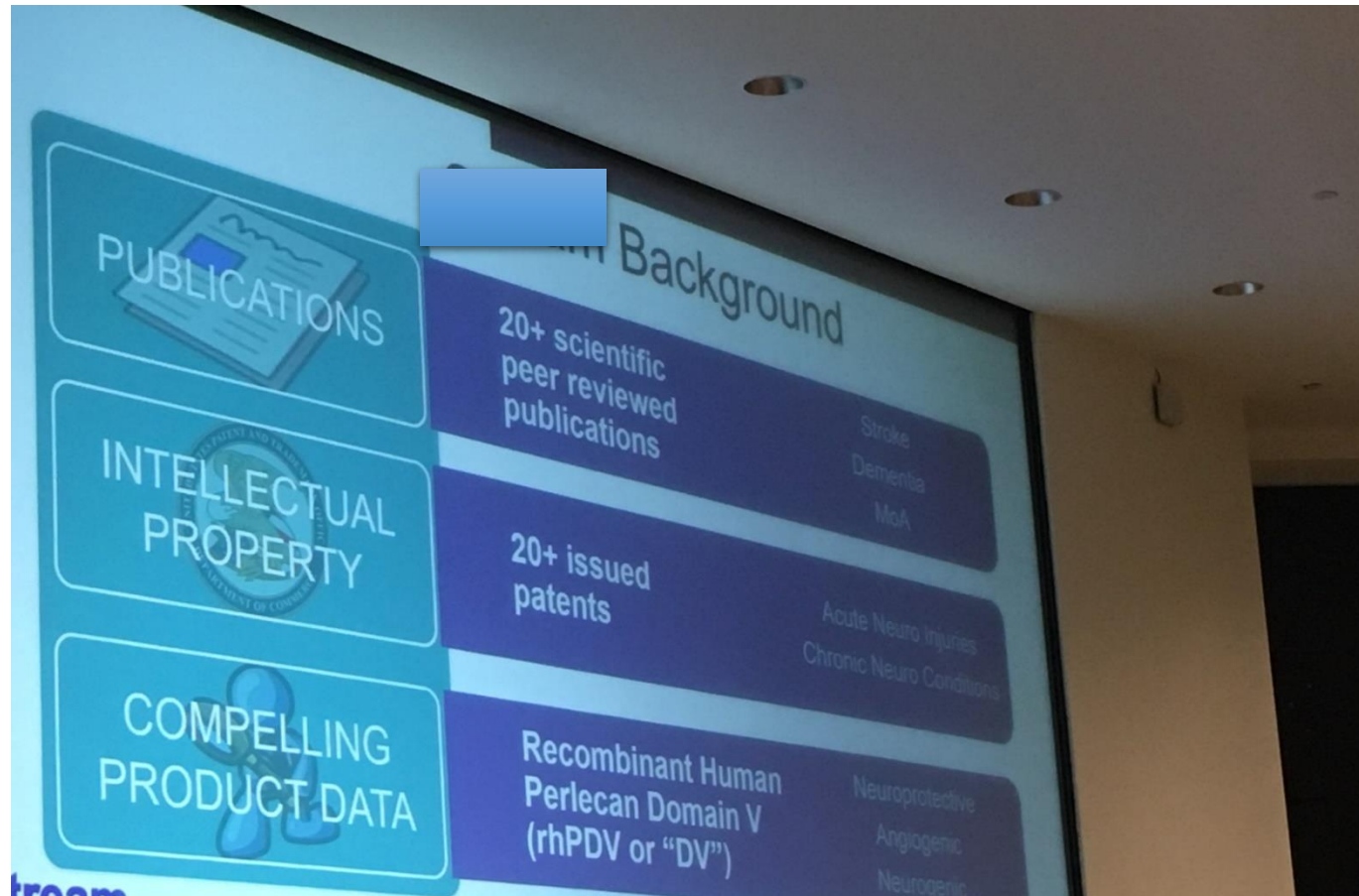
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Signaling theory in the entre context

- Signalers: entrepreneurial firms
- Receivers: investors
 - Angels or seed capital
 - Venture capital (VC): most active
 - Private equity (PE)
- Signals:
 - Founders: education, experience
 - Technology: patent
 - Endorsement: alliance partners, board

Pitch



Source: 2019 Texas life science forum

- “real” case analysis
 - Videos & info step by step
 - Do not have god’s view

Theranos & its founder Elizabeth Holmes

- a revolutionary technology that could perform multiple tests on a few drops of capillary blood drawn by a minimally invasive finger prick



- Female
- Story+ number
- Voice
- Clothes
- Gesture
- TEDMED



Founder: Elizabeth Holmes

Her father, Christian Rasmus Holmes IV

- VP at Enron, an energy company
- executive positions in government agencies such as USAID, the EPA, and USTDA

Elizabeth Holmes

- In 2002: attended Stanford, where she studied chemical engineering and worked as a student researcher and laboratory assistant in the School of Engineering.
- In March 2004: dropped out of Stanford.

Technology

(12) **United States Patent**
Holmes

(54) **MEDICAL DEVICE FOR ANALYTE
MONITORING AND DRUG DELIVERY**

(75) Inventor: **Elizabeth A. Holmes**, Burlingham, CA
(US)

(73) Assignee: **Theranos, Inc.**, Palo Alto, CA (US)

(19) **United States**
(12) **Patent Application Publication**
Holmes et al.

(54) **REAL-TIME DETECTION OF INFLUENZA
VIRUS**

(60)

(76) Inventors: **Elizabeth A. Holmes**, Palo Alto,
CA (US); **Ian Gibbons**, Portola
Valley, CA (US)

(51)

- 2015 July: FDA allows for herpes test run on Theranos machine.

Endorsement

- Robertson became the company's first board member and introduced Holmes to venture capitalists.
- In July 2011, former U.S. Secretary of State George P. Shultz joined the Theranos board of directors.
- Over the next three years, the outside directors:
 - William Perry (former U.S. Secretary of Defense)
 - Henry Kissinger (former U.S. Secretary of State)
 - Sam Nunn (former U.S. Senator)
 - Bill Frist (former U.S. Senator and heart-transplant surgeon)
 - Gary Roughead (Admiral, US Navy, retired)
 - James Mattis (General, US Marines)
 - Richard Kovacevich (former Wells Fargo Chairman and CEO).

Source: https://en.wikipedia.org/wiki/Elizabeth_Holmes

Endorsement



Endorsement

- world's youngest self-made female billionaire



VC

- In 2003, Holmes founded the company Theranos (a portmanteau of "therapy" and "diagnosis")
- In 2004, Holmes had raised \$6 million
- In 2010, Theranos had more than \$92 million in venture capital.
- (In 2011, George Shultz joined the board)
- In 2014, Theranos was valued at \$9 billion and had raised more than \$400 million in venture capital

Theranos Has Struggled With Blood Tests

John Carreyrou

Updated Oct. 15, 2015 6:51 am ET

On Theranos Inc.'s website, company founder Elizabeth Holmes holds up a tiny vial to show how the startup's "breakthrough advancements have made it possible to quickly process the full range of laboratory tests from a few drops of blood."

Deficiencies Found at Theranos Lab

Federal inspectors will soon release details on problems at blood-testing facility

By [John Carreyrou](#), [Christopher Weaver](#) and *Michael Siconolfi*

Jan. 24, 2016 8:19 pm ET

- In July 2016, CMS officially banned Holmes from owning, operating, or directing a blood-testing service for a period of two years.
- In 2017, settled the lawsuit filed by the State of Arizona.
- On March 14, 2018, settled another SEC lawsuit.
- On June 15, 2018, a federal grand jury indicted Holmes and former Theranos COO and President, Ramesh "Sunny" Balwani, on nine counts of wire fraud and two counts of conspiracy to commit wire fraud. It is set to begin on March 9, 2021. They could face up to 20 years in prison if convicted.

- Source: https://en.wikipedia.org/wiki/Elizabeth_Holmes

Discussion

- Personal charisma
- Technology is trade secret.
- Power of endorsement
- Business ethics & transparency

Innovation

- Invention: hard-core technology
- Commercial success of innovation (this class)

- “real” case analysis of electric car

Why do we need electric cars?

- Society: Reduce emission
- Country: reduce reliance on petroleum
- Individuals: Save money, convenience

Origin

- California Air Resources Board (CARB) mandate: if automakers want to sell cars in CA, certain percent (e.g. 2% in 1998) of the vehicles have to be zero-emission.
- GM EV1 in 1996

What can be problems/barriers?

- Customer demand: battery, infrastructure
- Large automakers
- Oil & gas companies
- Dealers

Discussion

- Power of institutions: state vs. federal
- Federal government joined with the automakers and the oil gas and the dealers

Hydrogen-powered cars

- only **three** hydrogen-powered cars you can lease or buy: The first Toyota Mirai was delivered in the U.S. in November 2015. In due course, it was joined by the Honda Clarity Fuel Cell and the Hyundai Nexo. All run on hydrogen, and have no tailpipe emissions beyond condensed water vapor.
- can be operated only in California, because that's the only place with a (pricey and so far unreliable) hydrogen fueling network.
- Source: <https://www.thedrive.com/tech/33408/why-we-still-cant-deliver-on-the-promise-of-hydrogen-cars> (May 11, 2020)

Entrepreneurship opportunity

- The founders were influenced to start Tesla after GM recalled all its EV1 electric cars in 2003 and then destroyed them.
- State government support.

- No assignment for next week (changed!)
- You can write mid-term teaching evaluation if you have any comments or suggestions about my teaching
- http://uhd.co1.qualtrics.com/jfe/form/SV_7VBvSLUxiGIWpGB