

# **The Economics of E-commerce and Technology**

Introduction

# About yours truly

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- ▶ Associate Professor, UCLA
- ▶ Education: B.A. Economics, Cambridge, and Ph. D. Business Admin, Stanford
- ▶ Visiting positions: Northwestern, Columbia, NYU, Penn, Microsoft Research
- ▶ Associate Editor of American Economic Review, Theoretical Economics, International Economic Review
- ▶ Research: Auctions, Dynamic Pricing, Reputation



# Outline for Lecture 1

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- ▶ Purpose of course
- ▶ Logistics and teaching method
- ▶ Overview of course
- ▶ Examples of topics we'll cover

# Purpose of this Class

# This Course

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- ▶ **This course will**

- ▶ Identify the major issues facing technology and online firms.
- ▶ Analyze strategies these firms could take.
- ▶ Look at examples of real-life firms and their evolution.

- ▶ **We take a strategic approach**

- ▶ “Developing a broad formula for how a business is going to compete, what its goals should be, and what policies will be needed to carry out these goals” (Porter, Competitive Strategy)

# What you will learn

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- ▶ **Economic tools**
  - ▶ Portable ideas to enable you to analyze strategic problems
  - ▶ Think about key factors in an industry from first principles.
- ▶ **The key issues facing specific industries**
  - ▶ Through case studies you will learn about real-life firms
  - ▶ Learn about the fastest growing part of the economy
- ▶ **Broad skills**
  - ▶ How to think like an economist
  - ▶ How to argue and present clearly
- ▶ **Goal: train you to think rigorously, using theory and data, about new strategic situations you will encounter.**

# How I use Strategy

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- ▶ Auction design
  - ▶ Design procurement systems for governments and car firms.
- ▶ Pricing policies
  - ▶ Develop dynamic pricing algorithms for airlines.
- ▶ Reputation
  - ▶ Analyze how reputation provides incentives to investment.
- ▶ This is a broad based class
  - ▶ But choice of topics sometimes reflects my interests

# Logistics and Teaching Method



# Lectures and Office Hours

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## ▶ Lectures

- ▶ Tue, Thurs 9:30-10:45 (Lecture 1), 11:00-12:15 (Lecture 2)

## ▶ Contacting me

- ▶ Please feel free to email me – [sboard@econ.ucla.edu](mailto:sboard@econ.ucla.edu)
- ▶ Quick questions: right after class
- ▶ Longer discussions: office hours MW 4-5pm, Bunche 9353.

## ▶ Website

- ▶ Syllabus, slides, readings can be found on [www.econ.ucla.edu/sboard/teaching/tech\\_12/tech\\_12.html](http://www.econ.ucla.edu/sboard/teaching/tech_12/tech_12.html)

# Lab Sections

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- ▶ **Lab classes**
  - ▶ Consists of “lab lecture” and “lab section”
  - ▶ Attendance is compulsory, as is participation
- ▶ **Lab lecture**
  - ▶ Outside speakers
  - ▶ Case analysis, tutorials on industries and professional skills.
- ▶ **Lab section**
  - ▶ Used for case analysis and presentations
- ▶ **The TAs are**
  - ▶ Andraz Kavalar - [akavalar@ucla.edu](mailto:akavalar@ucla.edu)
  - ▶ Siwei Kwok – [sikwok@ucla.edu](mailto:sikwok@ucla.edu)
  - ▶ Kenny Mirkin – [kmirkin@ucla.edu](mailto:kmirkin@ucla.edu)

# Content

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- ▶ You are responsible for assigned readings and everything that comes up in class
  - ▶ Sometime, key points will be things I say
  - ▶ Often, they will be things your peers say
- ▶ Prerequisites
  - ▶ Econ 11, 41 and 101
  - ▶ Interest and enthusiasm.
- ▶ Remarks
  - ▶ We will use calculus
  - ▶ You are responsible for economic logic, not for the math

# Course Evaluation

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- ▶ The course is not about
  - ▶ Awarding grades
  - ▶ Screening students
  - ▶ Making you prove how hard you can work
- ▶ It is about
  - ▶ Becoming a better economist
  - ▶ Improving your presentation/rhetorical skills
  - ▶ Learning from your classmates

# Course Evaluation

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- ▶ **40% Case write-ups**
  - ▶ Short answer questions each week.
  - ▶ We will grade 5 of the 9 cases (you can drop lowest)
- ▶ **30% Final paper**
  - ▶ Mini case study of firm you pick
  - ▶ Write in group of 2-3 from your lab section
- ▶ **30% Final**
  - ▶ 3 hour case write up;
  - ▶ Closed book, but allowed 10 sides (5 pages) of notes
- ▶ **Lab grades: 100% participation**
  - ▶ Case discussions and presentations

# Cases we will cover

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- ▶ Facebook
- ▶ Zappos
- ▶ Android
- ▶ eHarmony
- ▶ Yelp
- ▶ Electronic Arts
- ▶ Microsoft adCenter
- ▶ Huffington Post

# Guests

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- ▶ James Min, BA UCLA Econ, MBA Chicago
  - ▶ MD of Media Banking at Montgomery & Co.
- ▶ Barry Eggers, BA UCLA Econ, MBA Stanford
  - ▶ Founder and MD of Lightspeed Venture Partners
- ▶ Terry Kramer, BA UCLA Econ, MBA Harvard
  - ▶ Ambassador to World Conference on International Telecoms
- ▶ Kerry Edelstein, BA Cornell, MBA UCLA
  - ▶ Founder of Research Narrative.
- ▶ Matthew Pierce, BA Stanford, MBA UCLA
  - ▶ VP at Originate venture capital.
- ▶ Emily Taylor, BA Stanford, MBA UCLA
  - ▶ Associate Director, MBA Career Education at Anderson

# Teaching Method

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## ▶ Theoretical approach

- ▶ Start from first principles
- ▶ Informs what issues we should be concerned with
- ▶ *But* predictions may be ambiguous, or theory may be wrong

## ▶ An empirical approach

- ▶ Look at examples and find common elements of strategic decisions
- ▶ Embrace richness of real life problems
- ▶ *But* lose can lost the big picture, may mistake skill for luck, hard to identify key decisions,
- ▶ Should you just imitate successful firms?



# Feedback

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- ▶ This is a new, evolving course.
- ▶ Your feedback and suggestions regarding the course are very welcome at any time (email, in person etc).
- ▶ I will solicit preliminary feedback from the class during week 4.

# Materials

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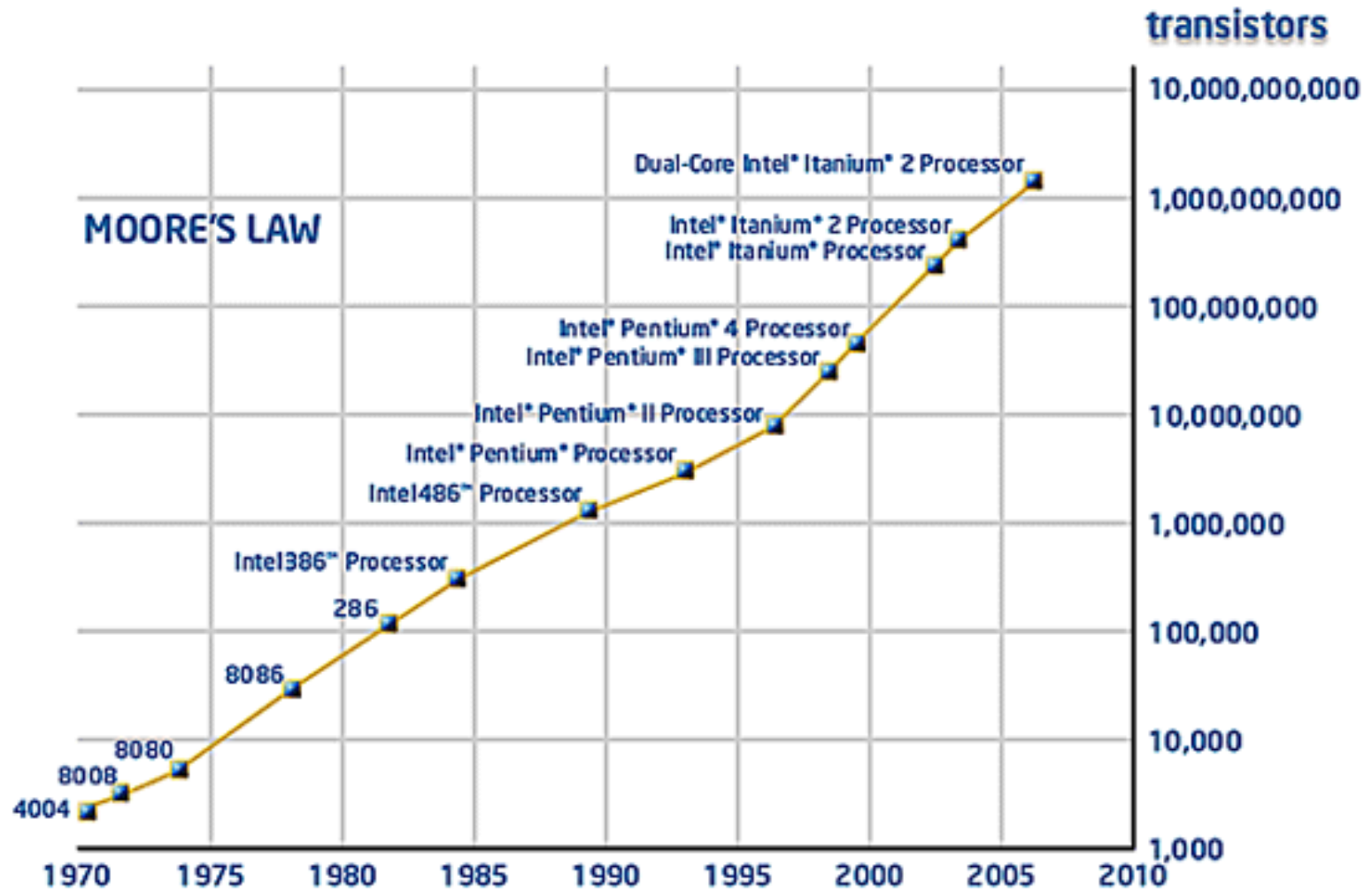
- ▶ **Highly recommended**
  - ▶ Shapiro and Varian, “Information Rules”.
- ▶ **More formal background**
  - ▶ McAfee, “Competitive Solutions”
  - ▶ Cabral, “Introduction to Industrial Organization”
- ▶ **Case studies**
  - ▶ Folder in library or buy at <http://hbsp.harvard.edu/>
- ▶ **Articles**
  - ▶ Found on JSTOR
- ▶ **Slides**
  - ▶ Posted online

# Prices for “Information Rules”

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# Technology Changes Everything

# Technological progress...

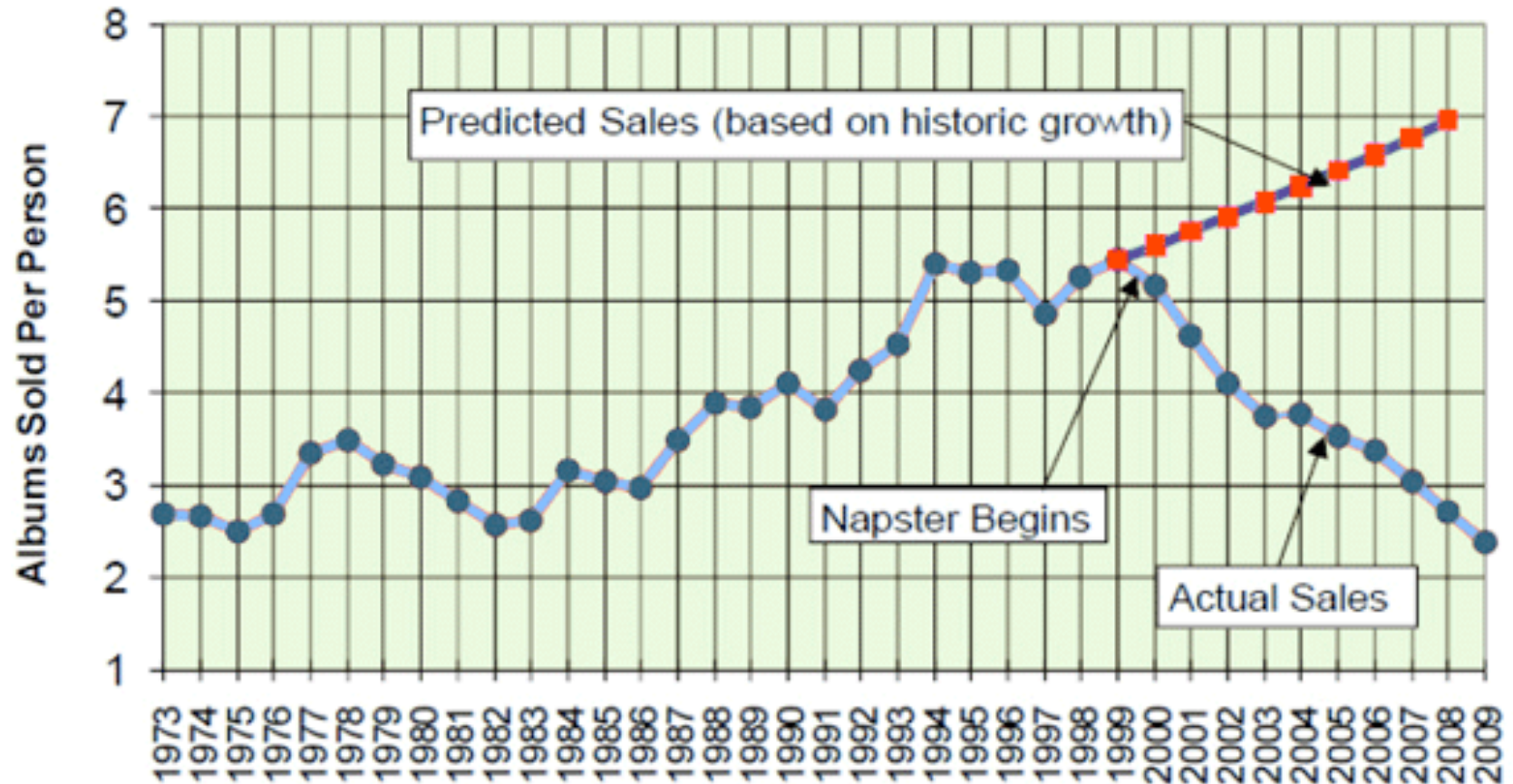


# How people shop...



# Business models...

**Figure 1: US Album Sales (incl dig singles)**



# Availability of data...

## Peak Break-Up Times

According to Facebook status updates



David McCandless & Lee Byron  
InformationIsBeautiful.net / LeeByron.com

source: searches for "we broke up because"  
taken from the infographic ultrabook  
The Visual Miscellaneum



Technology Changes Everything....  
Except Economics

# Overview

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## Groundwork



**Industry Analysis**  
**Competitive Advantage**  
**Information Goods**  
**Pricing Tools**

## Sources of Competitive Advantage

**Switching Costs**  
**Network Effects**  
**Platform Markets**

## Tools for Online Economies

**Dynamic Pricing**  
**Reputation Mechanisms**

# Versioning

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- ▶ Intuition suggests that firm will charge higher price if good is more expensive to make
- ▶ But firm may pay money to create bad version of product
- ▶ Example: IBM Laserprinter
  - ▶ IBM inserted chip to halve speed of printer.
  - ▶ Then reduced price and marketed to households.
  - ▶ Inefficient but helped discriminate. Sold “Series E” to home market without cannibalizing professional model.
- ▶ Often seen with websites (e.g. NYT, Salon)
  - ▶ Have to pay or view ad to view all site.
- ▶ Blog Exercise: provide an example of versioning.

# Lock-in and Switching Costs

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- ▶ Why did MS pay \$400m for Hotmail in 1997?
  - ▶ Hotmail had no source of revenue.
  - ▶ Why not lure all customers to MS email?
- ▶ Hotmail's customers were locked in
  - ▶ Have thousands of old messages.
  - ▶ File systems and contacts set up.
  - ▶ People know your email address.
- ▶ Gmail minimizes switching costs when joining
  - ▶ Import contacts and old emails.
  - ▶ Forward emails for three months.
- ▶ ...but raise switching costs when leaving?

# Network Effects

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- ▶ AOL Instant Messenger was launched in 1997.
  - ▶ People had “Buddy List”.
  - ▶ Could chat with friends online.
- ▶ Network effects very important
  - ▶ I only want AIM if my friends have AIM.
  - ▶ Need to solve coordination problem.
  - ▶ Hard to break into market.
- ▶ Have different instant messenger systems
  - ▶ AIM, G-chat, Yahoo messenger, MSN messenger, Skype, ICQ.
- ▶ Interoperability
  - ▶ In 2006, Yahoo and MSN opened up to each other.

# Platform Markets

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- ▶ I found my apartment through Westside Rentals
  - ▶ Charges \$60 for two months membership to search.
  - ▶ Free for landlords to post.
- ▶ Example of platform market (or two-sided market)
  - ▶ Facilitate interaction between two (or more) different groups.
- ▶ Why choose this pricing?
  - ▶ Why not charge posters (like monster.com with jobs)?
- ▶ Is it vulnerable to competitors?
  - ▶ Issue: Need to have both sides of the market.

# Behavior-Based Pricing

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- ▶ Amazon knows about customers from past behavior.
  - ▶ Frequent customers buy lots of DVDs
  - ▶ Infrequent customers rarely buy DVDs
- ▶ Suppose a customer looks at “The Wire” Box Set.
  - ▶ Should Amazon charge different prices to different customers?
- ▶ Of course! They should charge more to customers with higher willingness to pay.
- ▶ But what if frequent customers find out? Will they still be frequent?
- ▶ In September 2000, Amazon was caught doing this. It resulted in a lot of publicity (Wash Post, Sept 27th).